

Final
Naples Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

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PREFACE

The Final Report for the Public Health Evaluation (PHE) is comprised of three (3) volumes, each with a specific purpose:

Naples Public Health Evaluation: Phase II Environmental Testing Support Assessment, Public Health Evaluation, Volume I, Naval Support Activity Naples, Italy (Tetra Tech, 2010) – this report presents the results of the soil, soil gas, water, and ambient air samples collected for the Phase II investigation of the Naples PHE. This report also presents sample results associated with supplemental investigations (e.g., aqueduct source water sampling) that were concurrently performed in Phase II. Comparisons of data to appropriate risk-based screening levels and regulatory criteria were also presented.

Naples Public Health Evaluation: Naples Italy – Public Health Evaluation Volume II: Phase I & II Screening Risk Evaluation (PIONEER, 2010) – this report presents a screening risk assessment based on the sampling results contained in Volume I and evaluates the potential for impacts to human health from exposure to chemicals in contaminated media (e.g., soil, soil gas, water and ambient air). It also presents the risk drivers associated with residences and study areas under investigation. Uncertainties and limitations involved with this investigation were also presented. In this context, this screening risk assessment is a management decision tool and does not provide absolute statements about health and environmental impacts.

Naples Public Health Evaluation: Naples Public Health Evaluation Public Health Summary: Volume III (Navy and Marine Corps Public Health Center, 2010) – this report integrates the results of Volumes I and II with other information (e.g., Epidemiological Studies) to provide a broader, holistic assessment of the potential public health risks. It also identifies key data gaps and provides recommendations to reduce or eliminate public health risks, where possible.

The PHE was a complex investigation and unique in that the objective was to assess health impacts to USN military and civilian personnel, and their families at an overseas location. This investigation covered a wide geographic area, involved both transient and ill-defined contaminant types and sources, and spanned a period of more than two years. Because of this duration and complexity, different planning documents (e.g., Quality Assurance Project Plans and Work Plans) were prepared and followed during the different phases and aspects of this investigation. These were identified via text and references in the different volumes of this report. Also, because of the duration of the project and in view of the phased approach that was followed, analytical results and the evaluation of these results were provided in different reports and deliverables. The two key deliverables in terms of the results and evaluations of data collected during Phase I of the investigation were: “Final Phase I Environmental Testing Support Assessment Report, Volume I, Naval Support Activity Naples, Italy” and “Naples, Italy–Public Health Evaluation, Volume II: Phase I Screening Risk Evaluation” and the three volumes summarized above.

The approach used in this evaluation was tailored to the unique circumstances found in Naples, Italy and would not necessarily be appropriate for use in other geographic areas.

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EXECUTIVE SUMMARY

1.1 Introduction

For decades, the Campania Region of Italy has experienced numerous challenges associated with trash collection, uncontrolled open burning of uncollected trash, and widespread dumping of waste, including chemical and other potentially-hazardous waste. Uncontrolled open burning of uncollected trash is random. In response to health concerns expressed by the United States (U.S.) Navy (USN) and its civilian personnel and families, the Commander Navy Region Europe, Africa, Southwest Asia (CNREURAFSWA) contacted the Navy Bureau of Medicine and Surgery (BUMED) and requested that the Navy and Marine Corps Public Health Center (NMCPHC) conduct a Public Health Evaluation (PHE).

This report documents the findings of the Phase I & II Screening Risk Evaluation (SRE). However, this Executive Summary and the main text of the report focus solely on the results of the Phase II investigation¹. The purpose of the SRE was to determine whether or not there are potential health impacts to USN Personnel (active duty, civil servants, and their family members) residing in the Naples area of Campania that may be associated with exposure to tap water², soil, soil gas (used as an indicator of potential vapor intrusion [VI] to indoor air), and ambient (outdoor) air impacted by improper waste disposal practices. Recognizing that this PHE was a large and unique investigation, the SRE was conducted in accordance with U.S. Environmental Protection Agency (USEPA) Risk Assessment Guidance (USEPA, 1989 - 2009) and USN Risk Assessment Guidance (USN, 2008).

In a typical SRE, a “source” can be identified; however, the Naples PHE was unique in that individual sources could not be identified. The nature of the illicit waste disposal practices that initiated this evaluation presented four confounding issues:

1. Waste disposal locations were often temporary and transitory.
2. In many cases the locations of disposal sites, especially chemical/hazardous waste disposal sites, were not known (Agenzia Regionale per la Protezione Ambientale della Campania [ARPAC], 2009).
3. The contaminant composition was highly variable because the waste was comprised of municipal waste (i.e., trash) and could have potentially also contained chemical waste (see Chapter 12 in the *Report on the Environment in Campania (2009)* [ARPAC, 2009]).
4. The USN could not sample or investigate (e.g., install groundwater monitoring wells, et cetera) potential or suspected areas of contamination resulting from illicit disposal activities as it would, in concert with the appropriate regulatory agencies, in the U.S. Only residences on the Italian economy, where USN Personnel lived (or may live in the future), could be evaluated for risks

¹Appendix F of the report presents the combined results of evaluating the data obtained from all residences sampled on the Italian economy during the PHE.

²At residences sampled during this evaluation, it was apparent that tap water sources included public water, private wells, and blended-water sources. Blended water may have come from non-permitted (illegal) wells that were connected via ancillary piping to the public water-supply system, resulting in a mixture of public water and well water.

(i.e., sampled); therefore, a close correlation between these residences and the potential or suspected areas of contamination could not be derived.

As a result, the approach for this SRE was atypical relative to other environmental investigations performed in the U.S., as these commonly have a known source (e.g., a spill area or industrial emission source), which has a limited and easily defined list of constituents of potential concern (COPCs). This was clearly not the case for this study.

1.2 Investigative History

This PHE focused on the Naples area of Campania where USN Personnel work and live. Since the geographical area being investigated is very large (i.e., approximately 395 square miles), the region was segregated into nine geographical study areas (Figure 2-1). The PHE was completed in two phases. Phase I was conducted between May 2008 and November 2008 and was comprised of two components: 1) a month-long regional ambient air monitoring program at nine air sampling stations, and 2) sampling of tap water (from both private well and municipal water sources), irrigation wells (where available), soil, and passive soil gas from 130 residences (single-family homes and apartments) and 10 U.S. Government-related facilities. Phase II was conducted between November 2008 and October 2009 to improve the spatial/geographic distribution of the sampling locations and to further investigate clusters of residences that exceeded risk criteria during Phase I (Tetra Tech, 2010). Two hundred and nine (209) residences were sampled during Phase II, and the month long ambient air monitoring program from Phase I was continued for one full year. Additional residences were sampled in response to data that were obtained during Phase I and Phase II (e.g., Pre-Lease sampling of 240 residences for tap water, Step-Out sampling of 35 residences proximate to a residence with Unacceptable risk, et cetera). In total, 543 residences were sampled on the Italian economy during the PHE (including both Phase I and Phase II) covering a time period of approximately two and a half years. Tap water, soil, and soil gas samples were collected from residences and analyzed for approximately 241 constituents; tap water samples were also tested for microorganisms (e.g., fecal coliform and total coliforms).

1.3 Conceptual Site Model

A conceptual site model (CSM) provides an understanding of the potential for exposure, under current and future land uses, to constituents within a study area based on the source(s) of contamination, the release mechanism(s), the exposure pathway(s), and the receptor(s). Based on the CSM, the following samples were collected as part of the PHE.

- Tap water samples were collected to assess potential exposures to constituents through drinking, and inhaling vapors while showering, washing dishes, or other household uses of tap water. Constituents can migrate from soil into groundwater wells or other drinking water reservoirs or be introduced via blended water (due to the lack of backflow prevention devices).
- Soil samples were collected to assess potential exposures to constituents through incidental ingestion, inhalation of particulates, and dermal contact with soil. The presence of constituents in soil may be attributable to the deposition of constituents from the open burning of trash or dumping activities, other sources, and/or natural background.

- Soil gas samples were collected to assess whether or not constituents in groundwater and/or soil could potentially volatilize from an undefined subsurface source and migrate through cracks in house foundations and become available for inhalation in indoor air (i.e. a potential VI pathway).
- Ambient air samples were collected to assess potential exposures to constituents related to the inhalation of ambient air.

1.4 Risks Management Categories for Evaluating Incremental Screening Risks

This report characterizes the potential health risks associated with exposure at a residence for 30 years. This is a conservative assumption because tour lengths for USN Personnel stationed overseas typically range from three to six years. However, Department of Defense (DoD) Dependent Schools (DoDDS) personnel can remain at one location for 30 years or longer. Therefore, the USEPA's 30-year standard residential regional screening levels (RSLs) were used in order to ensure that the SRE conservatively assessed potential exposure for all U.S. military or civilian Navy/DoD/DoDDS personnel.

1.4.1 Risk Management Criteria for Evaluating Soil, Soil Gas, and Tap Water

The incremental screening risks associated with exposure to soil, soil gas, and tap water at a residence for 30 years were defined as Acceptable or Unacceptable. The criteria for acceptability are defined in the box below.

Risk-Management Categories for the Public Health Evaluation for Soil, Soil Gas, and Tap Water

Scenario	Criteria for Acceptable Incremental Risks	Criteria for Unacceptable Incremental Risks
Scenario 1 - Tap Water (via Inhalation-Only), Soil, and Soil Gas Exposure	-Total CNCEF less than or equal to 1; and -Total CCEF less than or equal to 10; and -Concentration less than or equal to USMCL (tap water). Applies only to fecal coliform and total coliforms.	-Total CNCEF greater than 1; or -Total CCEF greater than 10; or -Concentration greater than the USMCL (tap water). Applies only to fecal coliform and total coliforms.
Scenario 2 - Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure	-Total CNCEF less than or equal to 1; and -Total CCEF less than or equal to 10; and -Concentration less than or equal to USMCL (tap water). Applies to all COPCs.	-Total CNCEF greater than 1; or -Total CCEF greater than 10; or -Concentration greater than the USMCL (tap water). Applies to all COPCs.
<p>Notes:</p> <p>Noncancer exceedance factors (NCEFs) were calculated by dividing the maximum-detected concentrations by noncancer-based USEPA RSLs. An NCEF of 1 corresponds to a screening Hazard Index (HI) of 1.</p> <p>Cancer exceedance factors (CEFs) were calculated by dividing the maximum-detected concentrations by cancer-based USEPA RSLs.</p> <p>The individual NCEFs and CEFs were summed to provide the cumulative NCEF (CNCEF) and cumulative CEF (CCEF), respectively. A CEF of 1 corresponds to a cancer screening risk of 1E-06 (one in a million). A CEF of 10 corresponds to a cancer screening risk of 1E-05 (one in a 100,000).</p> <p>Total CNCEF is the result of summing the individual NCEFs for all COPCs for all media that were sampled at a residence.</p> <p>Total CCEF is the result of summing the individual CEFs for all COPCs for all media that were sampled at a residence.</p> <p>USMCL: United States Maximum Contaminant Level.</p> <p>Scenario 1 – The tap water RSLs used to evaluate residences that DO NOT use tap water for drinking, cooking, brushing teeth, and making ice were based on inhalation during household uses (e.g., showering) of tap water only. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate.</p> <p>Scenario 2 – The tap water RSLs used to evaluate residences that DO use tap water for drinking, cooking, brushing teeth, and making ice were based on ingestion and inhalation during household uses (e.g., showering, washing clothes) of tap water. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate.</p> <p>The PHE agreed upon approach for this SRE was to evaluate the risks associated with exposure to trihalomethanes (THMs) using the total THM (TTHM) USMCL, rather than individual RSLs. THMs (i.e., bromodichloromethane, chloroform, bromoform, and dichlorobromomethane) are byproducts from disinfecting a water supply, and are typically detected in municipal water supplies. For this evaluation, if the concentration of an individual THM in tap water exceeded the RSL, but was less than the TTHM USMCL, the risk was considered Acceptable.</p>		

1.4.2 Risk Management Criteria for Evaluating Ambient Air

The ambient air samples collected during the PHE reflect general ambient air quality that is impacted by emissions from point (e.g., factory) and non-point (e.g., automobile exhaust) sources (i.e., they were not specific to any industry or source). In the U.S., ambient air quality is regulated via the Clean Air Act (CAA, [U.S. Code, Title 42, Chapter 85]) and this framework was used to evaluate the ambient air results from Naples.

Under the CAA, the USEPA does not use a risk assessment “bright line” (e.g., a cancer risk of 1×10^{-6} to 1×10^{-4} or a hazard quotient greater than 1) to make risk management decisions based on the risks associated with generalized ambient air samples. The USEPA uses a technology-based and performance-based approach to significantly reduce emissions of air toxics from major sources of air pollution, followed by a risk-based approach to address any remaining, or residual risks. These are known as Maximum Achievable Control Technology [MACT] standards. MACT standards:

- consider cost and other non-air-quality factors,
- are based on emissions levels that are already being achieved by the better-controlled and lower-emitting sources in an industry group (i.e., similar industries),
- can be made more stringent by the USEPA when it makes economic, environmental, and public-health sense,
- are based on performance levels (40 CFR Part 63) where industry chooses technology to achieve a performance level that is practicable and cost effective, and
- consider residual risk. Residual risk is evaluated by the USEPA based on residual concentrations of hazardous air pollutants (HAPs) that are emitted to the atmosphere.

The CAA requires a residual risk standard for any source that is emitting a cancer-causing pollutant that poses an added risk of more than 1×10^{-6} to the most exposed receptor, while taking into consideration costs, energy, safety and other relevant factors. HAPs information is used to direct research into new areas where technologies can be developed to improve MACT standards, and consequently reduce risks associated with HAPs.

The cancer and noncancer risks associated with generalized ambient air sampling results are typically used by the USEPA to:

1. identify the chemicals that are responsible for the majority of the risks in ambient air; and
2. identify the major point and non-point sources of those chemicals.

This information is used to help focus research and development so that new pollution control technologies or changes in processes can be used to significantly reduce emissions of these chemicals through the permitting process. In other words, the USEPA recognizes that there will be cancer and noncancer risks associated with emissions from point and non-point sources, but it implements risk management actions at the source (e.g., stack or pipe) rather than at the point of exposure (i.e., the general air we breathe) because it is more feasible/practicable to reduce overall risks at the source or point of release rather than after a chemical has entered the atmosphere.

Italian authorities are responsible for the regulation of Italian air quality standards. The Navy will provide the Italian authorities with the air monitoring results.

1.5 Regional Summary of Incremental Risks for Phase II Residences

Two hundred and nine (209) residences were sampled for tap water, soil, and soil gas during Phase II (although not all media were sampled at every residence). The incremental risks in this SRE were calculated for two different scenarios for all media: (1) assuming tap water exposure via inhalation of vapors only and (2) assuming tap water exposure via ingestion and inhalation. The regional summary of incremental risks by study area for Phase II residences is presented in the box below.

**Number of Residences with Unacceptable Incremental Risks
per Study Area Sampled During Phase II**

Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
Scenario 1: Incremental Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas									
5 of 30 (17%)	2 of 22 (9%)	0 of 14 (0%)	2 of 14 (14%)	10 of 33 (30%)	5 of 30 (17%)	4 of 24 (17%)	18 of 34 (53%)	0 of 8 (0%)	46 of 209 (22%)
Scenario 2: Incremental Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas									
8 of 30 (27%)	13 of 22 (59%)	1 of 14 (7%)	4 of 14 (29%)	15 of 33 (45%)	13 of 30 (43%)	9 of 24 (38%)	24 of 34 (71%)	1 of 8 (13%)	88 of 209 (42%)
Number of Residences Sampled That Obtained Their Water from a Private Well									
0 of 30 (0%)	0 of 22 (0%)	0 of 14 (0%)	0 of 14 (0%)	5 of 33 (15%)	1 of 30 (3%)	0 of 24 (0%)	7 of 34 (21%)	0 of 8 (0%)	13 of 209 (6%)

- Twenty-two percent (46 of 209) of the residences sampled during Phase II had Unacceptable risks based on the Tap Water (Inhalation-Only), Soil, and Soil Gas Scenario.
- Forty-two percent (88 of 209) of the residences sampled during Phase II had Unacceptable risks based on the Tap Water (Ingestion+Inhalation), Soil, and Soil Gas Scenario.

Residences with Acceptable risks and Unacceptable risks were generally randomly distributed within and across the study areas (with some exceptions) and often were located very close to each other (see Figures 4-3 and 4-4).

- The highest number of Unacceptable risks was observed in Study Area 8, where seven of the residences with Unacceptable risks obtained their tap water from a private well.
- Study Areas 3 and 9 had the lowest percentage of Unacceptable risks (for all media) but also had the fewest number of residences sampled; therefore, it is not possible to reach any conclusion regarding the significance of these findings.
- The number and frequency of Unacceptable risks in Study Areas 1 (associated primarily with soil gas) and 2 (associated primarily with tap water) were unexpected because these areas are densely populated and do not have expansive agricultural areas or open space, which could readily be used for illegal waste disposal activities. Volatile COPCs were also frequently detected in municipal tap water from these two study areas. However, historically, periodic and substantial interruptions in trash collection have resulted in the accumulation of large piles of municipal

waste in these densely populated areas which possibly could be associated with the results that were observed (ARPAC, 2009). All of the residences in Study Areas 1 and 2 obtained their tap water from a public source, which is typically less susceptible to contamination associated with localized dumping of waste.

- The majority of the Unacceptable incremental risks identified during Phase II sampling were associated with COPCs detected in tap water from private wells and in soil gas.
 - Summary of Tap Water Risks
 - Scenario 1 – If tap water was not used as a drinking water source (see Figure 4-5):
 - ◆ Twelve (12) of 13 residences (92%) that obtained their tap water from a private well had Unacceptable risks based on inhalation of vapors only.
 - Tetrachloroethene and total coliforms responsible for the majority of the Unacceptable risks in tap water samples obtained from wells.
 - ◆ Seven (7) of 193 residences (4%) sampled for tap water obtained from a public source had Unacceptable risks based on inhalation of vapors only.
 - Total coliforms were responsible for the majority of the Unacceptable risks in tap water samples obtained from a public source.
 - Scenario 2 – If tap water was used as a drinking water source (see Figure 4-6):
 - ◆ Thirteen (13) of 13 residences (100%) that obtained their tap water from a private well had Unacceptable risks based on ingestion and inhalation of vapors.
 - Nitrate, tetrachloroethene, total coliforms, and uranium were responsible for the majority of the Unacceptable risks in tap water samples obtained from wells. However, the concentrations of uranium in tap water did not exceed USMCLs and are most likely associated with natural background concentrations rather than illicit disposal of radioactive waste.
 - ◆ Fifty-one (51) of 193 residences (26%) sampled for tap water obtained from a public source had Unacceptable risks based on ingestion and inhalation of vapors.
 - Lead and total coliforms were responsible for the majority of the Unacceptable risks in tap water samples obtained from a public source.
 - Summary of Soil Gas Risks (see Figure 4-7):
 - ◆ Thirty-two (32) of the 175 residences (18%) that were sampled for soil gas during Phase II had Unacceptable risks based solely on COPCs in soil gas. Clusters of residences with Unacceptable risks associated solely with COPCs detected in soil gas were observed primarily in Study Areas 1, 5, 6, and 8.
 - ◆ Chloroform and tetrachloroethene were responsible for the majority of the Unacceptable risks in soil gas. In addition, the tetrachloroethene results detected in soil gas in Study Area 8 were typically co-located with elevated concentrations of tetrachloroethene in tap water at residences that obtained their tap water from private wells.
 - Summary of Ambient Air Risks
 - ◆ The risks associated with exposure to ambient air in each of the nine study areas were greater than the risks associated with exposure to typical urban air in the U.S. (USEPA, 2007). However, the risks associated with exposure to ambient air in

Naples are not directly comparable to the risks associated with exposure to ambient air in the U.S. because some of the constituents detected in the nine study areas did not have corresponding values in the USEPA's 2007 Air Toxics Database. When those constituents (e.g., 1,2-dibromo-3-chloropropane, which was responsible for, on average, 80% of the cancer risks in each study area) were not included in the calculations of the cumulative EFs, the CCEFs for the nine study areas were less than the typical urban air in the U.S. in all but one study area (i.e., Study Area 8). The CNCEFs did not change appreciably (i.e., the difference was less than one percent) when the cumulative EFs were recalculated using only constituents that had corresponding values in the USEPA's 2007 Air Toxics Database, primarily because acrolein (the constituent that contributed the majority of the CNCEF in the nine study areas) had values in both data sets. Because some constituents (including 1,2-dibromo-3-chloropropane) did not have corresponding values in the USEPA's 2007 Air Toxics Database, it was not possible to determine whether or not the cumulative ambient air risks in the Campania Region exceeded the risks from typical urban air in the U.S.

- ♦ 1,2-Dibromo-3-chloropropane and acrolein were responsible for the majority of the risks in ambient air based on data collected as part of the PHE's year-long ambient air sampling and monitoring program in the Campania Region.

1.6 Summary of the Results from Phase II of the SRE

This section presents general conclusions about the potential health risks associated with living in the Naples area of Campania based solely on the investigative scope, limitations, and results of Phase II of the SRE. These conclusions and any future conclusions, summaries, additional evaluations, and risk management decisions should consider/incorporate the limitations of the PHE risk assessment methodology used, the conservative assumptions incorporated into the SRE (e.g., assumption that a resident lives at a location for 30 years), and the unique conditions/limitations under which the PHE was performed.

This PHE examined the potential health impacts associated with possible exposures to COPCs in tap water (from public sources and private wells), soil, indoor air (via VI from soil gas), and ambient (outdoor air) by USN Personnel residing in the Naples area of Campania. Incremental risks (i.e., risks above background levels) were calculated assuming that a person works and lives in the Naples Areas of Campania for 30 years. This is a conservative assumption because typical USN tour lengths are three to six years; however, some U.S. civilian personnel stay much longer.

In most cases, the risks presented in this SRE were based on a single-sampling event at a specific residence. A single sample only provided a "snapshot" of concentrations that were present in tap water, soil, and soil gas and may or may not be representative of the long-term concentrations at a residence.

In addition, soil gas concentrations were used to predict indoor air concentrations by using a vapor attenuation factor (VAF) to account for the reduction in concentration that occurs when COPC

concentrations in soil gas migrate through cracks and gaps in a residence and the dilution that occurs when the vapors mix with indoor air. Consistent with recommendations from the USEPA, a conservative VAF of 0.1 was used to predict indoor air concentrations from soil gas in the SRE³. This is considered a very conservative assumption because VAFs can range from 0.1 to 0.0001 (or more) depending on groundwater-specific/soil-specific/building-specific characteristics (USEPA, 2008). Therefore, the use of a 0.1 VAF likely overestimated the predicted concentrations in indoor air and the actual risk associated with VI. However, for this SRE it was not appropriate to apply default VAFs that might be less conservative because of the documented variability in VAFs (USEPA, 2008), the lack of groundwater-specific/soil-specific/building-specific characteristics for Naples, and the potential for increased VI migration (i.e. higher VAFs) over the long term as a result of natural (earthquake) or anthropogenic impacts to buildings. There is also potential for decreased VI impacts; though without collecting additional information (tap water, soil gas, and indoor air samples) and knowledge about potential sources, it was necessary to err towards conservatism rather than underestimate the risk.

Two hundred and nine residences (209) were sampled during Phase II of the PHE across nine study areas that were established by the PHE to facilitate the investigation of this large region that encompasses approximately 395 square miles. However, the samples that were collected provide only a single snapshot of the conditions that were present when each residence was sampled. Some of these conditions (e.g., temperature, wind-speed, barometric pressure, et cetera) are transient in nature and can change, sometimes significantly, over time. The temporal variability of conditions and unknowns relating to the: (1) location, number, size (e.g., acres), impacted media (e.g., tap water, soil), and constituents present at chemical/hazardous waste sites in the Campania Region, (2) sources of the tap water supplies, well construction, building parameters, and (3) variability of natural conditions across the Region necessitated that a conservative approach and methodology be adopted for the PHE to ensure that a protective study approach was used for USN Personnel. The potential health risks calculated in the SRE were evaluated using PHE risk management criteria to categorize the exposures at sampled residences as either Acceptable or Unacceptable.

In general, Study Areas 5, 6, and 8 had more Unacceptable risks than other study areas. The number and frequency of Unacceptable risks in Study Areas 1 (associated primarily with soil gas) and 2 (associated primarily with tap water) were unexpected. Study Areas 3 and 9 had the lowest percentage of Unacceptable risks (for all media) but also had the fewest number of residences sampled; therefore, it was not possible to reach any conclusion regarding the significance of these findings.

The key media of concern identified during Phase II of the PHE was soil gas. Thirty-two (32) of the 175 residences (18%) where soil gas samples were collected during Phase II had Unacceptable risks based solely on COPCs in soil gas. Clusters of residences with Unacceptable risks associated solely with COPCs detected in soil gas were observed primarily in Study Areas 5, 6, and 8. Chloroform and tetrachloroethene were responsible for the majority of the Unacceptable risks in soil gas.

³A VAF of 0.1 was applied to all samples to evaluate soil gas, with the exception of multi-story residences that had subsurface ventilated garages or apartment-type dwellings where the resident lived above the ground floor of the structure (i.e., the resident

Tap water from private wells was also of concern. Twelve (12) of 13 residences (92%) that obtained their tap water from a private well had Unacceptable risks based on inhalation of vapors only (assuming that the families are complying with the USN Bottled Water Advisory). These results were primarily observed in Study Areas 5, 6, and 8. If tap water was ingested at these residences that obtained their tap water from a private well, then 13 of 13 residences (100%) had Unacceptable risks.

Tap water from public source(s) was typically Acceptable, whether it was ingested or if it was only used to wash dishes/clothes and bathe/shower. However, low concentrations of COPCs such as lead, tetrachloroethene, total dioxin/furans (2,3,7,8-TCDD toxic equivalents [TEQs]), uranium, and total coliforms were detected at residences that obtained their tap water samples from public sources. Total coliforms are non-volatile and are not of concern to human health via inhalation when present in water. However, these microorganisms were included in the evaluation of risks under the inhalation-only scenario for tap water because they may be accidentally ingested in small quantities during bathing or showering, and even these minimal exposures may result in adverse health effects.

None of the residences (i.e., 0 of 80) where soil samples were collected during Phase II of the PHE had Unacceptable COPC concentrations in soil.

The cancer and noncancer risks associated with ambient air from the Campania Region exceeded the risks calculated from the USEPA's 2007 Air Toxics Database (USEPA, 20007a) for typical U.S. urban air. However, when the risks were calculated using only those constituents that had corresponding values in both data sets, the cancer and noncancer risks were similar. Because some constituents (including 1,2-dibromo-3-chloropropane, which was responsible for, on average, 80% of the cancer risk for ambient air in Naples) did not have corresponding values in the USEPA's 2007 Air Toxics Database, it was not possible to determine whether or not the cumulative ambient air risks in the Campania Region exceeded the risks from typical urban air in the U.S.

lived on the second floor or higher, assuming that the first floor is the ground floor of the building). In these instances a multi-story attenuation factor, assessed and supplied by Tetra Tech NUS, was applied as described in Appendix B.

1.7 References for the Executive Summary

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TABLE OF CONTENTS

SECTION 1 – INTRODUCTION.....	1-1
1.1 INVESTIGATIVE HISTORY.....	1-2
1.2 SITE LOCATION AND SETTING	1-2
1.3 STUDY AREAS	1-3
1.4 OVERVIEW OF THE SCREENING RISK EVALUATION PROCESS	1-3
1.5 REPORT ORGANIZATION	1-5
1.6 REFERENCES FOR SECTION 1	1-6
SECTION 2 – DATA ANALYSIS.....	2-1
2.1 SOURCES OF DATA.....	2-1
2.2 DATA PROCESSING PRIOR TO ANALYSIS	2-8
2.3 REFERENCES FOR SECTION 2	2-9
SECTION 3 – CONCEPTUAL SITE MODEL AND IDENTIFICATION OF RISK-BASED SCREENING LEVELS	3-1
3.1 CONCEPTUAL SITE MODEL	3-1
3.2 IDENTIFICATION OF RISK-BASED REGIONAL SCREENING LEVELS.....	3-3
3.3 REFERENCES FOR SECTION 3	3-5
SECTION 4 – RISK EVALUATION: COMPARISON OF COPC CONCENTRATIONS TO RISK-BASED SCREENING LEVELS	4-1
4.1 EXPOSURE POINT CONCENTRATIONS	4-2
4.2 METHODOLOGY FOR CALCULATING RISKS	4-3
4.3 RISKS MANAGEMENT CATEGORIES FOR EVALUATING INCREMENTAL SCREENING RISKS	4-7
4.4 PHASE II INCREMENTAL RISK SUMMARY FOR U.S. LEASED RESIDENCES LOCATED ON THE ITALIAN ECONOMY	4-8
4.5 INCREMENTAL RISK SUMMARY FOR OTHER SAMPLING EVENTS	4-21
4.6 REFERENCES FOR SECTION 4	4-29
SECTION 5 – UNCERTAINTY ANALYSIS.....	5-1
5.1 LACK OF HISTORICAL DATA AND INSTITUTIONAL KNOWLEDGE ABOUT HAZARDOUS WASTE SITES AND IMPROPER WASTE DISPOSAL IN CAMPANIA	5-1
5.2 REPRESENTATIVENESS OF THE ANALYTICAL DATA USED IN THE SRE	5-2
5.3 IDENTIFICATION OF CONSTITUENTS IN SOIL GAS THAT MAY BE ASSOCIATED WITH VI.....	5-9
5.4 VAPOR ATTENUATION FACTORS USED TO PREDICT INDOOR AIR CONCENTRATIONS FROM SOIL GAS.....	5-11
5.5 STEP-OUT SAMPLING DATA GAPS.....	5-13
5.6 CONCEPTUAL SITE MODEL AND EXPOSURE ASSUMPTIONS	5-13
5.7 TOXICITY VALUES	5-14
5.8 SENSITIVITY ANALYSES.....	5-15
5.9 REFERENCES FOR SECTION 5	5-20

TABLES

TABLE 2-1:	NUMBER OF RESIDENCES SAMPLED BY STUDY AREA AND BY SAMPLING EVENT
TABLE 2-2:	NUMBER OF SAMPLES COLLECTED BY MEDIUM AT U.S. GOVERNMENT-RELATED FACILITIES
TABLE 2-3:	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN TOXICITY EQUIVALENCY FACTORS
TABLE 2-4:	BENZO(A)PYRENE TOXICITY EQUIVALENCY FACTORS
TABLE 2-5:	CONSTITUENTS DETECTED BY MEDIUM
TABLE 3-1:	USEPA RSLs AND USMCLs FOR TAP WATER
TABLE 3-2:	USEPA RSLs FOR SOIL
TABLE 3-3:	USEPA RSLs AND U.S. QUALITY STANDARDS FOR AMBIENT AIR
TABLE 4-1:	NAPLES BACKGROUND CONSTITUENT CONCENTRATIONS IN SOIL
TABLE 4-2:	NAPLES AMBIENT AIR EXPOSURE POINT CONCENTRATIONS COMPARED TO 2007 USEPA AIR TOXICS DATABASE AMBIENT AIR EXPOSURE POINT CONCENTRATIONS
TABLE 4-3:	PHASE II SUMMARY OF INCREMENTAL RISKS BY RESIDENCES & STUDY AREA
TABLE 4-4:	STUDY AREA 1 – PHASE II INCREMENTAL RISK SUMMARY
TABLE 4-5:	STUDY AREA 2 – PHASE II INCREMENTAL RISK SUMMARY
TABLE 4-6:	STUDY AREA 3 – PHASE II INCREMENTAL RISK SUMMARY
TABLE 4-7:	STUDY AREA 4 – PHASE II INCREMENTAL RISK SUMMARY
TABLE 4-8:	STUDY AREA 5 – PHASE II INCREMENTAL RISK SUMMARY
TABLE 4-9:	STUDY AREA 6 – PHASE II INCREMENTAL RISK SUMMARY
TABLE 4-10:	STUDY AREA 7 – PHASE II INCREMENTAL RISK SUMMARY
TABLE 4-11:	STUDY AREA 8 – PHASE II INCREMENTAL RISK SUMMARY
TABLE 4-12:	STUDY AREA 9 – PHASE II INCREMENTAL RISK SUMMARY
TABLE 4-13:	NUMBER OF EXCEEDANCES FOR TAP WATER FROM PUBLIC SOURCES – INHALATION-ONLY BY STUDY AREA
TABLE 4-14:	NUMBER OF EXCEEDANCES FOR TAP WATER FROM PRIVATE WELLS – INHALATION-ONLY BY STUDY AREA
TABLE 4-15:	NUMBER OF EXCEEDANCES FOR TAP WATER FROM PUBLIC SOURCES – INGESTION+INHALATION BY STUDY AREA
TABLE 4-16:	NUMBER OF EXCEEDANCES FOR TAP WATER FROM PRIVATE WELLS – INGESTION+INHALATION BY STUDY AREA
TABLE 4-17:	NUMBER OF EXCEEDANCES FOR SOIL BY STUDY AREA
TABLE 4-18:	NUMBER OF EXCEEDANCES FOR SOIL GAS BY STUDY AREA
TABLE 4-19:	NAPLES AMBIENT AIR EPCs AND USEPA's 2007 AIR TOXICS DATABASE EPCs COMPARED TO USEPA RSLs FOR CONSTITUENTS THAT EXCEED THE RSL IN AT LEAST ONE STUDY AREA
TABLE 4-20:	CONSTITUENTS OF CONCERN IDENTIFIED FOR AMBIENT AIR
TABLE 4-21:	NAPLES AMBIENT AIR CUMULATIVE EXCEEDANCE FACTORS BY STUDY AREA COMPARED TO USEPA's 2007 AIR TOXICS DATABASE AMBIENT AIR CUMULATIVE EXCEEDANCE FACTORS
TABLE 4-22:	PARCO EVA ACTIVE SOIL GAS RESULTS COMPARED TO USEPA RSLs
TABLE 4-23:	PARCO LE GINESTRE SOIL GAS RESULTS COMPARED TO USEPA RSLs

FIGURES

- FIGURE 1-1: NAPLES REGIONAL MAP
- FIGURE 1-2: CAMPANIA PROVINCES
- FIGURE 1-3: STUDY AREAS AND TRASH OR POTENTIAL HAZARDOUS WASTE SITES
- FIGURE 2-1: RESIDENCE/SAMPLING LOCATIONS IN RELATION TO TRASH OR POTENTIAL HAZARDOUS WASTE SITES
- FIGURE 3-1: CONCEPTUAL SITE MODEL
- FIGURE 4-1: SOIL ARSENIC RISK RESULTS
- FIGURE 4-2: TAP WATER INGESTION AND INHALATION ARSENIC RISK RESULTS
- FIGURE 4-3: TOTAL INHALATION CUMULATIVE RISK RESULTS
- FIGURE 4-4: TOTAL INGESTION AND INHALATION CUMULATIVE RISK RESULTS
- FIGURE 4-5: TAP WATER INHALATION CUMULATIVE RISK RESULTS
- FIGURE 4-6: TAP WATER INGESTION AND INHALATION CUMULATIVE RISK RESULTS
- FIGURE 4-7: SOIL GAS CUMULATIVE RISK RESULTS
- FIGURE 4-8: TAP WATER INHALATION CARBON TETRACHLORIDE RISK RESULTS
- FIGURE 4-9: TAP WATER INGESTION AND INHALATION CARBON TETRACHLORIDE RISK RESULTS
- FIGURE 4-10: TAP WATER INGESTION AND INHALATION COPPER RISK RESULTS
- FIGURE 4-11: TAP WATER FECAL COLIFORM RISK RESULTS
- FIGURE 4-12: TAP WATER INGESTION AND INHALATION FLUORIDE RISK RESULTS
- FIGURE 4-13: TAP WATER INGESTION AND INHALATION LEAD RISK RESULTS
- FIGURE 4-14: TAP WATER INGESTION AND INHALATION NITRATE RISK RESULTS
- FIGURE 4-15: TAP WATER INHALATION TETRACHLOROETHENE RISK RESULTS
- FIGURE 4-16: TAP WATER INGESTION AND INHALATION TETRACHLOROETHENE RISK RESULTS
- FIGURE 4-17: TAP WATER INGESTION AND INHALATION TOTAL CARCINOGENIC PAHS (BAP TEQs) RISK RESULTS
- FIGURE 4-18: TAP WATER TOTAL COLIFORMS RISK RESULTS
- FIGURE 4-19: TAP WATER INGESTION AND INHALATION TOTAL DIOXINS/FURANS (2,3,7,8-TCDD TEQs) RISK RESULTS
- FIGURE 4-20: TAP WATER INGESTION AND INHALATION URANIUM RISK RESULTS
- FIGURE 4-21: SOIL TOTAL CARCINOGENIC PAHS (BAP TEQs) RISK RESULTS
- FIGURE 4-22: SOIL GAS BENZENE RISK RESULTS
- FIGURE 4-23: SOIL GAS CHLOROFORM RISK RESULTS
- FIGURE 4-24: SOIL GAS ETHYLBENZENE RISK RESULTS
- FIGURE 4-25: SOIL GAS TETRACHLOROETHENE RISK RESULTS
- FIGURE 4-26: 500 FOOT STEP-OUT BOUNDARY AND STEP-OUT RESIDENCES
- FIGURE 4-27: 1,500 FOOT STEP-OUT BOUNDARY AND STEP-OUT RESIDENCES
- FIGURE 4-28: VILLA LITERNO SAMPLING EVENT RESIDENCES
- FIGURE 4-29: SOIL GAS CUMULATIVE RISK RESULTS WITHOUT MULTI-STORY VAFs
- FIGURE 4-30: TOTAL INHALATION CUMULATIVE RISK RESULTS WITHOUT MULTI-STORY VAFs
- FIGURE 4-31: TOTAL INGESTION AND INHALATION CUMULATIVE RISK RESULTS WITHOUT MULTI-STORY VAFs

APPENDICES

- APPENDIX A: EQUATIONS AND INPUT PARAMETERS USED TO DEVELOP USEPA REGIONAL SCREENING LEVELS
- APPENDIX B: NAPLES, ITALY – PUBLIC HEALTH EVALUATION: DEVELOPMENT AND APPLICATION OF MULTI-STORY VAPOR INTRUSION ATTENUATION FACTORS TO RESIDENCES IN NAPLES, ITALY
- APPENDIX C: SUMMARY STATISTICS FOR AMBIENT AIR FROM NAPLES, ITALY AND THE UNITED STATES
- APPENDIX D: NAPLES, ITALY – PUBLIC HEALTH EVALUATION: TECHNICAL MEMORANDUM IDENTIFICATION OF CHEMICALS IN SOIL GAS THAT MAY BE ASSOCIATED WITH VAPOR INTRUSION
- APPENDIX E: PHASE I SCREENING RISK EVALUATION REPORTS FOR PARCO ARTEMIDE, PARCO EVA, AND PARCO LE GINESTRE RESIDENCES
- APPENDIX F: INCREMENTAL RISK RESULTS FOR ALL RESIDENCES SAMPLED DURING THE NAPLES PUBLIC HEALTH EVALUATION
- APPENDIX G: RADIONUCLIDES IN TAP WATER SCREENING AND SPECIATION ANALYSES
- APPENDIX H: CHEMICAL FACT SHEETS

ACRONYMS AND ABBREVIATIONS

Acronym	Explanation
2,3,7,8-TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin
AFB	Air Force Base
ARPAC	Regional Agency for the Environmental Protection of Campania
BaP	Benzo(a)pyrene
BaP TEQs	Total BaP Toxic Equivalency
bgs	Below Ground Surface
BUMED	Bureau of Medicine and Surgery
CAA	Clean Air Act (United States Code, Title 42, Chapter 85)
CCEF	Cumulative Cancer Exceedance Factor
CFR	Code of Federal Regulation
CEF	Cancer Exceedance Factor
CFR	U.S. Code of Federal Regulations
CNCEF	Cumulative Noncancer Exceedance Factor
CNREURAFSWA	Commander Navy Region Europe, Africa, Southwest Asia
COCs	Constituent of Concern
COPC	Constituent of Potential Concern
cPAHs	Carcinogenic Polycyclic Aromatic Hydrocarbons
CSF	Cancer Slope Factor
CSM	Conceptual Site Model
Dioxins/Furans	2,3,7,8-Tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD]
DNA	Deoxyribonucleic Acid
DoD	Department of Defense
DoDDS	Department of Defense Dependent Schools
EF	Exceedance Factor
EPC	Exposure Point Concentration
ETSA	Environmental Testing Support Assessment
FR	U.S. Federal Register
HAP	Hazardous Air Pollutant
HI	Hazard Index
HQ	Hazard Quotient
IEUBK	Integrated Exposure Uptake Biokinetic (Model)
IRIS	Integrated Risk Information Systems
JFC	Joint Forces Command
MACT	Maximum Achievable Control Technology
NAAQS	National Ambient Air Quality Standards
NATO	North Atlantic Treaty Organization
NCEF	Noncancer Exceedance Factor
NJDEP	New Jersey Department of Environmental Protections

ACRONYMS AND ABBREVIATIONS

Acronym	Explanation
NLSZ	New Lease Suspension Zone
NMCPHC	Navy and Marine Corps Public Health Center
OSWER	Solid Waste and Emergency Response
PAH	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Bi-phenyls
PCE	Tetrachloroethene
PHE	Public Health Evaluation
PIONEER	PIONEER Technologies Corporation
PM ₁₀	Particulate Matter Less than 10 microns in diameter
QAPP	Quality Assurance Project Plan
RfD	Reference Dose
RME	Reasonable Maximum Exposure
RSL	Regional Screening Level
SRE	Screening Risk Evaluation
SVOCs	Semi-Volatile Organic Compounds
TEF	Toxicity Equivalency Factor
TEQ	Toxic Equivalent
THM	Trihalomethane
TTHM	Total Trihalomethane
UCL	Upper Confidence Level
U.S.	United States
USEPA	United States Environmental Protection Agency
USMCL	United States Maximum Contaminant Levels
USN	United States Navy
USN Personnel	USN Active Duty, Civil Servants, Family Members
VAF	Vapor Attenuation Factor
VETCOM	U.S. Army Veterinary Command
VI	Vapor Intrusion
VOCs	Volatile Organic Compounds
WHO	World Health Organization

SECTION 1 – INTRODUCTION

For decades, the Campania Region of Italy has experienced numerous challenges associated with trash collection, uncontrolled open burning of uncollected trash, and widespread dumping of waste, including chemical and other potentially-hazardous waste. Uncontrolled open burning of uncollected trash is random. In response to health concerns expressed by the United States (U.S.) Navy (USN) and its civilian personnel and families, the Commander Navy Region Europe, Africa, Southwest Asia (CNREURAFSWA) contacted the Navy Bureau of Medicine and Surgery (BUMED) and requested that the Navy and Marine Corps Public Health Center (NMCPHC) conduct a Public Health Evaluation (PHE).

This report documents the findings of the Phase I & II PHE Screening Risk Evaluation (SRE)¹. The purpose of the SRE was to determine whether or not there were potential health impacts to USN Personnel (active duty, civil servants, and their family members), residing in the Naples area of Campania that may be associated with exposure to tap water², soil, soil gas (used as an indicator of potential vapor intrusion [VI] to indoor air), and ambient (outdoor) air impacted by improper waste disposal practices. Recognizing that this PHE was a large and unique investigation, the SRE was conducted in accordance with U.S. Environmental Protection Agency (USEPA) Risk Assessment Guidance (USEPA, 1989 - 2009) and USN Risk Assessment Guidance (USN, 2008).

The results of the SRE will be used to determine whether or not risk management actions need to be implemented to protect USN Personnel from potential human health risks, calculated based on USEPA and USN risk assessment guidelines, associated with exposure to tap water, soil, indoor air (via VI from soil gas), and ambient air.

This report utilizes information presented in several documents including:

- *Environmental Testing Support Assessment (ETSA) Work Plan* (Tetra Tech, 2008a),
- *ETSA Field Sampling Plan* (Tetra Tech, 2008b),
- *Phase I ETSA Report: Volume I* (Tetra Tech, 2008c),
- *Naples Italy – Public Health Evaluation Volume II: Phase I Screening Risk Evaluation* (PIONEER Technologies Corporation [PIONEER], 2009),
- *Modeling and Mathematical Analysis of PCE Attenuation between Floors of Multi-Story Dwellings as it Applies to the Public Health Evaluation, Naples, Italy* (Tetra Tech, 2009), and
- *Public Health Evaluation Technical Memorandum: Identification of Chemicals in Soil Gas That May be Associated with Vapor Intrusion* (PIONEER, 2010).
- *Ambient Air Quality and Meteorological Summary Report for the Period July 9, 2008 through July 8, 2009* (Tetra Tech, 2010a),
- *Quality Assurance Project Plan (QAPP)* (Tetra Tech, 2010b),

¹The main text of this report focuses solely on the results of the Phase II evaluation. Appendix F of this report presents an evaluation of the data collected from residences sampled during Phase I and Phase II.

²At residences sampled during this evaluation, it was apparent that tap water sources included public water, private wells, and blended-water sources. Blended water may have come from non-permitted (illegal) wells that were connected via ancillary piping to the public water-supply system, resulting in a mixture of public water and well water.

- *Naples Public Health Evaluation: Phase II Environmental Testing Support Assessment, Public Health Evaluation, Volume I, Naval Support Activity Naples, Italy* (Tetra Tech, 2010c), and
- *Naples Public Health Evaluation: Volume III: Naples Public Health Evaluation Public Health Summary, Naval Support Activity Naples, Italy* (NMCPHC, 2010).

1.1 Investigative History

The PHE was completed in two phases. Phase I was conducted between May 2008 and November 2008 and was comprised of two components: 1) a month-long regional ambient air monitoring evaluation at nine air sampling stations and 2) tap water (from both private well and municipal water sources), irrigation wells (where available), soil, and passive soil gas sampling from 130 residences³ (single-family homes and apartments) and 10 U.S. Government-related facilities. The risk evaluations and results of data collected during Phase I are presented in the *Public Health Evaluation Volume I: Phase I Environmental Testing Support Assessment Report* (Tetra Tech, 2008c) and the *Public Health Evaluation Volume II: Phase I Screening Risk Evaluation* report (PIONEER, 2009). Phase II was conducted between November 2008 and October 2009 to improve the spatial/geographic distribution of the sampling locations and to delineate clusters of residences that exceeded risk criteria during Phase I (Tetra Tech, 2008c). Two hundred and nine (209) residences were sampled during Phase II, and the month-long ambient air monitoring evaluation from Phase I was continued for one full year. For Phase II, active (i.e., SUMMA canisters) sub-slab or near-slab soil gas samples were collected instead of passive (i.e., Gore-Sorber®) samples that were collected during Phase I⁴. Soil sampling was discontinued midway through Phase II because results from Phase I samples indicated that soil contamination did not pose a significant human health risk.

1.2 Site Location and Setting

The Campania Region is located in southwestern Italy and is divided into five provinces: Napoli (Naples), Benevento, Avellino, Caserta, and Salerno (see Figure 1-1 and Figure 1-2). The region has a population of approximately 5.8 million, making it the second most-populated region of Italy. Naples is over 2,800 years old and is the capital city of Campania and the province of Naples. The population of Naples proper is approximately one million.

Campania enjoys a typical Mediterranean climate with mild, wet winters and warm to hot, dry summers. The average low and high temperatures are 52 and 68 degrees Fahrenheit, respectively. The average annual rainfall is 37 inches.

The total area of Campania covers approximately 5,250 square miles. Fifty-one percent of the total area of Campania is hilly, 34% is mountainous and the remaining 15% is made up of plains, which are found to the north in the provinces of Caserta and Benevento. Historically, the Campania Region has had

³The 130 residences included seven pilot study residences.

⁴SUMMA canister soil gas samples provide actual concentration data that are more suitable for evaluation in a risk assessment. In contrast, Gore-Sorber Modules, which are patented, passive-diffusion sorbent-based samplers, measure chemical mass rather than chemical concentration. Consequently, the Gore-Sorber results must be converted to concentrations before they can be used in risk assessments. This conversion results in an estimate of soil gas concentrations which adds to the uncertainty of a risk assessment that is based on these data. Using SUMMA canisters eliminates this conversion and uncertainty and, provides quantitative data for analysis in the risk assessment.

significant volcanic activity. Mount Vesuvius is located on the coast of the Gulf of Naples, approximately six miles east of Naples and the Phlegraean Fields.

Based on topography it can be reasonably inferred that regional groundwater flows towards the west-southwest (Southern Apennine Hydrographic District, 2010). Multiple residential wells have been installed (many suspected to be illegal or installed without a permit) throughout the Region to augment water pressure for households, especially in the summer when the city water pressure is low. This was a significant issue because shallow water supplies are susceptible to chemical and bacteriological contamination.

1.3 Study Areas

This SRE focused on the Naples area of Campania where USN Personnel work and live. Since the area being investigated was very large, the region was divided into nine geographical study areas for the purposes of this evaluation (Figure 1-3). The SRE focused on areas where the density of trash and chemical dump sites were greatest, based on information published by Italian regulators and other host-nation sources^{5,6}. The nine study areas are listed below along with the U.S. Government-related facility that is located within each study area and the approximate size of each study area in square miles. Combined, the study areas comprise approximately 395 square miles:

- Study Area 1 – Joint Forces Command (JFC) North Atlantic Treaty Organization (NATO) Site (approximately 30 square miles)
- Study Area 2 – U.S. Consulate (approximately 15 square miles)
- Study Area 3 – Capodichino (approximately 95 square miles)
- Study Area 4 – Carney Park (approximately 30 square miles) (This facility is located within Study Area 1 but was used to evaluate ambient air for Study Area 4.)
- Study Area 5 – Lago Patria Receiver Site/Parco Artemide (approximately 80 square miles)
- Study Area 6 – Gricignano Support Site (approximately 45 square miles)
- Study Area 7 – Parco Eva (USN-Leased Parco) (approximately 20 square miles)
- Study Area 8 – Villa (home leased by the USN for the PHE) (approximately 30 square miles)
- Study Area 9 – Parco Le Ginestre (USN-Leased Parco) (approximately 50 square miles)

1.4 Overview of the Screening Risk Evaluation Process

Risk assessment is an established scientific approach for evaluating the potential for impacts to human health and the environment associated with exposure to constituents in contaminated media (e.g., water, soil, air). Risk assessments do not provide absolute statements about health and environmental impacts, but rather provide indicators of the likelihood of impacts that may be expected for different types of

⁵This information did not differentiate trash sites from chemical dump sites. Therefore, it was not possible to determine if the residences that were selected for sampling as part of the PHE were near trash sites or chemical dump sites.

⁶Based on Italian maps, six “Sites of National Interest” (similar to the USEPA Superfund Sites on the National Priorities List) were identified in Campania. Of particular concern were the Bagnoli-Coroglio Site of National Interest (for Study Area 2) and the Napoli Orientale Site (for Study Area 3), and the other seven study areas are located within the footprint of the Litorale Domito Flegreo e Agro Aversano Site. These were only the waste sites known by the USN; the majority of the sites were not characterized in terms of extent of contamination, nor remediated (cleaned up). There may be other sites containing urban or hazardous waste that have not yet been documented by Italian agencies.

exposures. Risk assessment is a management decision tool that typically focuses on constituents and exposure pathways directly related to a site. These assessments do not address risks from other sources of exposure (e.g., dietary exposures), or risks from constituents that are not associated with the site under evaluation (e.g., risks from ambient air resulting from automobile exhaust). Risk managers use the results of risk assessments to assist in determining if a site, or a portion thereof, requires further investigation or action (e.g., mitigation, remediation). In an SRE focused on human health impacts, risk-based screening levels for constituents are developed by considering land use, exposed populations, exposure pathways, and toxicity information based on prescribed noncancer and cancer risk goals. SREs are typically comprised of the following three tasks:

1. **Data Analysis.** In this task, constituents are identified from analytical data obtained from the field-sampling program. Constituents detected in at least one sample during the field investigation are identified as constituents of potential concern (COPCs) and are further evaluated in the SRE.
2. **Conceptual Site Model and Identification of Risk-Based Screening Levels.** In this task, screening levels (i.e., constituent concentrations that are protective of human health) are identified based on the exposure pathways and routes of exposure associated with the site being evaluated. Noncarcinogenic (noncancer) constituent screening levels are established at concentrations that are presumed not to cause illness in humans. Carcinogenic (cancer) constituent screening levels are established at concentrations that do not cause exceedances of the allowable level of excess cancer risk (following USEPA and USN Risk Assessment Guidance) in humans (USEPA, 1989; USN, 2008).
3. **Risk Evaluation: Comparison of Site Media Concentrations to Risk-Based Screening Levels.** In this task, site media concentrations identified and summarized in Task 1 are compared with the risk-based screening levels identified in Task 2. Consistent with USEPA risk assessment guidance, the results of an SRE may be expressed as exceedances of the risk-based screening levels.

In a typical SRE, a “source” can be identified; however, the Naples PHE was unique in that individual sources could not be identified. The nature of the illicit waste disposal practices that initiated this evaluation presented four confounding issues:

1. Waste disposal locations were often temporary and transitory.
2. In many cases the location(s) of disposal sites, especially chemical/hazardous waste disposal sites, was not known (Agenzia Regionale per la Protezione Ambientale della Campania [ARPAC], 2009).
3. The contaminant composition was highly variable because the waste was comprised of municipal waste (i.e., trash) and could have potentially contained chemical waste (see Chapter 12 in the *Report on the Environment in Campania (2009)* [ARPAC, 2009]).
4. The USN could not sample or investigate (e.g., install groundwater monitoring wells, et cetera) potential or suspected areas of contamination resulting from illicit disposal activities as it would, in concert with the appropriate regulatory agencies, in the U.S. Only residences on the Italian economy where USN Personnel lived (or may live in the future) could be evaluated for risks (i.e.,

sampled); therefore, a close correlation between these residences and the potential or suspected areas of contamination could not be derived.

As a result, the approach for this SRE was atypical relative to other environmental investigations performed in the U.S., as these commonly have a known source (e.g., a spill area or industrial emission) which typically have a limited and easily defined list of COPCs. This was clearly not the case for this SRE.

1.5 Report Organization

This report is organized as follows:

- Section 2.0 – Data Analysis
- Section 3.0 – Conceptual Site Model and Identification of Risk-Based Screening Levels
- Section 4.0 – Risk Evaluation: Comparison of COPC Concentrations to Risk-Based Screening Levels
- Section 5.0 – Uncertainty Analysis

Tables and figures are presented in separate sections following the text and prior to the appendices. The sections in this report are supplemented by appendices that provide supporting documentation of items discussed in the text.

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SECTION 2 – DATA ANALYSIS

This section identifies sources of data and the constituents detected in tap water, soil, soil gas, and ambient air samples that were collected from the nine study areas, which were further evaluated in the SRE.

2.1 Sources of Data

The objective of the environmental sampling performed during Phases I and II of the SRE was to determine whether or not risk management actions need to be implemented to protect USN Personnel from potential human health risks, calculated based on USEPA and USN risk assessment guidelines, associated with exposure to tap water, soil, indoor air (via VI from soil gas), and ambient air (USEPA, 1989; USN, 2008). A comprehensive, multi-media sampling program began in May 2008 to identify contamination in tap water, soil, soil gas, and ambient air in the nine study areas identified within the Campania Region.

2.1.1 Sampling Events

There were five major sampling events conducted as part of the Naples PHE:

1. **Phase I Sampling** – One-hundred and thirty (130) residences and 10 U.S. Government-related facilities were sampled from May 2008 through November 2008 during Phase I for tap water, soil, and soil gas (see Figure 2-1) (Tetra Tech, 2008a and PIONEER, 2009). A Pilot Study was conducted at seven of the 130 residences to evaluate sampling procedures and logistical details to improve the efficiency of the Phase I *ETSA Field Sampling Plan* (Tetra Tech, 2008b). For the Pilot Study, tap water, soil, passive soil gas and ambient air samples were collected. The results for these seven Pilot residences were subsequently incorporated into the Phase I evaluation.

A biased sampling design was implemented for Phase I in order to sample areas within the Naples area of Campania, where USN Personnel work and live, that available information suggested had the highest potential of being impacted by the effects of hazardous waste that had been disposed of improperly. Italian maps showing the locations of documented trash and chemical dump sites⁷ were reviewed (see Figure 2-1) to identify candidate residences for sampling from these presumed "worst-case" areas that were occupied by USN Personnel.

2. **Pre-Lease Sampling** – Two-hundred and forty (240) residences were sampled from September 2008 through January 2009 during Pre-Lease Sampling (see Figure 2-1). The Phase I SRE (PIONEER, 2009) indicated that volatile organic compounds (VOCs) and bacteria in tap water (primarily from private wells) were of concern to human health. Based on the results of the Phase I SRE, the USN instituted a policy that required the sampling of tap water at residences located on the Italian economy prior to occupancy by USN Personnel. If the health risks associated with

⁷These maps did not differentiate trash sites from chemical dump sites. Therefore, it was not possible to determine if the residences that were selected for sampling as part of the PHE were near trash sites or chemical dump sites.

tap water were found to be Acceptable according to the PHE risk management criteria⁸, then USN Personnel were allowed to sign the lease and move into the residence. If the health risks associated with tap water were considered to be Unacceptable according to the PHE risk management criteria, then USN Personnel were not allowed to move into the residence and the residence was removed from the USN Naples Housing List.

3. **Year-Long Ambient Air Sampling (Phase I and Phase II)** – A year-long ambient air sampling and monitoring program was performed that spanned both Phase I and Phase II of the PHE. The objective of the ambient air sampling event was to characterize air quality for the nine study areas, which involved the construction and operation of nine air sampling stations, a continuous air monitoring station, and a meteorological monitoring tower. Over 92,000 individual analyses for 211 constituents were performed during this one-year period. Tens of thousands of continuous monitoring measurements for criteria pollutants and meteorological parameters were also obtained and evaluated (Tetra Tech 2010a).
4. **Step-Out Sampling** – Thirty-six (36) residences were sampled from September 2008 through August 2009 during the Step-Out Sampling Event (see Figure 2-1). Step-Out sampling was performed as part of the PHE to determine whether or not residences located proximate to a residence with Unacceptable risks, based on the PHE risk management criteria, had Acceptable or Unacceptable risks. Residences located within 500 feet of the initial residence that had an Unacceptable risk were sampled to determine whether or not additional actions were necessary at these residences⁹. If the risks at residences sampled during the first Step-Out sampling were Unacceptable, then additional Step-Out sampling was performed (typically in 500-foot increments¹⁰) in the direction where the new Unacceptable risks were identified. If the risks at residences sampled during the initial round of Step-Out sampling were Acceptable, then no additional Step-Out sampling was necessary.

Phase II sampling locations were selected to obtain broad geographical coverage and to analyze for a broad range of constituents across the sampled media (tap water, soil, soil gas, and ambient air). If sampling results identified an Unacceptable risk, it would not, in general, be possible to ascertain the proximity of that residence to a known “source.” Stepping out in the direction of all compass points provided a better approach for evaluating the extent of concern at that residence¹¹.

⁸The PHE risk management criteria used to determine Unacceptable risks are presented in Section 4.3 of this report.

⁹The 500-foot Step-Out distance was based on VI and other guidance documents that recommend additional investigation for areas within 100 feet of the edge of a known and documented subsurface contamination source. Due to a lack of information regarding the size or characteristics of the vapor or presumed-to-be impacted groundwater in the study areas, and the relative location of the residence with Unacceptable risk within the study areas, a Step Out distance of 500 feet was used to err on the side of being protective and to demonstrate that residences within this distance had an Acceptable risk.

¹⁰However, during the second Step-Out Sampling Event that was performed in Study Area 8, the USN PHE Team decided to increase the Step-Out distance to 1,500 feet because the sampling results from all of the residences included in the initial 500-foot Step-Out Sampling Event were Unacceptable.

¹¹In the U.S., it is common practice to utilize Step-Out sampling in environmental investigations to determine the extent of contamination in a geographic area where a contaminant source is documented and under investigation. This method selects sampling locations a specific distance (potentially in all directions) from the initial location where there is identified contamination, with the goal of determining the extent of contamination. For the PHE, if there was contamination in the Step-Out samples attributable to the same constituent that was responsible for “triggering” the Step-Out Sampling Event, field personnel collected subsequent rounds of Step-Out samples further from the residence that triggered the Step Out until sample results were Acceptable.

5. **Phase II Sampling** – Two-hundred and nine (209) residences and 10 U.S. Government-related facilities were sampled from November 2008 through October 2009 during Phase II (see Figure 2-1). Of the 209 residences, 139 were new residences that had not been sampled during previous events, 70 were previously sampled during Phase I, Pre-Lease, or Step-Out Sampling Events and were re-sampled again during Phase II – typically only for media that were not sampled during previous events. Phase II sampling was designed based on the results of Phase I to improve the spatial/geographic distribution of sampling locations and to potentially delineate clusters of residences that exceeded risk criteria.

In addition, active soil gas, ambient air, and indoor air samples were collected at Capodichino and the Gricignano Support Site as part of a VI investigation (Tetra Tech, 2009). Active soil gas samples were also collected at Parco Eva and Parco Le Ginestre to investigate the potential for VI from soil gas to impact indoor air. Indoor air samples were collected from the Villa in Study Area 8 that was leased in support of the PHE.

2.1.2 Media Sampled

Sampling objectives, sampling methodologies, analytical methods, and quality assurance/quality control procedures, are documented in the

- *ETSA Work Plan* (Tetra Tech, 2008a),
- *ETSA Field Sampling Plan* (Tetra Tech, 2008b),
- *Phase I ETSA Report: Volume I* (Tetra Tech, 2008c),
- *Ambient Air Quality and Meteorological Summary Report for the Period July 9, 2008 through July 8, 2009* (Tetra Tech, 2010a),
- *QAPP* (Tetra Tech, 2010b), and
- *Naples Public Health Evaluation: Phase II Environmental Testing Support Assessment, Public Health Evaluation, Volume I* (Tetra Tech, 2010c).

The following media were sampled as part of the PHE:

Media	Phase I	Pre-Lease	Step-Out	Phase II
Tap Water¹	Yes	Yes	Yes	Yes
Surface Soil Composite surface soil (zero to six inches below ground surface [bgs]) (for all analyses except VOCs); Discrete surface soil samples (for VOCs only).	Yes	No	No	No (a few Phase II residences had soil samples collected before the soil sampling was discontinued)
Passive Soil Gas (Gore-Sorber) Collected near-slab from less than five feet bgs.	Yes	No	No	No
Active Soil Gas (SUMMA canister) Collected near-slab or sub-slab from less than five feet bgs.	No	No	Yes	Yes
Ambient Air (from residences)	Yes (selected residences)	No	Yes (selected residences)	Yes (selected residences)
Ambient Air Collected at U.S. Government-related facilities as part of the one-year ambient air monitoring evaluation.	Yes	Yes	Yes	Yes

Notes:

¹Samples were also collected from irrigation wells.

Indoor air samples were also collected at Capodichino and the Gricignano Support Site as part of a VI investigation (Tetra Tech, 2009)

In general, samples were analyzed for approximately 241 constituents¹² (i.e., chemicals, microorganisms, and radionuclides) from the following analytical classes:

Analysis	Phase I	Pre-Lease	Step-Out	Phase II
Aldehydes and Ketones (residential and regional ambient air samples only)	Yes	No	Yes (active soil gas)	Yes
Alkane Hydrocarbons (Phase I passive soil gas samples and regional ambient air samples only)	Yes	No	No	No
Anions (tap water samples only)	Yes	Yes (most residences)	Yes	Yes
Conventional Parameters (tap water samples only)	Yes	Yes	Yes	Yes
Dioxins/Furans (2,3,7,8-Tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD])	Yes	Yes (most residences)	Yes	Yes
Disinfectants and Disinfectant Byproducts (tap water samples only)	Yes	Yes	Yes	Yes
Field Parameters (tap water samples only)	Yes	Yes	Yes	Yes
Inorganics	Yes	Yes (most residences)	Yes	Yes
Microorganisms (tap water samples only)	Yes	Yes	Yes	Yes
Particulate Matter less than 10 microns in diameter (PM ₁₀) (regional ambient air samples only)	Yes	No	No	Yes
Pesticides	Yes	Yes (most residences)	Yes (until discontinued)	Yes (until discontinued)
Polychlorinated Biphenyls (PCBs)	Yes	Yes (most residences)	Yes (until discontinued)	Yes (until discontinued)
Radionuclides (tap water samples only)	Yes	Yes (most residences)	Yes	Yes
Semi-Volatile Organic Compounds (SVOCs)	Yes	Yes (most residences)	Yes (until discontinued)	Yes (until discontinued)
VOCs	Yes	Yes	Yes	Yes

Tap water, soil, and soil gas samples were collected from multiple residences located throughout the nine study areas (see Table 2-1 and Figure 2-1) (Tetra Tech, 2008a and 2008c). In most cases, the risks presented in this SRE were based on a single-sampling event at a residence. Sampling was almost always limited to one sample per medium and it was rarely an option to return and collect additional samples. As discussed in Section 5.2.2, a single sample only provides a "snapshot" of concentrations that are present in tap water, soil, and soil gas and may not be representative of the long-term concentrations at a residence. Not all media could be sampled at every residence (e.g., if the residence did not have a yard or the yard was inaccessible, then soil samples could not be collected). It should be noted that as the distance from sampled residences increases, the representativeness of these sampling results to other residences decreases.

¹²The number of constituents may vary depending on the medium being analyzed.

2.1.2.1 Tap Water

Tap water samples were evaluated to determine whether or not potential exposures existed via ingestion and inhalation (i.e., breathing vapors released during tap water use [e.g., showering/bathing]). It was hypothesized that due to a lack of backflow prevention mechanisms, tap water could potentially be contaminated by constituent infiltration into the distribution lines, or through direct contact with a contaminant source.

Tap water samples were collected from the faucet normally used for household purposes (e.g., a kitchen or bathroom faucet). The tap water that was sampled originated from either the municipal water supply (public water) or private drinking or irrigation wells (private wells). The results from irrigation wells were not used to calculate risks at residences sampled on the Italian economy.

2.1.2.2 Soil

Soil samples were evaluated to identify potential constituent concentrations in soil resulting from the deposition of contaminants that may be related to the open burning of trash or illegal dumping activities. Soil was evaluated to assess potential exposures to USN Personnel through incidental ingestion, inhalation of particulates, and dermal contact.

Soil samples were collected at all residences with an accessible yard during Phase I and at some residences during Phase II. Soil sampling was discontinued during Phase II because the Phase I results overwhelmingly indicated that soil contamination did not pose a significant health risk. Composite samples (to depths not exceeding six inches bgs) were collected and analyzed for all constituents except for VOCs (Tetra Tech, 2008c). Discrete soil samples were collected and analyzed for VOCs.

2.1.2.3 Soil Gas

Soil gas samples were evaluated to assess potential impacts to human health via the inhalation pathway resulting from COPCs in groundwater or soil volatilizing, and then entering a home through cracks in the home's foundation, potentially adversely-impacting indoor air. For Phase I of the SRE, soil gas samples were collected using Gore-Sorber Modules, which are patented, passive-diffusion sorbent-based samplers that collect VOC, SVOC, and pesticide samples. The Gore-Sorber Modules were placed under the ground surface adjacent to the residence being sampled, at an approximate depth of 18 inches, and remained in place for a minimum of 24 hours. The passive soil gas collection process measures the constituent mass rather than the concentration. Hence, soil gas concentrations were estimated by Gore using the mass of constituents detected, in combination with general information obtained from scientific literature regarding the soil type (e.g., volcanic soil) in the Campania Region. During all subsequent soil gas sampling events (Step-Out and Phase II), active soil gas samples were collected from residences using 6-liter SUMMA canisters over a time period of 30 to 60 minutes. Sub-slab soil gas samples were collected from two to four inches beneath the floor slab of a garage or basement unless conditions prohibited access. Otherwise, near-slab soil gas samples were collected within 10 feet of the residence, at

approximately five feet bgs. Active soil gas samples were analyzed for VOCs and select SVOCs using USEPA Method TO-15⁽¹³⁾.

The intent during Phase II was to collect sub-slab soil gas samples at all candidate residences; however, it was not possible to collect sub-slab soil gas samples at all residences (e.g., tenants lived in upper floors with no access to ground floor areas, or in some cases landlords refused to permit sub-slab soil gas sampling). In these instances, near-slab soil gas samples were collected. Approximately 51% of the active soil gas samples that were collected were sub-slab samples.

COPCs potentially associated with VI (i.e., VI COPCs) were classified as either Global or Localized VI COPCs in the soil gas evaluation performed in 2009. The approach used to delineate potential VI COPCs was documented in the *Technical Memorandum: Identification of Chemicals in Soil Gas That May be Associated with Vapor Intrusion*, which is Appendix D of this volume (and appendix C.2 of the May 2010 QAPP). Global VI COPCs¹⁴ were evaluated for the VI pathway at all residences. Localized VI COPCs were evaluated for the VI pathway at residences where the soil gas concentration exceeded the 95th percentile site-wide ambient air concentration for that COPC. If the soil gas concentration was less than or equal to the 95th percentile site-wide ambient air concentration, then the COPC was not evaluated for soil gas risks using soil gas data but was evaluated for ambient air risks using ambient air data. If the COPC was detected in soil gas at a concentration greater than the 95th percentile of the site-wide ambient air concentration, then the COPC was evaluated for soil gas risks using soil gas data and also for ambient air risks using ambient air data (PIONEER, 2009).

2.1.2.4 Ambient Air

Ambient air samples were evaluated to assess potential exposures via the inhalation of ambient (i.e., outdoor) air impacted by typical urban point sources, non-point sources, and random burning of trash in areas of the Campania Region. Under typical conditions, there is significant movement and mixing of ambient air over large areas. Consequently, concentrations of constituents in ambient air are more regional in nature than concentrations of constituents in tap water, soil, and soil gas. Therefore, the ambient air results from one sampling station can reasonably be assumed to apply to multiple residences in the vicinity of the air sampling station.

During Phase I of the SRE, five ambient air samples were collected over a 30-day period from each of the nine study areas and a private residence. During Phase II, ambient air samples were collected from the nine study areas as part of the year-long ambient air sampling and monitoring program. Air samples were collected at the nine air sampling stations every nine days for approximately the first seven months, and then every six days for the remainder of the evaluation. Because the burning of trash is random, a nine-day sampling period between sample collections at each station was employed to ensure that the sampling was not biased toward any specific day of the week. In other words, the goal of the air sampling program

¹³During Phase II, naphthalene and acetaldehyde were among the constituents tested for in active soil gas and ambient air via USEPA Methods TO-13A and TO-15 for naphthalene and TO-11 and TO-15 for acetaldehyde. Inconsistencies in the results between the two methods (TO-13A and TO-15 for naphthalene and TO-11 and TO-15 for acetaldehyde) led to further research and Tetra Tech determined that the active soil gas (and select ambient air) data for naphthalene and acetaldehyde analyzed by the USEPA Method TO-15 were not suitable for inclusion in the SRE. See Section 5.2.7 for a detailed discussion of naphthalene/acetaldehyde data.

¹⁴Global VI COPCs and Localized VI COPCs are listed in Section 4.2 and are presented in Appendix D of this report.

was to collect air samples on different days of the week so that representative annual air concentrations could be calculated for evaluation in the SRE (Tetra Tech, 2008a; Tetra Tech, 2008c; and Tetra Tech, 2010b). The nine U.S. Government-related facilities where ambient air samples were collected are located in the following study areas.

- Study Area 1 – JFC NATO Site
- Study Area 2 – U.S. Consulate
- Study Area 3 – Capodichino
- Study Area 4 – Carney Park (This facility is located within Study Area 1 but was used to evaluate air for Study Area 4)
- Study Area 5 – Lago Patria Receiver Site
- Study Area 6 – Gricignano Support Site
- Study Area 7 – Parco Eva (USN-Leased Parco)
- Study Area 8 – Villa (Home leased by the USN for the PHE)
- Study Area 9 – Parco Le Ginestre (USN-Leased Parco)

The SRE includes the results presented in the *Ambient Air Quality and Meteorological Summary Report for the Period July 9, 2008 through July 8, 2009* (Tetra Tech, 2010a) in addition to the results from all ambient air samples that were collected from individual residences or at U.S. Government-related facilities.

2.1.2.5 Differences Between Phase I and Phase II

Phase II sampling was influenced by information obtained during the Phase I investigation. Important changes/modifications that were implemented between the Phase I and Phase II Sampling Events are summarized below:

- Soil sampling was discontinued because Phase I and preliminary Phase II soil sampling results indicated that concentrations were not of concern to human health.
- Phase I tap water results (from public water and private wells) revealed that SVOC and pesticide concentrations did not exceed screening levels; hence, these chemicals were not evaluated during Phase II. Phase I tap water results indicated that gross-beta concentrations exceeded screening levels. Therefore, radionuclide speciation of Phase II tap water samples was conducted if the established gross-alpha or gross-beta analytical trigger levels were exceeded.
- During Phase I, passive soil gas results revealed concentrations of VOCs that exceeded screening levels, with the potential for VI from soil gas to indoor air. Passive soil gas results can be semi-quantitative, but are typically more qualitative in nature. To achieve more quantitative soil gas data, some residences that had Unacceptable results during Phase I (with the exception of residences considered Unacceptable based on coliforms or soil results only) were re-sampled during Phase II by collecting active soil gas samples. In addition, only active soil gas samples were collected from residences during Phase II.
- Co-located active soil gas samples and residential ambient air samples were collected at some residences to provide perspective, and to provide an additional line of evidence for evaluating active soil gas results.

Figure 2-1 presents the U.S. Government-related facilities and Table 2-2 presents the number of samples collected by medium at the U.S. Government-related facilities which were evaluated in the Phase I SRE (PIONEER, 2009).

2.2 Data Processing Prior to Analysis

The analytical data for tap water, soil, soil gas, and ambient air were analyzed and a preliminary list of COPCs was identified for each medium based on whether or not the constituent was detected in at least one sample at one location.

Analytical data were converted to useable formats for the SRE as follows:

- Data were only evaluated for constituents that were detected in at least one sample at a specific location. Analytical results that were qualified “R” (i.e., rejected) were eliminated from the data set because the data did not meet quality-control criteria.
- The total dioxins/furans (2,3,7,8-tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD]) toxic equivalent (TEQ¹⁵) concentration was calculated for each sample based on the analytical results of the isomers and congeners of dioxins and furans. This calculation was performed by multiplying the concentration of the isomers/congeners by their corresponding 2005 World Health Organization (WHO) 2,3,7,8-TCDD toxicity equivalency factors (TEFs) and then summing the results (Van den Berg, 2006). Nondetected results for individual congeners were not included in the 2,3,7,8-TCDD TEQ calculations. The 2,3,7,8-TCDD TEFs are presented in Table 2-3.
- The total benzo(a)pyrene (BaP) toxic equivalent concentration (BaP TEQ) total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) was calculated for each sample based on the analytical results of all cPAHs. This calculation was performed by multiplying the concentration of the cPAH by its corresponding BaP TEF and then summing the results (USEPA, 1989). Nondetected results for individual cPAHs were not included in the BaP TEQ calculations. The BaP TEFs are presented in Table 2-4.
- The total trihalomethane (TTHM) concentration was calculated for tap water samples only by summing the detected results for bromodichloromethane, chloroform, bromoform, and dichlorobromomethane.
- The total xylenes concentration was calculated for all samples by summing the detected results for all xylene isomers (i.e., ortho, meta, and para).

Table 2-5 identifies constituents that were detected in at least one sample in each medium (i.e., tap water [from irrigation, private well, and/or municipal tap water], soil, soil gas, and ambient air). These COPCs were further evaluated in this SRE.

¹⁵TEQ concentrations are inherently more uncertain than the actual concentrations reported by the laboratory.

2.3 References for Section 2

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SECTION 3 – CONCEPTUAL SITE MODEL AND IDENTIFICATION OF RISK-BASED SCREENING LEVELS

This section presents the conceptual site model (CSM) for the nine study areas and identifies risk-based screening levels that were used to calculate risks for receptors (e.g., workers and residents) identified in the CSM.

3.1 Conceptual Site Model

A CSM provides an understanding of the potential for exposure, under current and future land uses, to constituents within a study area based on the source(s) of contamination, the release mechanism(s), the exposure pathway(s), and the receptor(s). The CSM for the nine study areas is presented on Figure 3-1 and discussed below.

The sources and release/transport mechanisms of contamination to be evaluated in the SRE are as follows:

- Source of Contamination – Dumped and Burned Trash Throughout the Campania Region
 - Release/transport mechanisms:
 - Vapors and particulates released to the air via burning trash are then transported via wind
 - Particulates in the air are deposited onto soil and surface water
 - Constituents deposited on soil may leach from soil into underlying groundwater
- Source of Contamination – Point (e.g., exhaust from power plants and factories) and Non-Point (e.g., automobile exhaust) Combustion Sources in the Campania Region
 - Release/transport mechanisms:
 - Vapors and particulates released into the air are then transported via wind
 - Particulates in the air are deposited onto soil and surface water
 - Constituents deposited on soil may leach from soil into underlying groundwater
- Source of Contamination – Legal and Illegal Dumping of Waste (Including Chemical Waste)
 - Release/transport mechanisms:
 - Constituents deposited on soil may leach from soil into underlying groundwater
 - Volatile constituents may volatilize from soil and/or groundwater into ambient air or the indoor air of buildings
 - Particle-bound constituents in soil may be transported into the air via entrainment subsequent to erosion due to wind

The complete exposure pathways evaluated in the SRE included the following:

- Inhalation of vapors and particulates in ambient air emitted from combustion sources (e.g., burning of trash, exhaust from power plants and factories, and automobile exhaust)
- Incidental soil ingestion
- Dermal contact with soil
- Inhalation of vapors and particulates in air emitted or dislodged from soil

- Inhalation of vapors in indoor air associated with VI from undefined groundwater and/or soil contaminant sources
- Ingestion of tap water, which may be provided by the city and/or by a well on the property
- Inhalation of vapors in indoor air associated with household uses of tap water (e.g., showering & washing dishes)

The following potentially-complete exposure pathways were not included in the SRE:

- Dermal contact with tap water (which may be provided by the city and/or by a well on the property). The PHE Project Team decided during the QAPP process to use USEPA tap water RSLs to evaluate risk in this SRE (Tetra Tech, 2010). Because the USEPA tap water RSLs do not incorporate dermal contact with tap water, this pathway was not evaluated in the PHE.
- Ingestion of fruits, vegetables, meat and dairy products associated with potentially-impacted soil. These exposure pathways were not quantitatively evaluated in the SRE but were assessed in the *Naples Public Health Evaluation: Naples Public Health Evaluation Public Health Summary: Volume III* (NMCPHC, 2010).
- Ingestion of surface water, dermal contact with surface water, and ingestion of biota impacted by bio-uptake of contaminants associated with potentially-impacted soil. The PHE Project Team was only able collect samples from residences on the economy where USN Personnel live. For this reason, this pathway was not evaluated in the SRE and is considered a data gap.

The following potentially-exposed populations living and/or working in the study areas were evaluated for this report:

- USN Personnel (military and civilian) and their families
- Department of Defense (DoD) and DoD Dependent Schools (DoDDS) personnel and their families
- U.S. State Department personnel and their families

The following potentially-exposed populations living and/or working in the study areas were not evaluated for this report:

- Other private U.S. citizens and their families
- Italian citizens
- Other, non-Italian, foreign nationals

Based on the CSM the following samples were collected as part of the PHE.

- Tap water samples were collected to assess potential exposures to constituents through ingestion and inhalation of vapors that volatilize from tap while showering and through other household uses (e.g., washing clothes, dishes, et cetera). Constituents can migrate from soil into groundwater wells, other drinking water reservoirs, or via blended water (due to the lack of backflow prevention devices).
- Soil samples were collected to assess potential exposures to constituents through incidental ingestion, inhalation of particulates, and dermal contact with soil. The presence of constituents in soil may be attributable to the deposition of constituents from the open burning of trash or dumping activities, other sources, and/or natural background.

- Soil gas samples were evaluated to assess potential impacts to human health via the inhalation pathway resulting from constituents in groundwater or soil volatilizing, and then entering a home through cracks in the home's foundation, potentially adversely impacting indoor air.
- Ambient air samples were collected to assess potential exposures to constituents related to the inhalation of ambient air.

3.2 Identification of Risk-Based Regional Screening Levels

Risks were calculated for this SRE by comparing exposure point concentrations (EPCs)¹⁶ for tap water, soil, soil gas, or ambient air with December 2009 USEPA 30-Year Residential Regional Screening Levels (RSLs) (USEPA, 2009) (see Tables 3-1 [tap water], 3-2 [soil], and 3-3 [ambient air]). The use of 30-Year Residential RSLs in the SRE is conservative because USN tour lengths are typically three to six years; however, DoDDS personnel can remain at one location for 30 years or longer. Therefore, the USEPA's 30-year standard residential RSLs were used in order to ensure that the SRE was protective of the reasonable maximum exposure (RME) individuals (i.e., DoDDS personnel).

RSLs are constituent concentrations derived from equations that combine exposure assumptions with constituent-specific toxicity values and are based on carcinogenic or systemic toxicity values under specific exposure conditions. The USEPA 30-Year Residential RSLs were calculated using default exposure parameters and factors that represent RME conditions for long-term/chronic exposures and are based on the methods outlined in the USEPA's Risk Assessment Guidance for Superfund, Part B Manual (USEPA, 1991) and Soil Screening Guidance documents (USEPA, 1996 and USEPA, 2002b). Even though RSLs are published for soil and air for industrial workers, only the 30-year Residential RSLs for tap water, soil and ambient air were used in this SRE because they are protective of these other exposure scenarios. The equations and input parameters used to develop these USEPA RSLs are documented in Appendix A. Soil gas RSLs were derived from the USEPA's standard 30-Year Residential RSLs by dividing the residential ambient air RSLs by the USEPA's default vapor attenuation factor (VAF) of 0.1 (USEPA, 2002a).

Inhalation risks potentially associated with VI of constituents in soil gas to indoor air can vary by orders of magnitude depending on the degree of the attenuation that occurs between soil gas and indoor air (Tetra Tech, 2009). Subsurface conditions and building characteristics vary across the nine study areas, and because access to residences was not always possible, some soil gas samples were collected sub-slab and some were collected outside of the building (near-slab). However, all soil gas sample concentrations, regardless of how they were collected, were compared to RSLs that were calculated using the USEPA's default VAF (α) of 0.1¹⁷ (normally used for sub-slab soil gas), which was also the VAF specified in the QAPP (Tetra Tech, 2010). VI studies and empirical data have shown that applying a VAF of 0.1 was a very conservative assumption (see Section 5.4). However, because groundwater-specific/soil-specific/building-specific characteristics were not available (or were not collected at the time of sampling)

¹⁶An EPC is the concentration of a constituent in tap water, soil, indoor air (via VI from soil gas), or ambient air at the location of potential contact with the receptor (i.e., individual). EPCs are explained in Section 4.1.

¹⁷A VAF of 0.1 was applied to all samples to evaluate soil gas, with the exception of multi-story residences that had subsurface ventilated garages or apartment-type dwellings where the resident lived above the ground floor of the structure (i.e., the resident

in the Campania Region, it was not appropriate to develop site-specific VAFs that might be less conservative.

For lead, RSLs for tap water, soil, and ambient air were developed using the USEPA's Integrated Exposure Uptake Biokinetic (IEUBK) Model (USEPA, 2007).

The following additional screening levels were also included in this evaluation:

- For tap water, the U.S. Maximum Contaminant Levels (USMCLs) (see Table 3-1) (40 Code of Federal Regulation [CFR] Part 141) (<http://www.epa.gov/safewater/contaminants/index.html>)
- For air, the U.S. National Ambient Air Quality Standards (NAAQS) (see Table 3-3) (40 CFR Part 50) (<http://www.epa.gov/air/criteria.html>).

lived on the second floor or higher, assuming that the first floor is the ground floor of the building). In these instances a multi-story attenuation factor, assessed and supplied by Tetra Tech NUS, was applied as described in Appendix B.

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SECTION 4 – RISK EVALUATION: COMPARISON OF COPC CONCENTRATIONS TO RISK-BASED SCREENING LEVELS

This section presents the results of the risk calculations performed for the SRE. In most Superfund risk assessments, risks are calculated by integrating the results of the exposure assessment and toxicity assessment into a quantitative estimate of noncarcinogenic hazard indices and carcinogenic risks. In this SRE, risks were determined by comparing COPC concentrations to RSLs, and calculating exceedance factors (EFs), which are the ratio of a COPC's EPC to its RSL. Concentrations of COPCs in tap water, soil, soil gas, and ambient air that exceeded RSLs (i.e., COPCs with EFs greater than one) may be of concern to human health. Cancer EFs (CEFs) and noncancer EFs (NCEFs) were calculated separately and were summed by each medium to determine cumulative CEFs (CCEFs) and cumulative NCEFs (CNCEFs). CCEFs and CNCEFs were summed to determine the Total CCEF or Total CNCEF for a receptor at a sample location (i.e., residence). The methodology for calculating EFs is described in detail in Section 4.2.

As described in Section 3, risks were calculated by evaluating all of the ways receptors (i.e., USN Personnel) might be exposed to COPCs in the environment. For this SRE, the approach for evaluating risks associated with exposure to COPCs in tap water was more complicated than for other, more typical sites. At a typical site, the risks from tap water would be calculated by evaluating exposure to COPCs via:

- Ingestion of Tap Water (e.g., drinking, preparing food, cooking, brushing teeth, making ice)
- Inhalation of Vapors in Indoor Air Associated with Household Uses of Tap Water (e.g., showering, washing dishes, washing clothes, et cetera)
- Dermal Contact with Tap Water While Bathing¹⁸

In Naples, USN leadership implemented a Bottled Water Advisory (issued in July 2008 by CNREURAFSWA) due to wide-spread, low concentrations of VOCs and microorganisms that were detected in tap water, and currently requires landlords to provide potable bottled water from USN-approved sources at their residences. USN leadership also implemented the following changes to off-base rental-home lease clauses:

- If a residence's tap water supply is connected to a well, the landlord must provide verification that the well is legal according to Italian law. If it is not legal, the residence must be disconnected from the well and connected to the public drinking water system.
- Landlords must provide containerized water, approved by U.S. Army Veterinary Command (VETCOM), for drinking, preparing food, cooking, brushing teeth, making ice, and for pets.
- Landlords are required to clean and disinfect water holding tanks and associated plumbing every six months.

¹⁸Dermal contact with tap water while bathing or showering was not evaluated in this SRE because the USEPA does not include this exposure pathway in the development of the RSLs.

- Landlords are required to authorize the tenant to allow the USN, at any given time, to conduct necessary testing to verify the quality of the water at the residence, to include sampling of the soil and the air located around the residence.

These actions effectively minimized the exposure to COPCs in tap water via ingestion of tap water, but did not eliminate risks related to the inhalation pathway (e.g., exposure to COPCs in the tap water from bathing or showering¹⁹). There was no guarantee that the Bottled Water Advisory would be followed by every person and therefore, this action did not eliminate risks for those who were not drinking bottled water or risks related to the inhalation pathway (e.g., exposure to COPCs in the tap water from bathing or showering). Consequently, the risks in this SRE were calculated for two different exposure scenarios (for all media):

- **The Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure Scenario** – Risks were calculated based on exposure to COPCs in tap water, soil, and soil gas assuming that tap water was used for drinking, cooking, brushing teeth, and making ice. This scenario assumed that residents were not using bottled water, and were exposed to COPCs in their tap water through ingestion and inhalation of VOCs that could be released from the water.
- **The Tap Water (via Inhalation-Only), Soil, and Soil Gas Exposure Scenario** – Risks were calculated based on exposure to COPCs in tap water, soil, and soil gas assuming that tap water was not used for drinking, cooking, brushing teeth, and making ice. This scenario assumed that residents were using bottled water (as per the Advisory) and were not exposed to COPCs in tap water through ingestion²⁰.

4.1 Exposure Point Concentrations

The objective of this SRE was to evaluate the potential risks to the RME individuals. An RME individual is the “highest exposure that is reasonably expected to occur at the site” (USEPA, 1989). Because in most cases only one sample was collected for tap water, soil, and soil gas at each residence, no statistical analyses could be performed on these data. Therefore, detected concentrations were used as the RME EPCs for calculating the risks. At residences where multiple samples were collected for each medium, the maximum detected concentration was used as the RME EPC²¹. Nondetected results were not included in the risk calculations for tap water, soil, and soil gas. The analytical data used to develop the EPCs for tap water, soil, and soil gas are presented in ETSA Reports (Tetra Tech, 2008 and Tetra Tech, 2010b).

Unlike tap water, soil, and soil gas samples that were only collected one time, numerous ambient air samples were collected during the year-long ambient air sampling and monitoring program. Consequently, RME EPCs for ambient air were determined by calculating the 95% upper confidence limit (UCL) on the arithmetic mean (average) concentration for all samples collected in each study area.

¹⁹If VOCs are present in tap water they can volatilize into the indoor air during bathing and/or showering and then be inhaled, which results in a complete inhalation exposure pathway.

²⁰Although microorganisms are not of concern via the inhalation pathway, they were evaluated in comparison to USMCLs for the Tap Water via Inhalation-Only pathway to address the potential concern of incidental ingestion during showering and/or bathing, especially for infants and young children.

²¹For Phase II, active (i.e., SUMMA canister) sub-slab or near-slab soil gas samples were collected instead of the passive (i.e., Gore-Sorber®) sampling method that was used in Phase I. At residences sampled with both passive and active methods, only

Ambient air samples collected from residences in the study areas and U.S. Government-related facilities (i.e., not associated with the ambient air monitoring stations) were also included in the calculations. The 95% UCL on the logarithmic mean concentration (calculated using the H-statistic via the Land method) was used as the EPC if the data appeared to be lognormally distributed (5% significance level), and the 95% UCL on the arithmetic mean was used if the data appeared to be normally distributed (5% significance level). If the distribution could not be determined (i.e., the data were neither normally nor lognormally distributed), the 95% UCL on the arithmetic mean was used as the EPC, which is typically a reasonable assumption for data sets with over 30 data points because they tend to approximate a normal distribution. The maximum detected concentration was used if the 95% UCL on the logarithmic mean concentration or 95% UCL on the arithmetic mean concentration exceeded the maximum detected concentration. Nondetects were included in the statistical calculations using a surrogate value of one-half of the detection limit. Prior to performing the statistical analysis on the ambient air data, the data were pre-processed as described below:

- Field duplicate results were averaged based on the following decision rules:
 - If both results were detected, then the average concentration was calculated.
 - If one result was detected and the other result was not detected, then the detected result was used as the concentration for the sample.
 - If both results were not detected, then the lower of the detection limits was used as the quantitation limit for the sample.
- In instances where a COPC's result was reported by the laboratory using different analytical methods, only one result was retained in the analytical database based on the following decision rules:
 - If both results were detected, then the higher of the two results was used as the concentration for the sample.
 - If one result was detected and the other result was not detected, then the detected result was used as the concentration for the sample.
 - If both results were not detected, then the lower of the detection limits was used as the quantitation limit for the sample.

The statistical analysis and EPCs for ambient air data for each study area are presented in Appendix C.

4.2 Methodology for Calculating Risks

Analytical data from tap water, soil, soil gas, and ambient air samples were compared to RSLs, and constituent-specific CEFs and NCEF were calculated using the following equations:

the active soil gas results were included in the calculation for the SRE because these results are quantitative and are considered more reliable than the results obtained from the passive sampling method.

Tap Water	Soil	Soil Gas²²	Ambient Air
$EF = \frac{C_{Tap\ Water}}{Screening\ Criterion}$	$EF = \frac{C_{Soil}}{Screening\ Criterion}$	$EF = \frac{C_{Soil\ Gas}}{Screening\ Criterion}$	$EF = \frac{C_{Ambient\ Air}}{Screening\ Criterion}$

where:

Parameter	Description
TAP WATER	
$C_{Tap\ Water}$	Maximum detected concentration in the tap water samples collected from the residence
Screening Criterion	USEPA Residential-Based RSLs for tap water, calculated based on a carcinogenic risk of 1E-06 and/or a hazard quotient (HQ) of 1 – assuming a 30-year exposure duration USMCLs
SOIL	
C_{Soil}	Maximum detected concentration in the soil samples collected from the residence
Screening Criterion	USEPA Residential-Based RSLs for soil, calculated based on a carcinogenic risk of 1E-06 and/or an HQ of 1 – assuming a 30-year exposure duration
SOIL GAS	
$C_{Soil\ Gas}$	Maximum detected concentration in the soil gas samples collected from the residence ²³
α	Default USEPA VAFs were used to predict indoor air concentrations based on soil gas concentrations. For sub-slab and near-slab soil gas samples collected from less than or equal to five feet below the foundation level, a default attenuation factor of 0.1 was used in the calculations ²⁴ .
Screening Criterion	USEPA Residential-Based RSLs for air, calculated based on a carcinogenic risk of 1E-06 and/or a Hazard Quotient (HQ) of 1 – assuming a 30-year exposure duration
AMBIENT AIR	
$C_{Ambient\ Air}$	RME EPC (see Section 4.1). USEPA Residential-Based RSLs for air, calculated based on a carcinogenic risk of 1E-06 and/or a HQ of 1 – assuming a 30-year exposure duration
Screening Criterion	NAAQS A comparison of ambient air data from Naples to data from major U.S. cities was performed in order to provide context for evaluating the results.

A CEF or NCEF of one indicates that exposure to tap water, soil, soil gas, and/or ambient air could potentially result in a cumulative screening cancer risk of 1E-06 and a screening hazard index (HI) of 1, respectively.

Three separate risk calculations were performed (described below) for the SRE and were included in the letters provided to residents documenting the results of samples that were collected from their residence. However, only the results of the incremental risk calculations are presented and discussed in this SRE:

- Total Screening Risk – The risk for all COPCs (background and incremental)

²² Soil gas results are not directly comparable to ambient air USEPA RSLs. The soil gas results must be multiplied by an attenuation factor, which results in a predicted indoor air concentration that can be compared directly to USEPA RSLs.

²³For Phase II, active (i.e., SUMMA canister) sub-slab or near-slab soil gas samples were collected instead of the passive (i.e., Gore-Sorber®) sampling method that was used in Phase I. In instances where a residence was sampled using both passive and active methods, only the active soil gas results were used in the SRE because the results are considered more reliable than the results obtained from the passive sampling method.

²⁴A VAF of 0.1 was applied in all instances to evaluate soil gas, with the exception of multi-story residences that had subsurface ventilated garages or apartment-type dwellings where the resident lived above the ground-floor of the structure (i.e., the resident lived on the second floor or higher, assuming that the first floor was the ground floor of the building). In these instances a multi-story attenuation factor, assessed and supplied by Tetra Tech NUS, was applied as described in Appendix B.

- Background Screening Risk – The risk for COPCs that are naturally occurring in the environment (i.e., inorganic elements)
 - For soil, Naples-specific background chemical concentrations for inorganics were identified in *Background and Baseline Concentration Values of Elements Harmful to Human Health in the Volcanic Soils of the Metropolitan and Provincial Areas of Napoli (Italy)* (Cicchella, Domencio et al, 2005). Table 4-1 summarizes the background soil inorganic constituent concentrations from Naples, Italy. Figure 4-1 presents a summary of the comparison of arsenic concentrations in soil to the arsenic RSL throughout the nine study areas. As is evident from this figure, concentrations of arsenic exceeded RSLs at all soil sampling locations. Since the concentrations of arsenic are naturally occurring and are likely associated with volcanic activity in the region, inorganic COPCs with concentrations that were less than or equal to their corresponding background concentration were included in the background and total risk calculations, but were not included in the incremental risk calculations presented in this report.
 - For soil gas, no suitable background concentrations could be located in the scientific literature. Therefore, there are no background risks for soil gas. See Appendix D for a detailed evaluation of soil gas and potential contributions from ambient air sources.
 - For tap water, no suitable background concentrations could be located in the scientific literature. However, the Phase I tap water data indicated that inorganics (with the exception of arsenic, lead, copper, and thallium) were not detected at concentrations greater than RSLs or USMCLs (Tetra Tech, 2010b). An analysis of the arsenic concentrations in tap water samples was performed in December 2008 (Tetra Tech, 2008). This analysis indicated that arsenic was detected in all tap water samples at concentrations that exceeded the RSL. In addition, there did not appear to be a significant difference in arsenic concentrations between public tap water supplies and private well water supplies. This information, coupled with the regional geology (i.e., volcanic soils and high concentrations of arsenic in soil), indicated that arsenic in tap water was representative of natural background. Figure 4-2 presents a summary of a comparison of concentrations of arsenic in tap water to RSLs and USMCLs throughout the nine study areas. As is evident from this figure, elevated concentrations of arsenic are present throughout the Naples area of the Campania Region and the distribution is consistent with background. Lead, copper, and thallium were the only inorganics included in the incremental risk calculations because it was determined that tap water concentrations were not representative of background concentrations. Concentrations of all other inorganics, including arsenic, were considered representative of background concentrations and, therefore, were included in the total risk and background risk calculations only.
 - For ambient air, no suitable background concentrations for the Campania Region could be located in the scientific literature. Therefore, the 95% UCL on the mean concentration from data obtained for six U.S. cities (i.e., San Diego, California; Los Angeles, California; Seattle, Washington; Houston, Texas; Midlothian, Texas; and Washington DC) from the USEPA’s

2007 Air Toxics Database (USEPA, 2007a) were used to represent typical urban air²⁵. Table 4-2 compares the ambient air EPCs (for constituents detected in at least one sample) from each of the study areas to the EPCs from the USEPA's 2007 Air Toxics Database. Ambient air data that were obtained from the USEPA's 2007 Air Toxics Database were used in the SRE to put the ambient air concentrations obtained from the PHE into context for USN Personnel with respect to ambient air concentrations from urban cities in the U.S. However, the lack of Italy-specific background air concentrations from urban cities was a significant data gap for the SRE (see Section 5.2.5).

- Incremental Risk – Incremental risks were, in most cases, calculated by subtracting the background risks (i.e., risks for COPCs that are naturally occurring in the environment) from the total risks. Risk management decisions will be based on incremental risks.
 - For ambient air, incremental risks could not be calculated because background concentrations were not available from the Campania Region.
 - For soil gas, COPCs detected in soil gas were classified into the following three groups so that the risks could be calculated appropriately. For detailed information regarding the approach for classifying COPCs detected in soil gas, see *Technical Memorandum: Identification of Chemicals in Soil Gas That May be Associated with Vapor Intrusion*, which is presented in Appendix D of this volume (and appendix C.2 of the May 2010 QAPP).
 - Non-VI COPCs – COPCs associated with above-ground contaminant sources (i.e., ambient air) and not with subsurface VI. Risks for these COPCs were calculated using ambient air results at all residences. The following COPCs were identified as Non-VI COPCs: 1,2-dibromo-3-chloropropane, 1,2-dibromomethane, 1,2-dichloroethane, acrolein, and chloromethane.
 - Localized VI COPCs – COPCs potentially associated with a subsurface VI source within a specific geographical area. Most COPCs fall into this category because subsurface VI is commonly associated with a localized release. This group also includes COPCs for which the results were inconclusive. Risks for these COPCs were calculated using soil gas results at the residence if the soil gas concentration was greater than the 95th percentile ambient air concentration calculated based on the PHE's year-long ambient air sampling and monitoring program. If the soil gas concentration was less than or equal to the 95th percentile ambient air concentration calculated based on the PHE's year-long ambient air sampling and monitoring program, then it was concluded that the COPC was associated with ambient air and risks were calculated using the ambient air concentration (see Appendix D for more detailed information). The following COPCs were identified as Localized VI COPCs: 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2-dichloropropane, 1,3-butadiene, 1,4-dichlorobenzene, acrylonitrile, bromoform, benzene, carbon tetrachloride, chloroform, ethylbenzene, hexane, hexachlorobutadiene, and methyl-tert-butyl ether.

²⁵ Refer to Section 4.1 for explanation on the development of EPCs.

- Global VI COPCs – COPCs associated with a presumed subsurface VI source at all residences regardless of the concentration measured in ambient air during the PHE (see Appendix D for more detailed information). To be classified as a Global VI COPC either there had to be compelling evidence to indicate that subsurface VI is a study-wide issue or the COPCs had to be degradation products of COPCs that were determined to be Global VI COPCs. Risks for these COPCs were calculated using soil gas results at all residences. The following COPCs were identified as Global VI COPCs: tetrachloroethene, trichloroethene, and vinyl chloride.

4.3 Risks Management Categories for Evaluating Incremental Screening Risks

This report characterizes the potential health risks associated with exposure at a residence for 30 years. This is a conservative assumption because typical tour lengths for USN Personnel stationed overseas typically range from three to six years. However, DoDDS personnel can remain at one location for 30 years or longer. Therefore, the USEPA's 30-year standard residential RSLs were used in order to ensure that the SRE was protective of RME individuals, which are DoDDS personnel.

4.3.1 Risk Management Criteria for Soil, Soil Gas, and Tap Water

The SRE results (incremental screening risks) associated with exposure to soil, soil gas, and tap water at a residence for 30 years were placed into one of two categories:

1. Acceptable Risks – The noncancer and cancer screening risks at this residence are considered Acceptable based on the PHE risk management criteria (presented below).
2. Unacceptable Risks – The noncancer and cancer screening risks at this residence are considered Unacceptable based on the PHE risk management criteria (presented below).

The PHE agreed-upon approach for evaluating the risks associated with exposure to THMs was to compare concentrations to the TTHM USMCL, rather than to the individual RSLs. THMs (i.e., bromodichloromethane, chloroform, bromoform, and dichlorobromomethane) are water-supply disinfectant byproducts, and are typically detected in municipal water supplies. For this evaluation, if the concentration of an individual THM in tap water exceeded the RSL, but was less than the TTHM USMCL, the risk was considered Acceptable.

PHE Risk Management Categories for Soil, Soil Gas, and Tap Water

Scenario	Criteria for Acceptable Incremental Risks	Criteria for Unacceptable Incremental Risks
Scenario 1 – Tap Water (via Inhalation-Only), Soil, and Soil Gas Exposure Scenario	Total CNCEF less than or equal to 1; and Total CCEF less than or equal to 10; and <i>Concentration less than or equal to USMCL (tap water). Applies only to fecal coliform and total coliforms.</i>	Total CNCEF greater than 1; or Total CCEF greater than 10; or <i>Concentration greater than the USMCL (tap water). Applies only to fecal coliform and total coliforms.</i>
Scenario 2 – Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure Scenario	Total CNCEF less than or equal to 1; and Total CCEF less than or equal to 10; and Concentration less than or equal to USMCL (tap water). Applies to all COPCs.	Total CNCEF greater than 1; or Total CCEF greater than 10; or Concentration greater than the USMCL (tap water). Applies to all COPCs.
<p>Notes:</p> <p>NCEFs were calculated by dividing the maximum-detected concentrations by noncancer-based USEPA RSLs. CEFs were calculated by dividing the maximum-detected concentrations by cancer-based USEPA RSLs. The individual NCEFs and CEFs were summed to provide the CNCEF and CCEF, respectively. An NCEF of 1 corresponds to a screening HI of 1. A CEF of 1 corresponds to a cancer screening risk of 1E-06 (one in a million). A CEF of 10 corresponds to a cancer screening risk of 1E-05 (one in a 100,000). Total CNCEF is the result of summing the individual NCEFs for all COPCs for all media that were sampled at a residence. Total CCEF is the result of summing the individual CEFs for all COPCs for all media that were sampled at a residence.</p> <p>Scenario 1 – The tap water RSLs used to evaluate residences that DO NOT use tap water for drinking, cooking, brushing teeth, and making ice were based on inhalation during household uses (e.g., showering) of tap water only. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate.</p> <p>Scenario 2 – The tap water RSLs used to evaluate residences that DO use tap water for drinking, cooking, brushing teeth, and making ice were based on ingestion and inhalation during household uses (e.g., showering, washing clothes) of tap water. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate.</p> <p>The PHE agreed upon approach for this SRE was to evaluate the risks associated with exposure to THMs using the TTHM USMCL, rather than individual RSLs. THMs (i.e., bromodichloromethane, chloroform, bromoform, and dichlorobromomethane) are water-supply disinfectant byproducts, and are typically detected in municipal water supplies. For this evaluation, if the concentration of an individual THM in tap water exceeded the RSL, but was less than the TTHM USMCL, the risk was considered Acceptable.</p>		

4.3.2 Risk Management Criteria for Evaluating Ambient Air

The ambient air samples collected during the PHE reflect general ambient air quality that is impacted by emissions from point (e.g., factory) and non-point (e.g., automobile exhaust) sources (i.e., they were not specific to any industry or source). In the U.S., ambient air quality is regulated via the Clean Air Act (CAA, [U.S. Code, Title 42, Chapter 85]) and this framework was used to evaluate the ambient air results from Naples.

Under the CAA, the USEPA does not use a risk assessment “bright line” (e.g., a cancer risk of 1×10^{-6} to 1×10^{-4} or a hazard quotient greater than 1) to make risk management decisions based on the risks associated with generalized ambient air samples. The USEPA uses a technology-based and performance-based approach to significantly reduce emissions of air toxics from major sources of air pollution, followed by a risk-based approach to address any remaining, or residual risks. These are known as Maximum Achievable Control Technology [MACT] standards. MACT standards:

- consider cost and other non-air-quality factors,

- are based on emissions levels that are already being achieved by the better-controlled and lower-emitting sources in an industry group (i.e., similar industries),
- can be made more stringent by the USEPA when it makes economic, environmental, and public-health sense,
- are based on performance levels (40 CFR Part 63) where industry chooses technology to achieve a performance level that is practicable and cost effective , and
- consider residual risk. Residual risk is evaluated by the USEPA based on residual concentrations of hazardous air pollutants (HAPs) that are emitted to the atmosphere.

The CAA requires a residual risk standard for any source that is emitting a cancer-causing pollutant that poses an added risk of more than 1×10^{-6} to the most exposed receptor, while taking into consideration costs, energy, safety and other relevant factors. HAPs information is used to direct research into new areas where technologies can be developed to improve MACT standards, and consequently reduce risks associated with HAPs.

The cancer and noncancer risks associated with generalized ambient air sampling results are typically used by the USEPA to:

1. identify the chemicals that are responsible for the majority of the risks in ambient air; and
2. identify the major point and non-point sources of those chemicals.

This information is used to help focus research and development so that new pollution control technologies or changes in processes can be used to significantly reduce emissions of these chemicals through the permitting process. In other words, the USEPA recognizes that there will be cancer and noncancer risks associated with emissions from point and non-point sources, but it implements risk management actions at the source (e.g., stack or pipe) rather than at the point of exposure (i.e., the general air we breathe) because it is more feasible/practicable to reduce overall risks at the source or point of release rather than after a chemical has entered the atmosphere.

Italian authorities are responsible for the regulation of Italian air quality standards. The Navy will provide the Italian authorities with the air monitoring results.

4.4 Phase II Incremental Risk Summary for U.S. Leased Residences Located on the Italian Economy

The purpose of this section is to summarize the media and COPCs responsible for the majority of the incremental risks, using the data collected during Phase II of the SRE, and also identify trends that have been observed with regards to regional risks based on the Phase II data. Detailed risk results that utilize Phase I and Phase II data are presented in Appendix F.

This section presents general conclusions about the potential health risks associated with living in the Campania Region based solely on the results of Phase II of the SRE. These conclusions and any future conclusions, summaries, additional evaluations, and risk management decisions should consider/incorporate the limitations of the PHE risk assessment methodology used, the conservative assumptions incorporated into the SRE (e.g., assumption that a resident lives at a location for 30 years), and the unique conditions/limitations under which the PHE was performed.

4.4.1 Regional Summary of Incremental Risks for Phase II Residences

Two hundred and nine (209) residences were sampled for tap water, soil, and soil gas during Phase II (although not all media were sampled at every residence). As discussed in the introduction to this section, the risks in this SRE were calculated for two different scenarios for all media: (1) assuming tap water exposure via inhalation only and (2) assuming tap water exposure via ingestion and inhalation. Table 4-3 summarizes evaluation results by study area for all 209 residences sampled during Phase II. Table F-2 in Appendix F presents detailed risk information for each residence that was sampled during all PHE Sampling Events. Tables 4-4 through 4-12 summarize the information presented on Table 4-3 by presenting the number of residences with Unacceptable risks, the ranges of total CNCEFs and CCEFs, and the media and constituents responsible for the majority of the risks for each study area.

Twenty-two percent (46 of 209) of the residences sampled during Phase II had Unacceptable risks based on the tap water (inhalation-only), soil, and soil gas scenario. Forty-two percent (88 of 209) of the residences sampled during Phase II had Unacceptable risks based on the tap water (ingestion+inhalation), soil, and soil gas scenario. The box below summarizes the number of residences with Unacceptable risks per study area.

**Number of Residences with Unacceptable Incremental Risks
Per Study Area Sampled During Phase II**

Scenario 1 – Incremental Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas									
Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
5 of 30 (17%)	2 of 22 (9%)	0 of 14 (0%)	2 of 14 (14%)	10 of 33 (30%)	5 of 30 (17%)	4 of 24 (17%)	18 of 34 (53%)	0 of 8 (0%)	46 of 209 (22%)
Scenario 2 – Incremental Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas									
Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
8 of 30 (27%)	13 of 22 (59%)	1 of 14 (7%)	4 of 14 (29%)	15 of 33 (45%)	13 of 30 (43%)	9 of 24 (38%)	24 of 34 (71%)	1 of 8 (13%)	88 of 209 (42%)
Number of Residences Sampled That Obtained Their Water from a Private Well									
Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
0 of 30 (0%)	0 of 22 (0%)	0 of 14 (0%)	0 of 14 (0%)	5 of 33 (15%)	1 of 30 (3%)	0 of 24 (0%)	7 of 34 (21%)	0 of 8 (0%)	13 of 209 (6%)

As shown on Figures 4-3 and 4-4, the residences with Unacceptable risks are located throughout the study areas, with the highest number of Unacceptable risks observed in Study Area 8. This result was expected. Prior to commencement of the PHE, Italian maps and anecdotal information regarding historical waste disposal practices in agricultural areas (such as Study Areas 5, 6, 7, 8, and 9) presented in the press/literature, indicated that Study Area 8 would likely be one of the study areas with a large number of Unacceptable risks. In addition, many of the residences in Study Area 8 obtained their tap water from private wells which may be more susceptible to contamination from localized dumping of industrial/chemical waste than public water supply systems (seven of the residences with Unacceptable risks obtained their tap water from a private well). This was consistent with the results of Phase I of the

SRE where 30 of the 36 (83%) residences that obtained their tap water from a private well had Unacceptable risks whereas 18 of the 94 (19%) residences that obtained their tap water from a public source had Unacceptable risks (PIONEER, 2009). The results of Phase II were consistent with Phase I results, as 13 of the 13 residences (100%) in Phase II that obtained their tap water from a private well had Unacceptable risks. Study Areas 3 and 9 had the lowest percentage of Unacceptable risks but also had the fewest number of residences sampled; therefore it was not possible to reach any conclusion regarding the significance of these findings. The number and frequency of Unacceptable risks for Study Areas 1 and 2 were unexpected because these areas are densely populated and do not have expansive agricultural areas or open space which could readily be used for illegal waste disposal activities. In addition, all of the residences in these study areas obtained their tap water from a public source.

Residences with Acceptable risks and Unacceptable risks were distributed throughout the study areas and often were located very close to each other. In other words, the residences with Unacceptable risks were generally randomly distributed (with some exceptions) within the study areas (see Figures 4-3 and 4-4). Exceptions to this general observation are identified below:

- **Scenario 1 – Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas (Figure 4-3)**
 - There was a cluster of Unacceptable residences in Study Area 8 within the New Lease Suspension Zone (NLSZ).
 - Unacceptable residences located outside of Study Area 8 were often found in clusters of two or three.
- **Scenario 2 – Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas (Figure 4-4)**
 - There was a cluster of Unacceptable residences located in:
 - Study Area 2, near the U.S. Consulate,
 - Study Area 5, near the Lago Patria Receiver Site,
 - Study Area 6 near the Support Site, and
 - Study Area 8 within the NLSZ.

As summarized in the box presented below, the ranges of risks were highly variable and heterogeneous throughout the study areas and within the study areas. Because of the high degree of variability between the risks it was inappropriate to calculate an “average risk” or “upper-bound” risk for each study area or across all study areas. To demonstrate this point, the average total CCEF based on the tap water (inhalation-only), soil, and soil gas scenario for Study Area 5 was 11.6, which was Unacceptable based on the PHE risk management criteria. Based on the average total CCEF, one might conclude that the risks within this study area were Unacceptable; however, this would be incorrect because 23 of the 33 residences sampled had Acceptable risks (i.e., the total CCEFs for 23 of the 33 residences were less than 10).

Range of Incremental Risks Per Study Area for Residences Sampled During Phase II

Scenario 1 – Incremental Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas									
Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
Total CNCEFs (A Total CNCEF > 1 Indicates an Unacceptable Risk)									
0.0001 - 0.15	0.0005 - 0.07	0.000000 - 4 - 0.32	0.00002 - 2.2	0.0005 - 0.13	0.0004 - 30.5	0.000005 - 0.07	0.0005 - 2.7	0.002 - 0.11	0.000000 - 4 - 30.5
Total CCEFs (A Total CCEF > 10 Indicates an Unacceptable Risk)									
0.12 - 82.0	0.21 - 13.3	0.0001 - 9.1	0.10 - 116.5	0.08 - 89.6	0.43 - 29177.6	0.0004 - 12.5	0.02 - 152.0	1.3 - 8.8	0.0001 - 29177.6
Scenario 2 – Incremental Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas									
Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
Total CNCEFs (A Total CNCEF > 1 Indicates an Unacceptable Risk)									
0.0005 - 2.1	0.76 - 6.3	0.09 - 1.9	0.17 - 2.4	0.12 - 3.3	0.0006 - 33.6	0.12 - 2.9	0.51 - 4.4	0.11 - 3.9	0.0005 - 33.6
Total CCEFs (A Total CCEF > 10 Indicates an Unacceptable Risk)									
0.39 - 84.2	3.0 - 103.1	0.64 - 9.6	1.0 - 118.0	0.69 - 257.1	0.43 - 29193.6	0.97 - 20.8	1.4 - 410.8	0.11 - 9.9	0.11 - 29193.6
Number of Residences Sampled That Obtained Their Water from a Private Well									
Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
0 of 30 (0%)	0 of 22 (0%)	0 of 14 (0%)	0 of 14 (0%)	5 of 33 (15%)	1 of 30 (3%)	0 of 24 (0%)	7 of 34 (21%)	0 of 8 (0%)	13 of 209 (6%)

4.4.1.1 Media Responsible for the Majority of the Incremental Risks in Phase II

The majority of the Unacceptable risks identified during Phase II sampling were associated with COPCs detected in tap water from private wells and soil gas collected from under or within 10 feet of the residence. None of the COPCs detected in soil samples collected from residences during Phase II posed an Unacceptable risk. In fact, soil sampling was discontinued midway through Phase II because results from Phase I samples and Phase II samples indicated that soil contamination did not pose a significant human health risk. The results of the year-long ambient air sampling and monitoring program that was conducted as part of the PHE indicated that ambient air in the Campania Region was similar to typical ambient air from cities in the U.S. when cumulative risks were calculated using only those constituents that had corresponding values in both data sets. The risks associated with tap water and soil gas are summarized below.

- **Scenario 1 – Tap Water Risks Based on The Inhalation-Only**
 - Tap Water from a Public Source: Seven (7) of the 193 residences (4%) sampled for tap water obtained from a public source during Phase II had Unacceptable risks due to concentrations of COPCs in tap water (see Figure 4-5). All seven of these Unacceptable risks were due to microorganisms in tap water and were distributed randomly throughout the study areas.

- Tap Water from a Private Well: Twelve (12) of the 13 residences (92%) sampled during Phase II that obtained their tap water from a private well²⁶ or unknown source had Unacceptable risks due to concentrations of COPCs in tap water (see Figure 4-5). Six of the 12 residences had Unacceptable concentrations of chemicals in tap water and 11 of the 12 residences had Unacceptable risks due to microorganisms in tap water. Some of the residences with microorganisms detected in tap water were co-located with the Unacceptable chemical risks; therefore, the total number of residences with Unacceptable microorganism results plus the total number of residences with chemical results does not equal 12. These residences were primarily located in Study Areas 5 and 8.
- **Scenario 2 – Tap Water Risks Based on The (Ingestion+Inhalation)**
 - Tap Water from a Public Source: Fifty-one (51) of the 193 residences (26%) sampled for tap water obtained from a public source during Phase II had Unacceptable risks due to concentrations of COPCs in tap water (see Figure 4-6). Forty-five (45) of the 51 residences had Unacceptable concentrations of chemicals in tap water and seven of the 51 residences had Unacceptable risks due to microorganisms in tap water. Some of the residences with microorganisms detected in tap water were co-located with the Unacceptable chemical risks; therefore, the total number of residences with Unacceptable microorganism results plus the total number of residences with chemical results does not equal 51. These residences were primarily located in Study Areas 2, 6, 7, and 8, with the remainder randomly distributed within the other Study Areas.
 - Tap Water from a Private Well: Thirteen (13) of the 13 residences (100%) sampled during Phase II that obtained their tap water from a private well or unknown source had Unacceptable risks due to concentrations of COPCs in tap water (see Figure 4-6). Thirteen (13) of the 13 residences had Unacceptable concentrations of chemicals in tap water and 11 of the 13 residences had Unacceptable risks due to microorganisms in tap water. Some of the residences with microorganisms detected in tap water were co-located with the Unacceptable chemical risks; therefore, the total number of residences with Unacceptable microorganism results plus the total number of residences with chemical results does not equal 13. These residences are primarily located in Study Areas 5 and 8.
- **Soil**
 - None (0) of the 80 residences (0%) that were sampled for soil during Phase II had Unacceptable risks based solely on COPCs in soil.
- **Soil Gas**
 - Thirty-two (32) of the 175 residences (18%) that were sampled for soil gas during Phase II had Unacceptable risks based solely on COPCs in soil gas (see Figure 4-7). Clusters of residences with Unacceptable risks associated solely with COPCs detected in soil gas were observed primarily in Study Areas 1, 5, 6, and 8.
- **Ambient Air**

²⁶The residences that obtained their tap water from a private well were located in Study Area 5 (seven residences), Study Area 6 (one residence), and Study Area 8 (seven residences).

- *Note: Incremental risks could not be calculated for ambient air because background concentrations were not available for Naples, Italy (see Section 4.2). Therefore, only total risks could be calculated. The following information is based on total risks. The CCEFs and CNCEFs for the nine study areas in Naples ranged from 495 to 846 and 75 to 253, respectively, which exceeded the cumulative cancer and noncancer risks calculated using concentrations representative of typical urban air in the U.S. (160 and 33, respectively) (USEPA, 2007a). However, the risks associated with exposure to ambient air in Naples are not directly comparable to the risks associated with exposure to ambient air in the U.S. because some of the constituents detected in the nine study areas did not have corresponding values in the USEPA’s 2007 Air Toxics Database. When those constituents (e.g., 1,2-dibromo-3-chloropropane, which was responsible for, on average, 80% of the cancer risks in each study area) were not included in the calculations of the cumulative EFs, the CCEFs for the nine study areas were less than the typical urban air in the U.S. in all but one study area (i.e., Study Area 8) (see Table 4-21). The CNCEFs did not change appreciably (i.e., the difference was less than one percent) when the cumulative EFs were recalculated using only constituents that had corresponding values in the USEPA’s 2007 Air Toxics Database, primarily because acrolein (the constituent that contributed the majority of the CNCEF in the nine study areas) had values in both data sets (see Table 4-21). Because some constituents (including 1,2-dibromo-3-chloropropane) did not have corresponding values in the USEPA’s 2007 Air Toxics Database, it was not possible to determine whether or not the cumulative ambient air risks in the Campania Region exceeded the risks from typical urban air in the U.S.*

4.4.1.2 COPCs Responsible for the Majority of the Incremental Risks in Phase II

The following box identifies COPCs that exceeded RSLs and/or USMCLs (USMCLs apply to tap water only) in tap water, soil, soil gas, and/or ambient air during Phase II:

COPCs Based on All Residences Sampled During Phase II

Tap Water ¹	Soil	Soil Gas ²	Ambient Air
TAP WATER (PRIVATE WELLS) RSLs Exceedances: Carbon Tetrachloride Copper Fluoride Nitrate Tetrachloroethene Total cPAHS (BaP TEQs) Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Uranium USMCL Exceedances: Fecal Coliform Nitrate Tetrachloroethene Total Coliforms	RSLs Exceedances: Total cPAHS (BaP TEQs)	RSLs Exceedances: 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,2-Dichloropropane 1,3-Butadiene 1,4-Dichlorobenzene Acrylonitrile Benzene Bromoform Carbon Tetrachloride Chloroform Ethylbenzene Hexachlorobutadiene Hexane Methyl tert-Butyl Ether Tetrachloroethene Trichloroethene Vinyl Chloride	RSLs Exceedances: 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-Chloropropane 1,2-Dibromoethane 1,2-Dichloroethane 1,2-Dichloropropane 1,3-Butadiene 1,4-Dichlorobenzene Acetaldehyde Acrolein Acrylonitrile Arsenic Benzene Bromodichloromethane Carbon Tetrachloride Chloroform Cobalt

COPCs Based on All Residences Sampled During Phase II

Tap Water ¹	Soil	Soil Gas ²	Ambient Air
TAP WATER (PUBLIC SOURCE) RSLs Exceedances: Copper Fluoride Lead Nitrate Tetrachloroethene Total cPAHS (BaP TEQs) Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Uranium USMCL Exceedances: Fecal Coliform Nitrate Total cPAHS (BaP TEQs) Total Coliforms			Dibromochloromethane Dieldrin Ethylbenzene Formaldehyde Hexachlorobutadiene Hexane Naphthalene Tetrachloroethene Total cPAHS (BaP TEQs) Total Dioxin/Furans (2,3,7,8-TCDD TEQs)
Notes: ¹ Tap water COPCs include constituents with concentrations in tap water greater than RSLs and/or USMCLs calculated assuming tap water exposure via: (1) inhalation only and (2) ingestion and inhalation. ² Soil gas COPCs include those that were identified as VI COPCs in the <i>Technical Memorandum: Identification of Chemicals in Soil Gas that may be Associated with Vapor Intrusion</i> , which is presented in Appendix D of this volume.			

Not all of the COPCs contributed significantly to the regional risks calculated as part of Phase II of the SRE. Some of the COPCs infrequently and/or only slightly exceeded their RSLs and/or USMCLs, which indicated that the risks were limited to a few residences and were not indicative of a larger study-area-wide risk or region-wide risk. This should not be construed to imply that some risks are less important or more important than others. All exceedances of RSLs/USMCLs should be treated with concern and addressed accordingly. Appendix H presents U.S. Agency for Toxic Substances and Disease Registry Chemical Fact Sheets (ToxFAQs™), where available, for each COPC. Each fact sheet serves as a quick and easy-to-understand guide that discusses exposure to hazardous substances found around hazardous waste sites and the effects of exposure on human health.

In a large regional study such as the PHE, a primary focus is on area-wide or region-wide risks because they are more likely to represent an effect on most of the population (e.g., USN Personnel who may work, play and/or live at different facilities in the study areas at different times). Therefore, the COPCs presented in the previous box were evaluated to identify constituents of concern (COCs) from (1) COPCs that were potentially an area-wide or region-wide concern and (2) COPCs that posed an Unacceptable risk in a single or multiple media (i.e., even if the risks for other COPCs were not considered). Solely for the purposes of focusing the following discussion, COCs in tap water, soil, soil gas, and ambient air²⁷ were identified from Tables 4-13 through 4-18 as follows:

1. If greater than 10% of the total number of residences sampled had concentrations greater than the RSL

²⁷For ambient air, COCs were identified as COPCs with an RME EPC that was greater than the EPC based on USEPA's 2007 Air Toxics Database AND where the CEF was greater than 10 and/or NCEF was greater than one and/or the EPC was greater than the NAAQS (see Table 4-20).

- If greater than 2.5% of the total number of residences sampled had concentrations that were greater than 10 times their RSL and/or greater than their USMCL (tap water only) and/or NAAQS (air only)

Based on the criteria presented above, the following box presents the COCs that were responsible for the majority of study-area-wide and region-wide risks.

COCs Based on All Residences Sampled During Phase II

Tap Water ¹	Soil	Soil Gas ²	Ambient Air
TAP WATER (PRIVATE WELLS) Carbon Tetrachloride Copper Fecal Coliform Fluoride Nitrate Tetrachloroethene Total cPAHS (BaP TEQs) Total Coliforms Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Uranium TAP WATER (PUBLIC SOURCE) Lead Tetrachloroethene Total Coliforms Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Uranium	Total cPAHS (BaP TEQs)	Benzene Chloroform Ethylbenzene Tetrachloroethene	1,2-Dibromo-3-Chloropropane 1,2-Dichloropropane Acetaldehyde Acrolein Arsenic Benzene Hexane Tetrachloroethene Total Dioxin/Furans (2,3,7,8-TCDD TEQs)
Notes: ¹ Tap water COCs include constituents with concentrations in tap water greater than RSLs and/or USMCLs calculated assuming tap water exposure via: (1) inhalation only and (2) ingestion and inhalation. ² Soil gas COCs include those that were identified as VI COCs, as per the Technical memorandum: <i>Identification of Chemicals in Soil Gas that may be Associated with Vapor Intrusion</i> , which is presented in Appendix D of this volume.			

4.4.1.3 COCs in Tap Water Responsible for the Majority of the Incremental Risks in Phase II

Carbon Tetrachloride: If tap water was ingested (i.e., tap water risks are based on the ingestion+inhalation scenario), then carbon tetrachloride in tap water was responsible for Unacceptable risks at one of 13 residences (8%) that obtained their tap water from a private well. As presented on Figure 4-9, the Unacceptable result was observed at a residence that obtained their tap water from a private well located in Study Area 6 (see Table 4-16).

Copper: Copper is not of concern to human health via inhalation of tap water because it is not volatile; therefore, there were no locations with Unacceptable risks associated with inhalation of copper from tap water. However, if tap water was ingested, then copper in tap water would be responsible for Unacceptable risks at one of 13 residences (8%) that obtained their tap water from a private well. As presented on Table 4-16 and Figure 4-10, no regional pattern was apparent for copper.

Fecal coliform: Fecal coliform is not volatile but was evaluated under the tap water inhalation-only and tap water ingestion+inhalation scenarios because if tap water was used only for showering or bathing,

people may incidentally ingest fecal coliform which are of concern to human health. Fecal coliform in tap water was responsible for Unacceptable risks at one of 13 residences (8%) – this concentration exceeded the USMCL. As presented on Figure 4-11, this residence obtained tap water from a private well located in Study Area 5 (see Table 4-16).

Fluoride: Fluoride is not of concern to human health via inhalation of tap water because it is not volatile; therefore, there were no locations with Unacceptable risks associated with inhalation of fluoride from tap water. However, if tap water was ingested, then fluoride in tap water would be responsible for Unacceptable risks at one of 13 residences (8%) that obtained their tap water from a private well. As presented on Table 4-16 and Figure 4-12, no regional pattern was apparent for fluoride.

Lead: Lead is not of concern to human health via inhalation of tap water because it is not volatile; therefore, there were no locations with Unacceptable risks associated with inhalation of lead from tap water. However, if tap water was ingested, then lead in tap water would be responsible for Unacceptable risks at nine of 193 residences (5%) that obtained their tap water from a public source. As presented on Table 4-15 and Figure 4-13, no regional pattern was apparent for lead. Please note that the risk-based screening criterion used in this SRE (i.e., 20 ug/L) was developed using the USEPA’s IEUBK Model (USEPA, 2007b). This is slightly higher than the USEPA’s tap water action level²⁸ for lead (i.e., 15 ug/L). For comparison purposes, when the USEPA’s tap water action level of 15 ug/L was compared to the tap water data, then lead was responsible for Unacceptable risks at 12 of 193 (6%) of residences that obtain their tap water from a public source.

Nitrate: Nitrate is not of concern to human health via inhalation of tap water because it is not volatile; therefore, there were no locations with Unacceptable risks associated with inhalation of nitrate from tap water. However, if tap water was ingested, then nitrate in tap water was detected at concentrations that exceeded the USMCL at 12 of 13 residences (92%) that obtained their tap water from a private well. As presented on Table 4-16 and Figure 4-14, these exceedances were most often observed in Study Areas 5 and 8, with a very limited number of exceedances in Study Areas 6 and 7.

Tetrachloroethene: If tap water was not ingested (i.e., tap water risks were based on the inhalation-only scenario), then tetrachloroethene in tap water was responsible for Unacceptable risks at six of 13 residences (46%) that obtained their tap water from a private well – the concentration at these locations also exceeded the USMCL. As presented on Figure 4-15, all of these Unacceptable results were observed in residences that obtained their tap water from private wells located in Study Areas 5 and 8 (see Table 4-14).

If tap water was ingested (i.e., tap water risks were based on the ingestion+inhalation scenario), then tetrachloroethene in tap water was responsible for Unacceptable risks at seven of 13 residences (54%) that obtained their tap water from a private well – the concentration at six of these locations also exceeded the USMCL. As presented on Figure 4-16 all of these Unacceptable results were observed at residences that

²⁸Lead is regulated by the Lead and Copper Rule in the U.S. that requires water system managers to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps (56 Federal Register [FR] 26460 – 26564, June 7, 1991). Technical Amendments: 56 FR 32112, July 15, 1991; 57 FR 28785, June 29, 1992; 59 FR 33860, June 30, 1994; and the Minor Revisions 65 FR 1950, January 12, 2000. www.epa.gov/safewater/leadcop.html

obtained their tap water from private wells located in Study Areas 5 and 8. In addition, tetrachloroethene in tap water was detected (i.e., 41 of 206 residences or 20%) at concentrations that exceeded the RSL but were below the PHE's risk management criteria for Unacceptable risk, regardless of the source of tap water. The majority of these exceedances were observed in residences that obtained their tap water from a public source located in Study Areas 1 and 2 (i.e., eight of 29 residences and 19 of 22 residences, respectively) (see Tables 4-15 and 4-16).

Total cPAHs (BaP TEQs): Total cPAHs (BaP TEQs) are not of concern to human health via inhalation of tap water because they are not volatile; therefore, there were no locations with Unacceptable risks associated with inhalation of total cPAHs (BaP TEQs) from tap water. If tap water was ingested, then total cPAHs (BaP TEQs) in tap water would be responsible for Unacceptable risks at one of seven residences (14%) that obtained their tap water from a private well. As presented on Table 4-16 and Figure 4-17, no regional pattern was apparent for total cPAHs (BaP TEQs).

Total Coliforms: Total coliforms are not volatile but were evaluated under the tap water inhalation-only and tap water ingestion+inhalation scenarios because if tap water was used only for showering or bathing, people may incidentally ingest total coliforms which are of concern to human health. Total coliforms in tap water were responsible for Unacceptable risks at 18 of 206 residences (9%), regardless of the source of tap water – these concentrations exceeded the USMCL. As presented on Figure 4-18, 11 of the 13 residences (85%) with Unacceptable risks that obtained their tap water from a private well were located in Study Areas 5, 6, and 8. Seven (7) of 193 residences (4%) with Unacceptable risks obtained their tap water from a public source located in Study Areas 2, 4, 5, 7, and 8 (see Tables 4-15 and 4-16).

Total Dioxins/Furans (2,3,7,8-TCDD TEQs): Total dioxins/furans (2,3,7,8-TCDD TEQs) are not of concern to human health via inhalation of tap water because they are not volatile; therefore, there were no locations with Unacceptable risks associated with inhalation of total dioxins/furans (2,3,7,8-TCDD TEQs) from tap water. If tap water was ingested, there were no locations with Unacceptable risks associated with total dioxins/furans (2,3,7,8-TCDD TEQs) in tap water, regardless of the source of tap water. However, as presented on Figure 4-19, total dioxins/furans (2,3,7,8-TCDD TEQs) were detected at concentrations that exceeded the RSL at 27 of 193 residences (14%) that obtained their tap water from a public source, but were below the PHE's risk management criteria for Unacceptable risk (see Table 4-15). Total dioxins/furans (2,3,7,8-TCDD TEQs) were detected at concentrations that exceeded the RSL at two of 13 residences (15%) that obtained their tap water from a private well, but were below the PHE's risk management criteria for Unacceptable risk (see Table 4-16).

Uranium: Uranium is not of concern to human health via inhalation of tap water because it is not volatile; therefore, there were no locations with Unacceptable risks associated with inhalation of uranium from tap water. If tap water was ingested (i.e., tap water risks were based on the ingestion+inhalation scenario), then uranium in tap water would be responsible for Unacceptable risks at three of 13 residences (23%) – none of these Unacceptable concentrations exceeded the USMCL. As presented on Figure 4-20, all of these Unacceptable results were observed in residences that obtained their tap water from private wells located in Study Areas 5 and 8. In addition, uranium in tap water was detected at concentrations that exceeded the RSL at 81 of 206 residences (39%) but below the PHE's risk management criteria for Unacceptable risk. The majority of these exceedances (i.e., 71 of 193 [37%]) were observed in residences

that obtained their tap water from a public source located across the study areas, which indicated that the uranium exceedances were associated with natural background concentrations rather than illicit disposal of radioactive waste (see Tables 4-15 and 4-16).

4.4.1.4 COCs in Soil Responsible for the Majority of the Risks in Phase II

Total cPAHs (BaP TEQs): Total cPAHs (BaP TEQs) in soil were responsible for Unacceptable risks at none (0) of the 80 residences that were sampled for soil. However, some concentrations of total cPAHs (BaP TEQs) in soil were detected at concentrations that exceeded the RSL but were below the PHE's risk management criteria for Unacceptable risk (see Figure 4-21 and Table 4-17).

4.4.1.5 COCs in Soil Gas Responsible for the Majority of the Risks in Phase II

Benzene: Benzene is a Localized VI COPC in soil gas (see Appendix D) and was responsible for Unacceptable risks at three of 175 residences (2%) that were sampled for soil gas. However, benzene in soil gas was detected at concentrations that exceeded the RSL at 20 of 175 residences (11%) but concentrations were below the PHE's risk management criteria for Unacceptable risk. As presented on Table 4-18 and Figure 4-22, the majority of these exceedances were observed in Study Area 8, with a limited number of exceedances in other study areas.

Chloroform: Chloroform is a Localized VI COPC in soil gas (see Appendix D) and was responsible for Unacceptable risks at eight of 175 residences (5%) that were sampled for soil gas. However, chloroform in soil gas was detected at concentrations that exceeded the RSL at 40 of 175 residences (23%) but concentrations were below the PHE's risk management criteria for Unacceptable risk. As presented on Table 4-18 and Figure 4-23, the exceedances were typically clustered within Study Areas 1, 5, 6, 7, and 8, which may indicate a potential subsurface source.

Ethylbenzene: Ethylbenzene is a Localized VI COPC in soil gas (see Appendix D) and was responsible for Unacceptable risks at one of 175 residences (1%) that were sampled for soil gas. However, ethylbenzene in soil gas was detected at concentrations that exceeded the RSL at 24 of 175 residences (14%) but concentrations were below the PHE's risk management criteria for Unacceptable risk. As presented on Table 4-18 and Figure 4-24, the majority of these exceedances were observed in Study Area 8, with a limited number of exceedances in other study areas. In addition, some of the ethylbenzene exceedances were co-located with benzene exceedances.

Tetrachloroethene: Tetrachloroethene is a Global VI COPC in soil gas (see Appendix D) and was responsible for Unacceptable risks at 15 of 175 residences (9%) that were sampled for soil gas. The Unacceptable results were primarily clustered in Study Area 5 (three residences), Study Area 6 (four residences), and Study Area 8 (six residences), which indicated potential subsurface sources in soil and/or groundwater. In addition, tetrachloroethene in soil gas was detected at concentrations that exceeded the RSL at 78 of 175 residences (45%) but concentrations were below the PHE's risk management criteria for Unacceptable risk. As presented on Table 4-18 and Figure 4-25, the exceedances were widespread, which were typically more indicative of an ambient air source, rather than potential subsurface source.

4.4.1.6 COCs in Ambient Air Responsible for the Majority of the Risks in Phase II in Comparison to Typical U.S. Urban Air

As shown on Table 4-21, the ambient air CCEF and CNCEFs for the nine study areas ranged from 495 to 846 and 75 to 253, respectively, when the calculations included all constituents detected in ambient air in the Campania Region. Both the cancer and noncancer risks from the Campania Region exceeded the risks calculated from the USEPA's 2007 Air Toxics Database (USEPA, 20007a) for typical U.S. urban air (i.e., CCEF of 160 and CNCEF of 33). However, when cumulative risks were calculated using only those constituents that had corresponding values in both data sets, the CCEF and CNCEF for the nine study areas ranged from 94 to 204 and 75 to 252, respectively (see Table 4-21).

For the purpose of focusing the following discussion on the COCs that contributed to the majority of the ambient air risk, Table 4-20 presents the nine COCs that had RME EPCs that: 1) resulted in a CEF greater than 10 or NCEF greater than one in at least one study area, and 2) were greater than the RME EPC from the USEPA's 2007 Air Toxics Database. A discussion of ambient air risks associated with these COCs, by study area, is presented in Appendix F. The key findings are presented in Table 4-19 and 4-20 include the following:

- 1,2-Dibromo-3-chloropropane contributed the majority of the CCEF (average of 80%) for the nine study areas. The COC-specific CEF ranged from 397 to 727. 1,2-Dibromo-3-chloropropane was not included in the USEPA's 2007 Air Toxics Database so the ambient air concentrations from the PHE could not be compared with typical urban ambient air from the U.S.
- Acrolein contributed the majority of the CNCEF (average of 95%) for the nine study areas. The maximum NCEF (247) calculated for Study Area 7 was greater than the NCEF calculated for acrolein in typical urban air in the USEPA's 2007 Air Toxics Database (29). Acrolein also contributed the majority of the NCEF for typical urban air in the U.S. (average of 89%).
- 1,2-Dichloropropane contributed an average of 3.5% to the cancer risk and 1.1% to the noncancer risk in the nine study areas.
- The six other COCs contributed an average of less than two percent each to the cumulative cancer and noncancer risk for the nine study areas.
 - EPCs for total dioxins/furans varied significantly among study areas. Study Areas 6, 8, and 9 were the only study areas where the COC-specific CEF exceeded 10.
 - Arsenic EPCs were less than the EPC in typical urban air in the USEPA's 2007 Air Toxics Database in all study areas except for Study Area 3 where the COC-specific CEF was 16. Slightly elevated arsenic concentrations in Study Area 3 could be associated with more volcanic activity in the area.
 - The maximum CEF for benzene was detected in Study Area 8 at a concentration of 68, which was approximately 10 times higher than the CEF for typical urban air in the U.S. (i.e., 5.2). The CEFs for benzene in the other eight study areas were less than 10.
- With the possible exception of total dioxins/furans in Study Areas 6, 8, and 9, no obvious trends were indicative of localized concentrations that might be associated with trash burning, trash dumping, or other point and non-point sources. Typically, there was not a significant difference in EPCs between study areas for the COCs, indicating that the concentrations represented typical urban air in the Campania Region.

- 1,2-Dibromoethane and formaldehyde together contributed to 65% of the CCEF in the USEPA's 2007 Air Toxics Database (USEPA, 2007a) but were not significant contributors to the ambient air risk in the nine study areas (6%).

Cumulative risks in the nine study areas exceeded the cumulative risks for typical urban air calculated from the USEPA's 2007 Air Toxics Database (USEPA, 2007a). However, because some constituents (including 1,2-dibromo-3-chloropropane, the major cancer risk driver in the Campania Region) did not have corresponding values in the USEPA's 2007 Air Toxics Database, it was not possible to determine whether or not the cumulative ambient air risks in the Campania Region would have exceeded the risks from typical urban air in the U.S. (see Table 4-21). The risk-driving COPCs for cancer risks based on the USEPA's 2007 Air Toxics Database (i.e., 1,2-dibromoethane and formaldehyde) together contributed to 65% of the typical urban air CCEF. These constituents were not significant contributors to cancer risks in the nine study areas. For a more complete summary of the year-long ambient air sampling and monitoring program, please see the *Ambient Air Quality and Meteorological Summary Report for the Period July 9, 2008 through July 8, 2009* (Tetra Tech, 2010a).

4.5 Incremental Risk Summary for Other Sampling Events

The Naples PHE Project Team increased the number of residences sampled in some study areas as information became available during Phase I and Phase II of the PHE. Each Sampling Event was performed as a separate component of the PHE. The purpose of this section is to present the risk summary for each of these events. Note: These data were not included in the regional discussion of risk that was presented in Section 4.4.

4.5.1 Incremental Risk Summary for Step-Out Sampling

During Phase I of the PHE, tap water results from some residences that obtained their tap water from private wells in Casal di Principe (Study Area 8) had Unacceptable concentrations of tetrachloroethene. These results indicated the potential for groundwater and/or soil contamination in this area. The USN was unable to obtain any information regarding the potential source(s) or the extent (i.e., the vertical or horizontal distribution) of tetrachloroethene in groundwater from Italian Regulatory Agencies. Consequently, a Step-Out Sampling Event was performed to identify other residences occupied by USN Personnel that may have been potentially impacted by the presumed groundwater contamination. Initially, this effort involved identifying and sampling residences occupied by USN Personnel located within 500 feet²⁹ (in all directions) of the initial residence with the Unacceptable concentration of tetrachloroethene in tap water from private wells. Based on the results of this effort (i.e., the 500-foot Step-Out Sampling Event), which indicated that all residences sampled also had Unacceptable risks associated with tetrachloroethene in groundwater, another expanded sampling event was conducted. This involved identifying and sampling residences occupied by USN Personnel located within 1,500 feet (in all

²⁹The 500-foot step-out was based on VI and other guidance documents that recommended additional investigation for areas within 100 feet of the edge of a known and documented subsurface contamination source. Lacking information on the size or characteristics of the vapor or presumed-to-be impacted groundwater, and the relative location of the residence with Unacceptable risk within the area, a Step-Out distance of 500 feet was used to err on the side of being protective and to demonstrate that residences within the 500-foot Step Out had an Acceptable risk.

directions) of residences that had Unacceptable concentrations of tetrachloroethene in tap water obtained from private wells.

In the U.S., it is common practice to utilize Step-Out sampling in environmental investigations to determine the extent of contamination in a geographic area where a contaminant source is documented and under investigation. This method selects sampling locations a specific distance (potentially in all directions) from the initial location where there is identified contamination with the goal of determining the extent of contamination. In the PHE, if there was contamination in the Step-Out samples attributable to the same constituent that was responsible for "triggering" the Step-Out Sampling Event, field personnel collected subsequent rounds of Step-Out samples further from the residence that triggered the Step Out, until sample results were Acceptable.

4.5.1.1 Incremental Risks Summary for the 500-Foot Step-Out Sampling Event

Seven residences sampled during the Phase I investigation had Unacceptable concentrations of tetrachloroethene in tap water that was obtained from private wells. However, only three of the residences, which were all located in Study Area 8 (Casal di Principe) triggered a 500-Foot Step-Out Sampling Event, which was conducted as part of Phase II because four of the residences (i.e., 1380, 1767, 0333, and 1735), in Study Areas 3, 5, 8 and 8, respectively, did not have any neighboring residences within 500-feet that were occupied by USN Personnel that had not already been sampled as part of Phase I. Figure 4-26 presents the three residences that triggered the Step-Out Sampling Event and their neighboring residences within 500 feet that were occupied by USN Personnel. Only tap water samples were collected from these residences. The tap water samples were analyzed for VOCs, SVOCs, dioxins/furans, pesticides, PCBs, metals, bacteriological parameters, radiological parameters, anions, and field parameters. The sampling results from these residences were compared to RSLs and USMCLs and the risks are summarized in the box presented below.

Summary of Screening Risks for 500-Foot Step-Out Sampling Event Residences

Water Source at the Time Samples Were Collected ³⁰	500-Foot Step-Out Residence	Scenario 1 – Risks Calculated Based on the Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)			Scenario 2 – Risks Calculated Based on the Ingestion + Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)		
		Total CNCEF	Total CCEF	Risk Management Category	Total CNCEF	Total CCEF	Risk Management Category
Private Well	0244	0.1	39.5	Unacceptable	2.5	300	Unacceptable
Private Well	0246 ⁽¹⁾	0.1	53.7	Unacceptable	4.4	411	Unacceptable
Private Well	0250	0	30.6	Unacceptable	2.8	233	Unacceptable
Private Well	0366	0.1	52.7	Unacceptable	2.6	401	Unacceptable
Private Well	0368	0.2	114	Unacceptable	3.6	868	Unacceptable
Private Well	0409	0.1	45.6	Unacceptable	3.9	347	Unacceptable
Private Well	0332	0.1	54.4	Unacceptable	2.7	414	Unacceptable
Private Well	0388	0.1	79.1	Unacceptable	3.0	602	Unacceptable
Private Well	0454	0.1	63.0	Unacceptable	2.9	479	Unacceptable
Private Well	0270	0	14.4	Unacceptable	2.6	110	Unacceptable
Private Well	0411	0	15.4	Unacceptable	3.6	117	Unacceptable

³⁰Identified water sources represent a residence's source of water at the time sampling was conducted.

Summary of Screening Risks for 500-Foot Step-Out Sampling Event Residences

Water Source at the Time Samples Were Collected ³⁰	500-Foot Step-Out Residence	Scenario 1 – Risks Calculated Based on the Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)			Scenario 2 – Risks Calculated Based on the Ingestion + Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)		
		Total CNCEF	Total CCEF	Risk Management Category	Total CNCEF	Total CCEF	Risk Management Category
Notes:							
¹ Residence 0246 is a Phase II location but is presented above and on Figure 4-26 because it is located within the 500-Foot Step-Out Area.							

The risks for all 10 of the 500-Foot Step-Out Sampling Event residences were considered Unacceptable based on the PHE risk management criteria. Tetrachloroethene in tap water was responsible for the majority of the risks at all 10 locations. Nitrate and uranium were also detected in the tap water at concentrations that exceeded RSLs. Total coliforms were detected in tap water samples from all 10 residences at concentrations exceeding the USMCL.

4.5.1.2 Incremental Risks Summary for the 1500-Foot Step-Out Sampling Event

Twenty-five residences that were sampled during the Phase I investigation had Unacceptable concentrations of tetrachloroethene in tap water that was obtained from private wells at the time samples were collected. Figure 4-27 presents the 25 residences that were occupied by USN Personnel located within 1,500 feet of the initial 500-Foot Step-Out Sampling Event residences. Tap water and soil gas samples were collected from the 1,500-Foot Step-Out Sampling Event residences and were analyzed for VOCs (the tap water samples were also analyzed for field parameters). The sampling results from these residences were compared to RSLs and USMCLs and the risks are summarized in the box presented below.

Summary of Screening Risks for 1,500 Foot Step-Out Residences

Water Source at the Time Samples Were Collected	1,500-Foot Step-Out Residence	Scenario 1 – Risks Calculated Based on the Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)			Scenario 2 – Risks Calculated Based on the Ingestion + Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)		
		Total CNCEF	Total CCEF	Risk Management Category	Total CNCEF	Total CCEF	Risk Management Category
PUBLIC	0279	0.0	1.5	Acceptable	0.0	1.5	Acceptable
PUBLIC	0329	0.0	2.3	Acceptable	0.0	2.3	Acceptable
PUBLIC	0374	0.1	42.2	Unacceptable	0.1	42.2	Unacceptable
PUBLIC	0410	0.0	6.0	Acceptable	0.0	6.0	Acceptable
PUBLIC	1850	0.0	0.9	Acceptable	0.8	1.8	Acceptable
PUBLIC	1995	0.0	4.4	Acceptable	0.0	4.4	Acceptable
Private Well	0225	0.1	19.0	Unacceptable	0.1	19.0	Unacceptable
Private Well	0231	0.1	50.8	Unacceptable	0.1	50.8	Unacceptable
Private Well	0234	0.2	134.2	Unacceptable	0.3	439.0	Unacceptable
Private Well	0269	0.2	162.1	Unacceptable	0.3	346.9	Unacceptable
Private Well	0275	0.0	10.3	Unacceptable	0.0	10.3	Unacceptable
Private Well	0276	0.3	45.9	Unacceptable	0.3	45.9	Unacceptable
Private Well	0288	0.0	27.9	Unacceptable	0.0	27.9	Unacceptable
Private Well	0326	0.0	9.5	Acceptable	0.0	45.2	Unacceptable

Summary of Screening Risks for 1,500 Foot Step-Out Residences

Water Source at the Time Samples Were Collected	1,500-Foot Step-Out Residence	Scenario 1 – Risks Calculated Based on the Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)			Scenario 2 – Risks Calculated Based on the Ingestion + Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)		
		Total CNCEF	Total CCEF	Risk Management Category	Total CNCEF	Total CCEF	Risk Management Category
Private Well	0339	0.1	10.8	Unacceptable	0.1	38.8	Unacceptable
Private Well	0341	0.5	98.5	Unacceptable	0.5	98.5	Unacceptable
Private Well	0343	0.0	2.9	Acceptable	0.0	13.6	Unacceptable
Private Well	0345	0.3	126.3	Unacceptable	0.3	126.3	Unacceptable
Private Well	0354	0.0	8.1	Acceptable	0.0	32.4	Unacceptable
Private Well	0371	0.2	137.8	Unacceptable	0.2	137.8	Unacceptable
Private Well	0416	1.5	819.3	Unacceptable	1.5	819.3	Unacceptable
Private Well	0427	0.0	23.0	Unacceptable	0.0	49.9	Unacceptable
Private Well	0436	0.0	11.6	Unacceptable	0.0	11.6	Unacceptable
Private Well	0462	0.4	12.0	Unacceptable	0.4	12.0	Unacceptable
Private Well	1621	0.0	9.9	Acceptable	0.0	22.3	Unacceptable

Scenario 1 – Risks Calculated Based on the Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas) – The risks for 16 of the 25 (64%) of the residences were Unacceptable. Five of the six residences that were sampled that obtained their tap water from a public source had Acceptable risks. As presented in Table 4-3, soil gas was responsible for Unacceptable risks at 15 of the 25 (60%) residences that were sampled for soil gas. Tap water was responsible for Unacceptable risks at two of the nine residences (22%) that were sampled for tap water. The residences with Unacceptable tap water results obtained their tap water, at the time samples were collected, from private wells. In addition, the Unacceptable tap water results were co-located with Unacceptable soil gas results. Tetrachloroethene in soil gas was responsible for the Unacceptable risks at 11 of the 25 (44%) residences. Benzene, chloroform, and ethylbenzene in soil gas were responsible for the Unacceptable risks at two, four, and one of the residences sampled, respectively.

Scenario 2 – Risks Calculated Based on the Ingestion + Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas) – The risks for 20 of the 25 (80%) of the residences were Unacceptable. The media and COPCs responsible for the majority of the risks were consistent with the risk discussed in the previous paragraph.

4.5.2 Incremental Risk Summary for the Villa Literno Sampling Event

Villa Literno is a *comune* located in Study Area 5. The tap water results from two residences that obtained their tap water from private wells (i.e., 1767 which was sampled during the Pilot Study and 2016 which was sampled as part of Phase II) had Unacceptable concentrations of tetrachloroethene. These results indicated the potential for groundwater and/or soil contamination in this area. The USN was unable to obtain any information regarding the potential source(s) or the extent (i.e., vertical or horizontal distribution) of tetrachloroethene in groundwater from the Italian regulatory agencies. At the time residences 1767 and 2016 were sampled, there were no residences located within 500-feet of these two

residences that were occupied by USN Personnel, so Step-Out sampling was not performed. However, because information indicated that the majority of the residences located in Villa Literno obtained their drinking water from private wells, the USN decided to collect tap water (from private wells) and soil gas samples from homes within Villa Literno in order to evaluate the potential for groundwater contamination.

Figure 4-28 presents the four residences that were occupied by USN Personnel and sampled as part of the Villa Literno Sampling Event. Tap water and soil gas samples were collected from these residences. The tap water samples were analyzed for VOCs, dioxins/furans, metals, bacteriological parameters, radiological parameters, anions, and field parameters. The soil gas samples were analyzed for VOCs. The sampling results for these residences were compared to RSLs and USMCLs and the risks are summarized in the box presented below.

Summary of Screening Risks for Villa Literno Residences

Water Source at the Time Samples Were Collected	Villa Literno Residence	Scenario 1 – Risks Calculated Based on the Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)			Scenario 2 – Risks Calculated Based on the Ingestion + Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas)		
		Total CNCEF	Total CCEF	Risk Management Category	Total CNCEF	Total CCEF	Risk Management Category
Private Well	1751	0.1	70.5	Unacceptable	2.6	241.9	Unacceptable
Private Well	1756	0.1	89.6	Unacceptable	2.6	222.5	Unacceptable
PUBLIC	1766	0.0	1.5	Acceptable	1.3	4.1	Unacceptable
Private Well	1771	0.1	26.5	Unacceptable	2.8	116.6	Unacceptable

Scenario 1 – Risks Calculated Based on the Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas) – The risks for three of the four (75%) of the residences were Unacceptable. Three of the four residences that were sampled obtained their tap water from private wells. As presented in Table 4-3, soil gas was responsible for Unacceptable risks at three of the four (75%) residences. Only residence 1766 did not have Unacceptable risks associated with soil gas. Tap water was responsible for Unacceptable risks at three of the four (75%) residences. The Unacceptable tap water results were co-located with Unacceptable soil gas results. Tetrachloroethene in soil gas was responsible for the Unacceptable risks at three of the four (75%) residences. Tetrachloroethene in tap water was responsible for the Unacceptable risks three of the four (75%) residences.

Scenario 2 – Risks Calculated Based on the Ingestion + Inhalation of Tap Water Vapors and Inhalation of Indoor Air (via Soil Gas) – The risks for all of the residences were Unacceptable. The media and COPCs responsible for the majority of the risks were consistent with the risk based on the inhalation of tap water vapors and inhalation of indoor air (via soil gas) that were discussed immediately above. In addition, fecal coliform, nitrate, and total coliforms were detected in tap water at concentrations that exceeded the USMCL at (one of four residences), (three of four residences), and (two of four residences), respectively. Uranium was detected in tap water at one of the four residences at a concentration that exceeded the CEF of 10; however, the concentration did not exceed the USMCL.

4.5.3 Incremental Risk Summary for Active Soil Gas Sampling at Phase I Residences that Exceeded Risk Criteria Based on Passive Soil Gas Results

During Phase I of the PHE, passive soil gas samples were collected from residences. Passive soil gas samples provided results in units of total mass (e.g., ug) of the chemical and not in the units of concentration (e.g., ug/m³) that were needed to evaluate potential health risks. Therefore, the Phase I passive soil gas results were converted from mass to concentration by applying "conversion" factors that were provided by the GORE Company. These results enabled a limited but quantitative evaluation of the potential for VI from soil gas to indoor air. The results of the Phase I SRE identified seven residences that potentially had Unacceptable risks associated with VI from soil gas. During Phase II of the PHE, active soil gas samples were collected from residences using USEPA Method TO-15 (i.e., SUMMA Canisters). Active soil gas sampling results provide results in units of concentration (e.g., ug/m³) and are more reliable for evaluation in a quantitative risk assessment. Because of the uncertainty associated with the passive soil gas results, the seven residences that had Unacceptable results, based on passive soil gas results, were re-sampled using active soil gas techniques to confirm the initial results. The box below compares the risks predicted based on the passive and active soil gas sampling.

Summary of Screening Risks for Active Soil Gas Sampling of Phase I Residences That Had Unacceptable Risks Associated with Passive Soil Gas Samples

Water Source at the Time Samples Were Collected	Residence	Phase I Passive Soil Gas Risks Calculated Based on Inhalation of Vapors from Soil Gas Only			Phase II Re-Sampling Active Soil Gas Risks Calculated Based on Inhalation of Vapors from Soil Gas Only		
		CNCEF	CCEF	Risk Management Category	CNCEF	CCEF	Risk Management Category
PUBLIC	0199	0.0	6.3	Acceptable ¹	0.1	44.6	Unacceptable
Private Well	0238	0.0	28.3	Unacceptable	0.6	421.8	Unacceptable
Private Well	0548	0.0	0.2	Unacceptable ²	30.5	29,168.8	Unacceptable
PUBLIC	0831	1.3	877.7	Unacceptable	1.1 ⁽³⁾	793.2 ⁽³⁾	Unacceptable
PUBLIC	0949	0.8	555.0	Unacceptable	0.0	28.4	Unacceptable
PUBLIC	1151	0.5	460.7	Unacceptable	0.0 ⁽³⁾	27.2 ⁽³⁾	Unacceptable
PUBLIC	1157	0.0	8.9	Unacceptable ²	0.0 ⁽³⁾	10.5 ⁽³⁾	Unacceptable

Notes:
¹The passive soil gas risks at this residence were Acceptable; however, the location was re-sampled during Phase II for comparison purpose only.
²The passive soil gas risks were Acceptable at these residences. However, when the passive soil gas risks were combined with the risks from other media (e.g., risks from tap water and/or soil), the total risk for the residence was considered Unacceptable.
⁽³⁾The active soil gas risks presented for this location were calculated prior to applying a multi-story VAF. Risks calculated with the multi-story VAF are presented in Table 4-3.

The results presented in the box above generally indicate that there was a poor correlation (R = -0.33) between the passive soil gas CCEFs and active soil gas CCEFs. In some cases the passive soil gas CCEFs were significantly less than the active soil gas CCEFs and in other cases the passive soil gas CCEFs were significantly greater than the active soil gas CCEFs. The only residences with comparable CCEFs were residences 0831 and 1157. The COCs responsible for the majority of the risks identified in passive and active soil gas were similar. In passive soil gas, chloroform, tetrachloroethene, and trichloroethene were responsible for the majority of the risks at (three of seven residences), (four of seven residences), and (two of seven residences), respectively. In active soil gas, carbon tetrachloride,

chloroform, and tetrachloroethene were responsible for Unacceptable risks at (one of seven residences), (one of seven residences), and (seven of seven residences), respectively.

4.5.4 Incremental Risk Summary for Active Soil Gas Sampling at Parco Eva and Parco Le Ginestre

Parco Eva and Parco Le Ginestre were sampled for tap water, soil, and soil gas as part of Phase I of the PHE (see Figure 2-1). The passive soil gas concentrations of tetrachloroethene from Parco Eva exceeded the RSL and had a maximum CEF of 9.9. Tetrachloroethene was also detected in tap water, which was obtained from a public source at concentrations exceeding the RSL. The passive soil gas concentrations of tetrachloroethene from Parco Le Ginestre exceeded the RSL and had a maximum CEF of 171.7. Tetrachloroethene was also detected in tap water, which was obtained from a public source at concentrations exceeding the RSL. In addition, tetrachloroethene was detected in irrigation water samples from Parco Le Ginestre. In summary, the Phase I results from Parco Eva and Parco Le Ginestre indicated that there may be a potential VI concern at these locations. Therefore, during Phase II of the PHE, three active soil gas samples were collected from Parco Eva and two active soil gas samples were collected from Parco Le Ginestre. The box below summarizes the risk evaluation of the active soil gas samples that were collected during Phase II.

**Summary of Screening Risks for Phase II Active Soil Gas Sampling Results
from Parco Eva and Parco Le Ginestre**

Parco	Sample	CNCEF	CCEF	Risk Management Category	Chemicals Responsible for the Majority of the CNCEF	COCs Responsible for the Majority of the CCEF
Parco Eva	EV50SG001	14.1	2.1	Unacceptable	Acrolein ¹	Tetrachloroethene
Parco Eva	EV51SG001	15.3	85.1	Unacceptable	Acrolein ¹	Tetrachloroethene
Parco Eva	EV52SG001	6.7	69.4	Unacceptable	Acrolein ¹	Chloroform Bromodichloromethane Ethylbenzene Tetrachloroethene
Parco Le Ginestre	LE50SG001	65.3	13.3	Unacceptable	Acrolein ¹	Benzene Chloroform Tetrachloroethene
Parco Le Ginestre	LE51SG001	0.9	49.7	Unacceptable	No Chemicals were detected at concentrations with an NCEF > 1.	1,2-Dibromoethane Chloroform Tetrachloroethene
Notes:						
¹ As per the <i>Technical memorandum: Identification of Chemicals in Soil Gas that may be Associated with Vapor Intrusion</i> (see Appendix D), acrolein was determined to be a non-VI COPC. As such, it <u>was not</u> evaluated for soil gas risks using soil gas data but was evaluated for ambient air risks using ambient air data.						

As presented in the box above, the risk for each of the active soil gas samples that were collected during Phase II from Parco Eva and Parco Le Ginestre were Unacceptable based on the PHE risk management criteria. Tables 4-22 and 4-23 present the chemical-specific risks for each sample that was collected at the Parco Eva and Parco Le Ginestre, respectively. Acrolein was responsible for the majority of the CNCEF; however, the concentrations of acrolein in the soil gas samples were similar to concentrations of

acrolein in ambient air³¹. Therefore, the acrolein results may be more indicative of risks associated with exposures to ambient air rather than VI from a subsurface source. Chloroform and tetrachloroethene were responsible for the majority of the CCEF and were potentially a VI concern. Benzene, bromodichloromethane, ethylbenzene, and 1,2-dibromoethane were detected at concentrations exceeding their RSLs but were not responsible for Unacceptable risks in any sample.

³¹As per the *Technical Memorandum Identification of Chemicals in Soil Gas That May be Associated with Vapor Intrusion* (see Appendix D), acrolein was determined to be a non-VI COPC. As such, it was not evaluated for soil gas risks using soil gas data but was evaluated for ambient air risks using ambient air data.

4.6 References for Section 4

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SECTION 5 – UNCERTAINTY ANALYSIS

The purpose of this Uncertainty Analysis is to identify key components of the SRE that could significantly impact the results of the evaluation. The key uncertainties evaluated in this analysis were associated with:

- Lack of historical data and institutional knowledge about hazardous waste sites in Campania
- Representativeness of the analytical data used in the SRE
- Identification of constituents in soil gas that may be associated with VI
- Vapor attenuation factors used to predict indoor air concentrations from soil gas
- Step-out sampling data gaps
- Conceptual site model and exposure assumptions
- Toxicity values

Uncertainty occurs because of a lack of information. In other words, uncertainty is an expression of the confidence we have that a parameter (e.g., EPC, VAF) accurately reflects the population being evaluated.

Variability, on the other hand, is an expression of the range of differences between individuals observed for a given population. It is not possible to eliminate variability in heterogeneous populations.

5.1 Lack of Historical Data and Institutional Knowledge about Hazardous Waste Sites and Improper Waste Disposal in Campania

The magnitude of the problem associated with trash collection, uncontrolled open burning of uncollected trash, and widespread dumping of chemical and other potentially hazardous waste was compounded by the lack of basic information about “contaminated sites” in Southern Italy. As discussed in Volume III, there were thousands of contaminated waste sites in the Campania Region and the history of illicit waste disposal dates back to the early 1980s (ARPAC, 2009). Figure 1-3 shows the approximate location of potential waste sites within the study areas. In most cases, the type of waste that was dumped or burned at these locations is unknown. A more detailed depiction of the known waste sites by category (i.e., abandoned waste sites, sites where contamination has been verified, and potentially-contaminated sites for which there is no analytical data available yet to confirm contamination above the concentration threshold) is presented in the *Naples Public Health Evaluation, Volume III: Phase I & Phase II* (NMCPHC, 2010). However, CNREURAFSWA's requests to ARPAC for basic information on location (e.g., Global Positioning System coordinates) and site characterization (e.g., what constituents, what concentrations, etc.) were typically unproductive.

Figure 1-3 also presents the six “Sites of National Interest” (similar to the USEPA Superfund Sites on the National Priorities List) identified in Campania. Of particular concern were the Bagnoli-Coroglio Site of National Interest (for Study Areas 1 and 2) and the Napoli Orientale Site (for Study Area 3), and the other seven study areas were located within the footprint of the Litorale Domito Flegreo e Agro Aversano Site. These were the only waste sites known by the USN; the majority of the sites were not characterized in terms of extent of contamination, nor remediated (cleaned up). There may be other sites containing urban or hazardous waste that have not yet been documented by Italian agencies.

Trash collection and disposal problems have plagued Naples and the Campania Region for decades. The city of Naples generates an estimated 8,000 metric tons of trash daily, much of which was set on fire during the trash crisis in 2007 and 2008, which released pollutants and smoke and potentially posed a health risk to residents (Italian Ministry of the Interior, National Fire Department, Department of Fire, Rescue, and Civil Defense, 2008). Releases of contaminants to ambient air (through uncontrolled burning of trash) in addition to releases to subsurface soil and groundwater were confounding factors that made it difficult to interpret multi-media data and determine the extent of contamination. The multi-media impact, lack of historical data, and lack of institutional knowledge were significant uncertainties that impacted sampling design, data interpretation, and the calculation of risk.

5.2 Representativeness of the Analytical Data Used in the SRE

A key input into this SRE was the measured constituent concentrations in tap water, soil, soil gas, and ambient air. The goal of environmental sampling programs that contribute data to human health risk assessments is to characterize the concentrations and locations of constituents in media of interest in order to quantify representative potential human exposures and subsequent potential human health risks. Every effort was made to optimize the PHE Sampling Events; however, there were inherent uncertainties associated with representativeness of the constituent data set, as discussed below.

5.2.1 Sampling Design

During Phase I, a biased sampling design was implemented to sample areas within the Campania Region, where USN Personnel worked and lived that, based on available information, had the highest potential of being impacted by the effects of hazardous waste that had been disposed of improperly. Italian maps showing the locations of documented trash and chemical dump sites³² were reviewed (see Figure 2-1) to identify candidate residences, from these presumed "worst-case" areas, that were occupied by U.S. Personnel for sampling.

To achieve this, Italian data regarding trash and chemical dump sites were reviewed in order to collect samples from these "worst-case" areas (see Figure 1-3). This is a key uncertainty because it was assumed that the Italian data used to identify the "worst-case" areas for sampling were accurate. Since no constituent-specific information was available from the Italian Government with respect to the specific dump sites (presented on Figure 1-3), it was not feasible to prioritize sampling in areas with constituents that were the most toxic or were present in the highest concentration. Consequently, all dump sites were assumed to have the same potential risk to human health. This approach posed problems because of the heterogeneous nature of the constituent composition of trash and because a variety of different constituents were likely dumped at different times and locations throughout the Campania Region.

Phase II sampling was designed to improve the spatial/geographic distribution of sampling locations, delineate clusters of residences that exceeded risk criteria, and incorporate lessons learned from Phase I. During Phase II of the SRE, a more comprehensive, systematic sampling design was implemented. However, as shown on Table 2-1 and Figure 2-1, sampling was unevenly distributed throughout the nine

³²These maps did not differentiate trash sites from chemical dump sites. Therefore, it was not possible to determine if the residences that were selected for sampling as part of the PHE were near trash sites or chemical dump sites.

study areas (ranging from 11 residences in Study Area 9 to 146 residences in Study Area 8) because samples could only be collected from areas where USN Personnel work and live and where the tenant and landlord agreed to allow sampling.

5.2.2 *Representativeness of a Single Sampling Event for Evaluating Long-Term Exposure*

In most cases, the risks presented in this SRE were based on a single-sampling event at a specific residence. Cost, schedule, and the practical limitations of working in a foreign country made it unfeasible to collect multiple samples from each residence. Sampling was almost always limited to one sample per medium and it was rarely an option to return and collect additional samples. As summarized below, a single sample only provides a "snapshot" of concentrations that were present in tap water, soil, and soil gas. Results from these samples may or may not be representative of the long-term concentrations at a residence:

- **Tap Water** – Concentrations in tap water from presumed shallow, private wells may vary over time due to factors such as the time of year, the amount of associated rainfall, and the amount of aquifer pumping performed by the resident and/or their neighbors.
- **Soil** – The primary concern associated with the representativeness of soil concentrations was the spatial density of the samples (soil concentrations typically are not impacted by temporal variability). The uncertainty associated with the spatial density of soil samples was addressed by collecting composite soil samples at residences in order to obtain greater spatial coverage of the areas being sampled. However, this only applied to non-VOC analyses. Only a single sample was collected for VOC analysis because VOC samples cannot be composited without the loss of COPCs during the compositing process.
- **Soil Gas** – Collecting near-slab or sub-slab soil gas samples is one of the most common methods for assessing VI. However, there is more spatial and temporal variability in soil gas than in indoor air. For example, detailed field investigations of the VI process at Altus Air Force Base (AFB) and Hill AFB (McHugh and Nickels, 2008) demonstrated that at least six soil gas samples were required to achieve the same level of accuracy in estimating the mean soil gas concentration (i.e., within 67% of the population mean over 90% of the time) in comparison to a single indoor air sample and two ambient air samples. Temporal variability (on the time scale of months) was found to be similar to spatial variability. A USEPA evaluation of VI at 15 homes near the Raymark Superfund Site in Connecticut (a site with known groundwater contamination) showed that variability between sub-slab samples ranged from 20% to over 100% depending on the building and chemical, indicating that at least three samples were optimal for a more in-depth soil gas evaluation (DiGiulio and Paul, 2006). VI guidance in the U.S. generally does not specify a minimum number of soil gas samples, although the New Jersey Department of Environmental Protection (NJDEP) recommends at least two near-slab soil gas samples on either side of a building (NJDEP, 2005), because soil gas is evaluated in conjunction with other multi-media data to evaluate VI.

The spatial and temporal uncertainties associated with the tap water and soil gas data were not applicable to the ambient air data because ambient air samples were collected from nine monitoring stations that were located in each of the study areas as part of the year-long ambient air sampling and monitoring

program. The year-long program reduced uncertainties associated with meteorological conditions over various seasons and weather conditions, as well as the temporal and spatial effects of anthropogenic sources of constituents (i.e., resulting from the influence of humans) in ambient air (e.g., burning trash). Since the frequency and content of the trash being burned were random during this investigation, it was important to be able to collect multiple samples on multiple days in order to maximize the probability that burn events would occur during the collection of some of the samples³³. Using this approach, a total of 460 ambient air samples were collected at nine U.S Government-related facilities between September 2008 and October 2009. Because of the size of the data set, the 95% UCL on the mean ambient air concentration was used to determine the EPC for each study area³⁴.

Typical tour lengths at Naples are between three and six years. The SRE assumed that USN Personnel could be exposed to constituents for 30 years. Using environmental sampling results for tap water, soil, and soil gas from a single sampling event incorporated a substantial degree of conservatism and likely over-estimated risk because the concentrations may not be representative of long-term conditions.

5.2.3 *Spatial Sample Density*

Combined, the nine study areas evaluated in the PHE comprise approximately 395 square miles, which is considered a large area to evaluate. Due to jurisdictional and legal Host Nation requirements, samples could only be collected from areas where USN Personnel work and live, and then only with the permission of the tenant and landlord. Additionally, there were a number of media that were potentially impacted (i.e., tap water, soil, soil gas, and ambient air). The large study, area combined with the number of media evaluated, introduced uncertainty with regard to the spatial density of samples for the SRE (see Figure 4-3). There may be areas where samples were not collected that have affected media. The limited access to residences where USN Personnel lease property resulted in variable sample density across the study areas.

5.2.4 *Background Concentrations of Inorganic Chemicals in Tap Water and Soil*

Determining representative background concentrations for inorganic constituents is an important step in the process of characterizing risks. In the Campania Region, background concentrations of arsenic in soil and tap water exceeded RSLs. In fact, in almost all cases, the concentrations posed Unacceptable risks based on the PHE risk management criteria. Since the concentrations of arsenic are naturally occurring and are likely associated with volcanic activity in the region, arsenic was not included in the incremental risk calculations presented in this report. However, arsenic was included in the total (background plus incremental) risks for comparison purposes (see Section 4.2).

Overall, the uncertainty associated with the determination of background concentrations was minimized by incorporating site-specific background data from the Naples area (Cicchella, Domencio et al., 2005).

³³Ambient air samples were collected every nine days for approximately the first seven months, and then every six days for the remainder of the program. Both sampling cycles ensured that ambient air sample collection did not correlate with regularly-scheduled weekly regional events, so that an unintended correlation between sample collection and potential weekly air emissions was averted (Tetra Tech, 2010a; Tetra Tech, 2010b).

³⁴Refer to Section 4.1 for explanation on the development of EPCs.

5.2.5 *Ambient Air*

5.2.5.1 *Availability of Background Ambient Air Data from Cities in Italy*

Determining representative background concentrations for constituents in ambient air is necessary to accurately characterize risks. Background ambient air concentrations for the Campania Region were not available for the nearly 241 constituents that were analyzed as part of the PHE – Italian background ambient air data were limited to priority pollutants such as particulate matter less than 10 microns in diameter (PM₁₀), ozone, et cetera. Therefore, ambient air concentrations from representative cities in the U.S. were evaluated and compared to Naples ambient air sampling results to put the Naples air concentrations into context with regard to what USN Personnel might be exposed to in typical urban air if they were stationed in the U.S.³⁵ The 95% UCL on the mean ambient air concentrations from six U.S. cities (i.e., San Diego, California; Los Angeles, California; Seattle; Washington; Houston, Texas; Midlothian, Texas; and Washington, DC) found in the USEPA’s 2007 Air Toxics Database (USEPA, 2007) were used to represent typical urban ambient air concentrations in the U.S. These cities were selected because they have one or more attributes that are similar to Naples and the Campania Region, such as (1) availability of ambient air data, (2) dense residential, urban, and industrial development, (3) coastal location, and (4) USN presence. Thus, the assumption that urban air in the Campania Region is similar to urban air in the U.S. remains an uncertainty in this analysis. This uncertainty adds to the complexity of determining whether or not the ambient air results in Naples are similar to ambient air risks in the six U.S. cities. As a result, this limits the ability to reach a firm conclusion on the ambient air risks in Naples as either less than or greater than the ambient air risks in the six selected U.S. cities.

5.2.5.2 *Comparison of Naples and U.S. Ambient Air Data*

In order to compare Naples ambient air data and risks to U.S. ambient air data and risks, a data set with identical contaminant lists and timeframes was needed. A U.S. urban ambient air data set with an exact “one-to-one” correspondence to the ambient air data collected in Naples was not available, which led to some degree of uncertainty regarding the evaluation of risks (i.e., risk could have been underestimated due to a lack of data or overestimated due to additional data).

Moreover, no one city’s data set could be considered a perfect comparison to Naples. For example, New York may be considered most representative of Naples because of its large, densely-populated, industrial and urban setting. However, the rural portion of Naples (located outside of the downtown area) could result in the presence of other contaminants that are typically uncharacteristic of New York. In addition, “behavioral” differences between U.S. cities and Naples could result in the presence of different constituent. For example, acrolein is a principal air constituent in Naples, likely because of the abundant presence of diesel exhaust emissions, whereas diesel engine use in the U.S. is less prevalent.

5.2.5.3 *Approach Used to Identify Ambient Air Concentrations in U.S. Cities for Comparison to Naples*

Finding constituent values in the USEPA’s 2007 Air Toxics Database that corresponded with the constituents detected in Naples was paramount to this investigation. When obtaining comparison values,

³⁵ Refer to Section 4.1 for explanation on the development of EPCs.

priority was given to finding values in the 2007 USEPA Air Toxics Database for constituents that were detected in ambient air samples from the Naples PHE that exceeded their RSLs. Twenty one of the 27 constituents in Naples ambient air that exceeded their RSLs (21 of 27 or 78%) had corresponding values in the USEPA's 2007 Air Toxics Database. Comparison values were not available in the USEPA's 2007 Air Toxics Database for the following six constituents that exceeded their RSLs in Naples ambient air (see Table 4-19):

1. 1,1,1,2-Tetrachloroethane – The CEFs from the nine study areas ranged from 0.3 to 1.1.
2. 1,2-Dibromo-3-chloropropane – The CEFs from the nine study areas ranged from 397 to 727.
3. Bromodichloromethane – The CEFs from the nine study areas ranged from not detected to 2.3.
4. Cobalt – The CEFs from the nine study areas ranged from 0.52 to 1.7.
5. Dibromochloromethane – The CEFs from the nine study areas ranged from not detected to 2.3.
6. Total Dioxin/Furans (2,3,7,8-TCDD TEQs) – The CEFs from the nine study areas ranged from 0.60 to 40.

The lack of corresponding values for these six constituents, especially for 1,2-dibromo-3-chloropropane, had a significant impact on the uncertainty of the risk assessment of ambient air. As presented in Table 4-21, when all constituents that were detected in ambient air in Naples, regardless if they had corresponding values in the USEPA's 2007 Air Toxics Database or not, were included in the risk calculations, the CCEF for the nine study areas were, on average, approximately five times higher than the CCEF calculated based on the USEPA's 2007 Air Toxics Database. However, when only constituents that were detected in ambient air in Naples that had corresponding values in the USEPA's 2007 Air Toxics Database were included in the risk calculations, the CCEF for the nine study areas were, on average, approximately 0.8 times lower than the CCEF calculated based on the USEPA's 2007 Air Toxics Database (see Table 4-21). This is a significant finding and demonstrates the sensitivity of the CCEF results to the inclusion of the 1,2-dibromo-3-chloropropane concentration detected in ambient air in Naples. It is important to note that this finding does not indicate that risks associated with ambient air in Naples are similar to the risks associated with ambient air in the U.S. It is not possible to make this determination without corresponding values from the U.S. Key information regarding 1,2-dibromo-3-chloropropane that should be considered when making risk management decisions regarding ambient air samples collected during the Naples PHE is discussed in the following subsection.

5.2.5.4 1,2-Dibromo-3-Chloropropane

Of the six constituents that were detected in ambient air in Naples at concentrations that exceeded their RSLs and for which comparison values were not available in the USEPA's 2007 Air Toxics Database, 1,2-dibromo-3-chloropropane was responsible for the majority of the cancer risks in nine study areas. 1,2-Dibromo-3-chloropropane is a nematicide and was used in agriculture as a soil fumigant (i.e., it was not applied using aerial sprayers). It was typically applied via covered shallow trenches where liquid was deployed and then the 1,2-dibromo-3-chloropropane quickly evaporated in the soil column where the subsoil was then fumigated (Albrecht et al. 1985). Based on the typical application method, it would be unusual to detect 1,2-dibromo-3-chloropropane in ambient air at locations distant from the point of

application (Albrecht et al. 1985). 1,2-Dibromo-3-chloropropane was banned in the U.S. in 1979; however, Hawaii was allowed to use 1,2-dibromo-3-chloropropane until 1985. 1,2-Dibromo-3-chloropropane is persistent in soil and groundwater and takes several months to breakdown in air (ATSDR, 1995). As presented in Table 4-20, 1,2-dibromo-3-chloropropane was responsible for, on average, 80% of the ambient air CCEFs for the nine study areas, but a corresponding value was not available (i.e., samples were not analyzed for it) in the USEPA's 2007 Air Toxics Database. The lack of an available corresponding 1,2-dibromo-3-chloropropane value in the USEPA's 2007 Air Toxics Database is a significant data gap in the PHE because a direct comparison between cancer risks in Naples and U.S. can't be performed. In addition, there is uncertainty with the representativeness of the ambient air results for 1,2-dibromo-3-chloropropane evaluated in the PHE, which include:

1. No information that definitively stated that 1,2-dibromo-3-chloropropane was banned in Italy could be found.
2. 1,2-Dibromo-3-chloropropane was infrequently detected in ambient air samples collected during the Naples PHE (i.e., 30 of 441 [6.8%]). Appendix C presents summary statistics, including the frequency of detection, for each constituent and study area).
3. 1,2-Dibromo-3-chloropropane was detected in all nine study areas at similar concentrations just above the detection limit of 0.0001 mg/m³.
4. The detection limit (i.e., 0.0001 mg/m³) is 625 times greater than the RSL which is (1.6E-07 mg/m³). This is important because half the detection limit was included in the calculation of the EPC.
5. All of the 1,2-dibromo-3-chloropropane detections occurred between June 2009 and August 2009. It is unclear why 1,2-dibromo-3-chloropropane was only detected during this time frame and was not detected during the previous summer, fall, winter, or spring. These detections were observed in all nine study areas over the same time period, but did not correlate with agricultural areas. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Study Area 2 where the sampling station was located at the U.S. Consulate. The U.S. Consulate is located in downtown Naples, Italy and is miles from any agricultural area.

Despite these uncertainties, there was no technical reason to exclude the ambient air results for 1,2-dibromo-3-chloropropane from the Naples PHE. However, these uncertainties should be considered when making risk management decisions.

5.2.6 Passive Soil Gas Sampling Results

The passive soil gas concentrations evaluated in Phase I were based on results obtained from Gore-Sorber Modules, which are patented, passive-diffusion sorbent-based samplers that collect samples for VOCs, SVOCs, and pesticides. As discussed in Section 2.1.2.3, the passive soil gas collection process measures chemical mass rather than concentration and is therefore qualitative in nature. Soil gas concentrations were estimated by Gore using the mass of the constituent detected in combination with information obtained regarding the soil type in the Campania Region. Although soil gas concentrations were estimated using default assumptions regarding soil characteristics, the information is not truly suitable for

a quantitative risk assessment. The data collected via this process was useful for screening purposes only to determine if there was a potential for VI.

To address the uncertainty associated with passive soil gas results, active soil gas samples were collected from 201 residences in all nine study areas between November 2008 and July 2009 (Tetra Tech, 2010a). In addition, Phase I residences that had Unacceptable results associated with passive soil gas (i.e., residences 0238, 0949, 1151, and 0831) were re-sampled using active soil gas sampling techniques during Phase II. Active soil-gas sampling techniques provide results in units of concentration that can be evaluated directly in the risk assessment. Active soil-gas sampling is viewed by most experts in the VI field as the most reliable method for collecting soil gas for use in risk assessment and reduced the uncertainty.

5.2.7 Usability of Analytical Data for Naphthalene and Acetaldehyde in Active Soil Gas Samples

As discussed in Section 2.1.2.3, naphthalene and acetaldehyde were among the constituents tested for in active soil gas and ambient air during Phase II using USEPA Methods TO-13A and TO-15 (for naphthalene) and TO-11 and TO-15 (for acetaldehyde). Inconsistencies between the results obtained from two methods (TO-13A and TO-15 for naphthalene and TO-11 and TO-15 for acetaldehyde) led to further research and Tetra Tech determined that the active soil gas (and select ambient air) data for naphthalene and acetaldehyde analyzed by the USEPA Method TO-15 were not suitable for inclusion in the SRE. The lack of soil gas data for naphthalene and acetaldehyde resulted in uncertainty as to whether or not these COPCs were potentially a concern to human health via the VI pathway. The significance of this data gap on the risk assessment cannot be quantified.

5.2.8 Lack of Speciated Results for all Residences with Radionuclides in Tap Water and Irrigation Water

There were uncertainties associated with speciation of tap water samples for radioactive constituents (i.e., radionuclides). Most drinking water sources have very low levels of radionuclides, and naturally-occurring radionuclides are generally not evaluated as part of a human health risk assessment. During Phase I of the PHE, tap water samples (i.e., from private wells, irrigation wells, and public sources) were analyzed for: (1) gross-alpha activity and (2) gross-beta activity. The results of the gross-alpha and gross-beta analyses, shown in the box presented below, were used to determine whether or not additional analyses were required for the risk assessment. As described in Appendix G, further radionuclide speciation screening was performed.

Summary of Radionuclide Sampling Results

Radionuclide	Number of Tap Water & Irrigation Water Samples Analyzed (includes Field Duplicates and Results from U.S. Government-Related Facilities)	Number of Detected Results	Project Screening Criterion	Number of Residences with Samples Exceeding Screening Criterion
Gross-Alpha	646 ^(a)	214	15 pCi/L	3 ^(b)
Gross-Beta	646 ^(a)	358	8 pCi/L	58 ^(c)
Speciated Results	37 ^(d)	0	Radium-226/228 – 5 pCi/L Strontium-90 – 8 pCi/L Other beta/photon emitters – 50 pCi/L	3 (Radium-228) 0 0
Notes:				
^a Total number of samples analyzed includes tap water, irrigation water, samples from U.S. Government-related facilities, and field duplicates.				
^b Gross-Alpha samples from three locations exceeded the screening criterion but only two were from private residences located on the Italian Economy. The other sample with a screening exceedance was an irrigation water sample from Parco Le Ginestre.				
^c Gross-Beta samples exceeded the screening criterion at 58 residences located on the Italian Economy. At two of these locations, samples also exceeded the gross-alpha activity screening criterion.				
^d According to the provisions of QAPP and Radiological Screening Procedure, 58 locations should have been reanalyzed for speciation but speciation was possible for only 37 residences because of logistical difficulties associated with gaining access to 22 residences to collect additional tap water samples (see Table G-2). This count (i.e., 22) includes one residence, #1614, where the original gross-beta sample result exceeded 50 pCi/L but water source was blended; re-sampled as pre-lease location on 10/17/08 but plumbing was changed to public water source and gross-beta was < 8 pCi/L after K-40 correction; outside well was re-sampled on 5/23/09 (sample named 1614IW - speciation results were not detected).				

Six hundred and forty-six (646) tap water samples from residences located on the Italian economy and U.S. Government-related facilities were analyzed for gross-alpha and gross-beta activity. Gross-alpha activity was detected in 214 water samples; however, only tap water samples from three residences exceeded the screening criterion. Gross-beta activity was detected in 358 water samples; however, only 58 locations exceeded the screening criterion (37 of these residences were located on the Italian economy). The three gross-alpha exceedances were collocated with three of the gross-beta exceedances. As discussed in Appendix G, 22 of the 37 residences with screening level exceedances of gross-alpha and gross-beta activity were not re-sampled and speciated because of logistical issues associated with regaining access to the residence for a second time to collect tap water samples. Where collected, all tap water speciated results were below the detection limit for radionuclides, which indicated that the incremental risks at the 16 residences were acceptable and that background sources were responsible for the gross-activity screening-level exceedances.

Further analysis of the data (presented in Appendix G) indicated that speciation results for the 22 residences that could not be re-sampled likely would have been consistent with the 16 speciated results that were nondetected. Furthermore, the lack of speciation did not have a significant impact on the SRE because 20 of the 22 residences had unacceptable ingestion+inhalation and inhalation-only risks due to concentrations of other COPCs. Residence 1877 (a Pre-Lease residence) was acceptable for ingestion+inhalation of tap water and was also acceptable for the inhalation-only of tap water. This residence was characterized as Inconclusive for the ingestion+inhalation of tap water pathway because of the speciation data gap. The residence would still be acceptable for the inhalation of tap water pathway because the speciated COPCs were primarily of concern to human health if ingested and not inhaled (i.e., via inhalation).

5.3 Identification of Constituents in Soil Gas That May be Associated with VI

One of the most challenging aspects of evaluating active soil gas results were determining which constituents were potentially associated with a subsurface source (i.e., groundwater or soil) versus

constituents that were associated with an ambient air and/or indoor air source(s) that may be present in the aerobic-soil and/or leaked into the sample train. These issues were evaluated in detail in Appendix D.

As noted in Appendix D, the VI pathway contributed significantly to the estimated risk at residences on the Italian economy. However, because of the limitations of the soil gas data, decision criteria were established to maximize protectiveness and 1) to err toward presuming a COPC was associated with a subsurface VI source rather than not and 2) to err toward assuming minimum attenuation (i.e., maximum VI migration to indoor air).

A lines-of-evidence approach incorporating a multi-faceted, multi-media evaluation of the data from the nine study areas was used to evaluate soil gas sampling results³⁶. The evaluation focused on 22 (out of 68) COPCs that were detected in any active soil gas sample. Seventeen of the 22 COPCs were determined to be VI COPCs (i.e., associated with subsurface VI sources [soil or groundwater] that could contribute to VI in overlying buildings). Five COPCs were determined to be non-VI COPCs (COPCs in soil gas that may be associated with above-ground sources). Fourteen of the 17 VI COPCs were determined to have the potential to be associated with a subsurface VI source within a specific geographical area (i.e., Localized VI COPCs), and three were determined to be associated with VI at all residences (i.e., Global VI COPCs). The lines-of-evidence approach for identifying COPCs that may be associated with a subsurface VI source versus above-ground ambient air sources is addressed in Appendix D.

5.3.1 *Distinguishing Between VI COPCs and Non-VI COPCs*

The USEPA VI Guidance recommends a tiered approach to VI assessment, consisting of: 1) a preliminary pathway evaluation based on the presence of a volatile source (e.g., groundwater), 2) an evaluation of VOC concentrations using generic or semi-site-specific screening criteria and 3) a site investigation to evaluate VI by direct measurement (USEPA, 2002). Even with a tiered approach and multi-media data, VI investigations are often confounded by background concentrations in indoor and ambient air. In the Campania Region, the USN was severely restricted with regard to where samples could be collected and which media could be sampled at those residences. Hydrogeological and site characterization data were not available and in most cases, it was not an option to re-sample a residence. In lieu of the standard tiered multi-media approach, a less conventional approach was used to differentiate between COPCs from subsurface sources (potentially resulting from poor waste disposal practices) (VI COPCs) and COPCs from other sources (non-VI COPCs from above-ground ambient or indoor air sources). This approach is described in Appendix D.

There was uncertainty in distinguishing between VI COPCs and non-VI COPCs. However, a protective lines-of-evidence approach was used to identify VI COPCs (i.e., three out of four lines of evidence had to support a non-VI COPC classification otherwise a chemical was classified as a VI COPC), so the tendency was to err on the side of concluding a COPC was a VI COPC rather than concluding it was a

³⁶The lines-of-evidence approach (detailed in Appendix D) is a recommended approach for evaluating background and VI in the U.S. Multiple lines of evidence were evaluated systematically to make a determination (i.e., answer a question based on available data). The approach required professional judgment for selecting and evaluating available information.

non-VI COPC. The following four primary lines of evidence were evaluated to determine whether or not a COPC was a VI COPC:

1. COPC Detected in Groundwater and Spatial Distribution of Groundwater is Consistent with Spatial Distribution in Soil Gas
2. Soil Gas and Ambient Air Concentration Frequency Distribution Patterns (e.g., higher frequency distribution for soil gas indicative of VI COPC)
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than One
4. Mean or Median Soil Gas to Ambient Air Ratio for Residences with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than One

5.3.1.1 *Distinguishing Between Global VI COPCs and Localized VI COPCs*

There was uncertainty associated with determining whether a VI COPC was a Global VI COPC or a Localized VI COPC. Global VI COPCs were evaluated for the VI pathway at all residences where the COPC was detected. Localized VI COPCs were evaluated for the VI pathway at residences where the soil gas concentration exceeded the 95th percentile site-wide ambient air concentration for that COPC. If the soil gas concentration was less than or equal to the 95th percentile site-wide ambient air concentration, then the Localized VI COPC was not evaluated for soil gas risks using soil gas data but was evaluated for ambient air risks using ambient air data. If the Localized VI COPC was detected in soil gas at a concentration greater than the 95th percentile of the site-wide ambient air concentration, then the Localized VI COPC was evaluated for soil gas risks using soil gas data and for ambient air risks using ambient air data. Uncertainties associated with this approach are discussed in Appendix D.

5.4 Vapor Attenuation Factors Used to Predict Indoor Air Concentrations from Soil Gas

Inhalation risks associated with VI of constituents in soil gas to indoor air can vary by orders of magnitude depending on the degree of the attenuation that occurs between soil gas and indoor air. Subsurface conditions and building characteristics vary across the nine study areas, and because building access was not always possible, some soil gas samples were collected sub-slab and some were collected outside of the building (near-slab). Studies conducted by the USEPA and various state agencies have raised concerns as to the appropriateness of near-slab soil gas data in the investigation of the VI pathway (NJDEP, 2005). The NJDEP does not accept exterior soil gas samples as a stand-alone factor in assessing VI due to concerns with false negatives as a function of soil type, soil moisture, or impermeable layers that do not represent conditions beneath the slab. Low permeability layers may also be found under buildings (either naturally or as part of construction) and these layers may explain random or irregular results around a building. The NJDEP does not allow soil gas samples to be averaged across the subsurface around a building; they require each point to be evaluated independently (NJDEP, 2005).

The intent during Phase II was to collect sub-slab soil gas samples at all candidate residences; however, it was not possible to collect sub-slab soil gas samples at all residences (e.g., tenants lived in upper floors with no access to ground floor areas, or in some cases landlords refused to permit sub-slab soil gas sampling). In these instances, near-slab soil gas samples were collected. Approximately 51% of the

active soil gas samples that were collected were sub-slab samples. A comparison of near-slab and sub-slab data for several COPCs (benzene, ethylbenzene, chloroform, tetrachloroethene, 1,2-dichloropropane, carbon tetrachloride, and trichloroethene) from the nine study areas revealed that there was a higher frequency of elevated soil gas to ambient air ratios for sub-slab versus near-slab samples. Sixty-one (61) percent of the near-slab soil gas samples had soil gas to ambient air ratios at or below one in comparison to 38% of the sub-slab soil gas samples. Without site-specific lithology or hydrogeologic data, it is not possible to determine whether or not the near-slab samples were representative of conditions beneath the buildings. The uncertainties associated with soil gas results were addressed in a manner that assumed a higher, rather than a lower, possibility of VI. However, all soil gas sample concentrations, regardless of how they were collected, were compared to RSLs that were calculated using the USEPA's default VAF (α) of 0.1 (normally used for sub-slab soil gas), which was also the VAF specified in the QAPP (Tetra Tech, 2010b)³⁷.

Unless building-specific VAFs were available, a VAF of 0.1 is considered a very conservative assumption because VAFs can range from 0.1 to 0.0001 (or more) depending on groundwater-specific/soil-specific/building-specific characteristics (USEPA, 2008a). The larger the attenuation factor, the greater the potential concentration assumed to be present in indoor air for a given concentration in soil gas. Data from VI site investigations completed at two demonstration sites near Hill AFB and Altus AFB showed that there was significant uncertainty in the calculated subsurface-to-indoor air attenuation factors, with the standard deviation for the calculated values similar to or greater than the calculated attenuation factor values. Despite this variability, the calculated attenuation factors were consistently less than the USEPA default values. Measured sub-slab to indoor air attenuation factors ranged from 3.8E-04 to 7.6E-03 compared to the USEPA default value of 0.1 (McHugh and Nickels, 2008). Therefore, the use of a 0.1 VAF likely overestimated the predicted concentrations in indoor air and the actual risk associated with VI, especially for samples that were collected near-slab (versus sub-slab). However, for this screening assessment it was not appropriate to develop default VAFs that might be less conservative because of the documented variability in VAFs (USEPA, 2008a; McHugh and Nickels, 2008), the lack of groundwater-specific/soil-specific/building-specific characteristics for Naples, and the potential for increased VI migration (i.e. higher VAFs) over the long term as a result of natural (earthquake) or anthropogenic impacts to buildings. There is also potential for decreased VI impacts, though without collecting additional information (e.g., tap water, soil gas, and indoor air samples) and knowledge about potential sources, it was necessary to err towards conservatism rather than underestimate the risk.

The EPC within the building is another uncertainty associated with the VAF used to estimate concentrations in indoor air. For this SRE, except where site-specific building information was available, risks were calculated assuming that all USN Personnel lived on the first floor of a building (i.e., closest to the source). This assumption clearly did not apply to all residential properties sampled as part of this evaluation. The predicted indoor air concentrations and calculated risks were overestimated for USN Personnel living on the upper levels of a residence.

³⁷A VAF of 0.1 was applied in all instances to evaluate soil gas with the exception of multi-story residences that had a subsurface ventilated garages or apartment-type dwellings where the resident lived above the ground floor of the structure (i.e., the resident lived on the second floor or higher, assuming that the first floor was the ground floor of the building). In these instances a multi-story attenuation factor, assessed and supplied by Tetra Tech NUS, was applied as described in Appendix B.

5.5 Step-Out Sampling Data Gaps

There were data gaps associated with the Step-Out Sampling Event described in Section 2.1.1³⁸. Essentially, this approach was implemented to determine whether or not an area of contamination existed that might have impacted a number of residences within an area. This approach was successfully implemented during Phase I, which identified³⁹ an area of contamination with elevated concentrations of tetrachloroethene in groundwater⁴⁰ located in Study Area 8.

During Phase II of the PHE, 32 residences were identified throughout the nine study areas as having Unacceptable risk due to potential VI. As per the CNREURAFSWA decision, the Step-Out Sampling Event was discontinued and no additional residences have been sampled in the vicinity of these 32 residences to date. This decision was made based on the lack of information regarding subsurface sources, the wide variability of single soil gas sampling results, and to allow time to review the data collected in order to better assess recommendations presented in Volume II and to focus resources appropriately. Therefore, it is not possible to determine whether or not the multiple residences located in the vicinity of a residence that had an Unacceptable risk would also have Unacceptable risks associated with COPCs in the same media. This uncertainty is confounded by the fact that there was typically only one sampling event for tap water, soil, and soil gas from a residence and it was not technically defensible to assert that concentrations from a single event and single geographic location were applicable to a wider area.

5.6 Conceptual Site Model and Exposure Assumptions

The CSM for the SRE was developed for potentially-exposed populations living and working in the nine study areas. The model and subsequent exposure assumptions were developed for USN Personnel and associated support groups, which did not include Italian citizens, private citizens and their families, and other, non-Italian, foreign nationals. The RSLs used in this assessment for evaluating all locations (residences and U.S. Government-related facilities) were based on standard USEPA 30-year residential exposures. These RSLs were very conservative because the typical USN tour length is three years or occasionally six years. Consequently, the RSLs were five or 10 times more protective for individuals residing or working in Naples for six or three years, respectively. The USN decided to apply the more conservative RSLs in the SRE because in some instances DoDDS personnel and other U.S. civil servants remain in Campania for 10 to 20 years or more. Therefore, in order to be protective of the entire USN

³⁸In the U.S., it is common practice to utilize step-out sampling in environmental investigations to determine the extent of contamination in a geographic area where a contaminant source is documented and under investigation. This method selects sampling locations a specific distance (potentially in all directions) from the initial location where there is identified contamination, with the goal of determining the extent of contamination. For the PHE, if there was contamination in the Step-Out samples attributable to the same constituent that was responsible for "triggering" the Step-Out investigation, field personnel collected subsequent rounds of Step-Out samples further from the original sampling location until sample results were Acceptable.

³⁹An area of contaminated groundwater was identified; however, the full footprint of the impacted area is not known. In order to clearly define the impacted area, an investigation of the nature and extent of contamination in this area involving the installation of monitoring wells, et cetera would need to be performed by the appropriate Italian regulatory agencies because the USN does not have jurisdiction to perform this type of investigation. The USN can only collect tap water, soil, soil gas, and ambient air samples from residences that are leased through the USN, Naples, Italy Housing Office and where the tenant and landlord consent to sampling.

⁴⁰Determined from tap water samples during the PHE.

Personnel in the Campania Region, the 30-year RSLs were used, which overestimated the risks to the vast majority of the USN Personnel (approximately 90%) who live in Campania less than six years.

A source of uncertainty that resulted in an underestimation of the risk was that the dermal contact with tap water while bathing (i.e., showering or bathing) exposure pathway was not included in the evaluation. Since the SRE is a screening assessment, the USN decided to use standard USEPA RSLs. The USEPA RSLs for tap water do not include dermal contact with tap water while bathing exposure pathway, which resulted in an underestimation of the risks.

Another related source of uncertainty that resulted in an underestimation of the risk was that the incidental ingestion of tap water while bathing exposure pathway was not included in the evaluation. The tap water (via inhalation-only) pathway was based on the assumption that residents were using bottled water (as per the Advisory) and were not exposed to constituents in tap water through ingestion. However, the impact of this uncertainty on the risk assessment was diminished by including the potential ingestion of microorganisms in the inhalation-only pathway. Although microorganisms were not of concern via inhalation, they were evaluated for all tap water pathways in comparison to USMCLs to address the specific concern of incidental ingestion during showering and bathing, especially for infants and young children.

5.7 Toxicity Values

USEPA cancer and noncancer toxicity values were used to evaluate the potential cancer risks and noncancer hazards associated with exposure to constituents. The uncertainty associated with these toxicity values was addressed by the conservative (risk-adverse) assumptions and uncertainty factors included in the cancer and noncancer toxicity values estimated by the USEPA.

The toxicity values that were used to calculate risks were based on USEPA cancer guidelines that predated the *USEPA Guidelines for Carcinogenic Risk Assessment* (USEPA, 2005). Prior to 2005, the mechanism for carcinogenesis was always considered to be a “non-threshold” process, in which exposure to a carcinogen was considered to pose a small, but finite probability of generating a carcinogenic (cancer) response. Because risk at low exposure levels cannot usually be measured directly by animal experiments or by epidemiologic studies, a number of mathematical models and procedures were developed for use in extrapolating from high to low doses, which were most similar to potential human exposures from constituents in the environment. While different extrapolation models or procedures may reasonably fit the observed data, they may lead to large differences in the projected risk at low doses. In developing cancer slope factors (CSFs), the USEPA assumed that a single interaction with deoxyribonucleic acid (DNA) could initiate cancer. This linear extrapolation to zero exposure affects the slope of the extrapolation curve and therefore results in a more conservative (i.e., risk adverse) CSF. The procedure assumed that the relatively-high doses that were often used in animal studies can be extrapolated downward to extremely small doses, with some incremental risk of cancer always possible. It further assumed that even a small number of molecules (possibly a single molecule) of a carcinogen may cause changes in a single cell that could result in the cell dividing in an uncontrolled manner, eventually leading to cancer.

There is dispute as to whether or not linear extrapolation to zero is a valid approach because cells have a number of detoxification mechanisms (e.g., DNA repair enzymes) that can repair damage from carcinogens at low doses. Moreover, recent information demonstrates that some constituents cause cancer by other modes of action (e.g., by causing rapid proliferation of cells that increases the number of naturally-occurring mutations that result in an increased risk of cancer). USEPA's 2005 guidelines specifically state, "when adequate data on the mode of action provide sufficient evidence to support a nonlinear mode of action for the general population and/or subpopulations of concern, a different approach – a reference dose/reference concentration that assumes that nonlinearity – is used." (USEPA, 2005).

Prior to 2005, CSFs were usually derived by the USEPA using a linearized multistage model, and reflected the upper-bound limit of the cancer potency of any chemical. As a result, the calculated carcinogenic risk was likely to represent a plausible upper limit to the true risk. The actual risk is unknown, but was likely to be lower than the predicted risk, and may have been as low as zero (USEPA, 1989).

A noncancer reference dose (RfD) is defined as "an estimate (with uncertainty possibly spanning an order of magnitude or greater) of a daily exposure level for the human population, including sensitive subgroups, that is likely to be without an appreciable risk of deleterious effects during a portion of the lifetime" (USEPA, 1989). RfDs incorporate uncertainty factors, which represent a specific area of uncertainty inherent in the available data, such as:

- Differences in responsiveness between humans and animals in prolonged exposure studies (factor of up to 10; USEPA),
- Variation in susceptibility among individuals in the human population (factor of up to 10; USEPA), and
- Incomplete databases (e.g., those for which only the results of subchronic studies were available; factor of up to 10) (USEPA, 2008b).

In addition to the uncertainty factors, the USEPA applied modifying factors in some instances. Modifying factors range from one to 10 and were included to reflect a qualitative professional assessment of additional uncertainties in the critical study, and in the entire database, for the chemical not explicitly addressed by the uncertainty factors. The default value for the modifying factor is one.

The cumulative effect of these conservative assumptions used to derive toxicity values is more conservative (i.e., health-protective) risk estimates. In other words, the true hazard/risk is likely to be overstated.

5.8 Sensitivity Analyses

In risk assessment, a sensitivity analysis can be used to demonstrate the effect of changing a variable that falls within a range of uncertainties in order to evaluate the potential impact on risk management decisions. In this section, four factors were evaluated in terms of their impact on results and subsequent risk management decisions.

5.8.1 Changing the VAF from 0.1 to 0.01 for Phase II Residences Only

The VAF was a critical parameter in the evaluation of soil gas data and a sensitivity analysis was performed by modifying the VAF and recording the impact on the overall risk management decisions. The box presented below shows the results of changing the VAF from 0.1 to 0.01 for Phase II residences, which is within the range of generally accepted default VAFs. The box presented below shows that the total number of Phase II residences that would be Unacceptable for tap water (ingestion+inhalation), soil, and soil gas decreased from 88 to 67 when a VAF of 0.01 was used in the SRE. The total number of residences that would be Unacceptable for tap water (inhalation-only), soil, and soil gas decreased from 46 to 22 when a VAF of 0.01 was applied. The impact of changing the VAF decreased the number of residences categorized as Unacceptable by approximately 24% based on tap water (ingestion+inhalation), soil, and soil gas scenario and 52% based on tap water (inhalation-only), soil, and soil gas scenario.

Sensitivity Analysis of Changing the Vapor Attenuation Factor from 0.1 to 0.01

Sensitivity Analysis	Number of Unacceptable Residences Ingestion+Inhalation ¹	Number of Unacceptable Residences Inhalation Only ²
Base Case Evaluated in SRE (VAF = 0.1)	88	46
Changed VAF for Soil Gas from 0.1 to 0.01	67	22
Notes:		
¹ Ingestion+Inhalation exposure scenario for residences based on the total cumulative EF-for tap water, soil, and soil gas, assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.		
² Inhalation-Only exposure scenario for residences based on total cumulative EF-for tap water, soil, and soil gas, assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.		

5.8.2 Modifying the Exposure Duration from 30 Years to Six Years for Phase II Residences Only

The 30-year residential exposure duration was a critical parameter in the SRE and a sensitivity analysis was performed by modifying the exposure duration and recording the impact on the overall risk management decisions. The box presented below presents the results of changing the exposure duration from 30-years to six-years for Phase II residences. The results show that the total number of residences that would be Unacceptable for tap water (via ingestion+inhalation), soil, and soil gas decreased from 88 to 73 using the six-year exposure duration. The total number of residences that would be Unacceptable for tap water (via Inhalation-only), soil, and soil gas decreased from 46 to 24 when using the six-year exposure duration. The impact of changing the exposure duration to the shorter period would decrease the number of Unacceptable residences by approximately 17% based on tap water (ingestion+inhalation), soil, and soil gas scenario and 48% based on tap water (inhalation-only), soil, and soil gas scenario.

Sensitivity Analysis of Changing the Exposure Duration from 30 Years to Six Years for Phase II Residences Only

Sensitivity Analysis	Number of Unacceptable Residences Ingestion+Inhalation ¹	Number of Unacceptable Residences Inhalation Only ²
Base Case Evaluated in SRE (Exposure Duration = 30 Years)	88	46
Changed Exposure Duration from 30 Years to Six Years	73	24
Notes: ¹ Ingestion+Inhalation exposure scenario for residences based on the Total Cumulative EF-for tap water, soil, and soil gas, assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice. ² Inhalation-Only exposure scenario for residences based on the Total Cumulative EF-for tap water, soil, and soil gas, assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.		

5.8.3 Changing the VAF from 0.1 to 0.01 and Modifying the Exposure Duration from 30 Years to Six Years for Phase II Residences Only

The box presented below shows the results of changing the VAF from 0.1 to 0.01 and changing the exposure duration from 30-years to six-years for Phase II residences. The results show that the total number of residences that would be Unacceptable for tap water (via ingestion+inhalation), soil, and soil gas decreased from 88 to 64 when using a VAF of 0.01 and a six-year exposure duration. The total number of residences that would be Unacceptable for tap water (via inhalation-only), soil, and soil gas decreased from 46 to 18 when using a VAF of 0.01 and the six-year exposure duration. The impact of changing the VAF to 0.01 and the exposure duration to the shorter period would decrease the number of Unacceptable residences by approximately 27% based on tap water (ingestion+inhalation), soil, and soil gas scenario and 61% based on tap water (inhalation-only), soil, and soil gas scenario.

Sensitivity Analysis of Changing the VAF from 0.1 to 0.01 and Changing the Exposure Duration from 30 Years to Six Years for Phase II Residences Only

Sensitivity Analysis	Number of Unacceptable Residences Ingestion+Inhalation ¹	Number of Unacceptable Residences Inhalation Only ²
Base Case Evaluated in SRE (VAF = 0.1 & Exposure Duration = 30 Years)	88	46
Changed VAF from 0.1 to 0.01 & Changed Exposure Duration from 30 Years to Six Years	64	18
Notes:		
¹ Ingestion+Inhalation exposure scenario for residences based on the Total Cumulative EF-for tap water, soil, and soil gas, assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.		
² Inhalation-Only exposure scenario for residences based on the Total Cumulative EF-for tap water, soil, and soil gas, assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.		

5.8.4 Removing the Multi-Story VAF for Phase II Residences Only

The box presented below shows the results of removing the multi-story VAFs from the risk calculations. Multi-story VAFs were incorporated into the soil gas risk calculations if a residence had a subsurface ventilated garage or apartment-type dwelling where the resident lived above the ground floor of the structure (i.e., the resident lived on the second floor or higher, assuming that the first floor is the ground floor of the building)⁴¹. The purpose of this sensitivity analysis is to present the spatial distribution of locations where subsurface contamination in soil and/or groundwater (that could adversely impact indoor air concentrations) may be located throughout study areas and the impact that the multi-story VAFs have on total risk calculations. Figure 4-30 presents soil gas cumulative risk results without the use of the multi-story VAF for Phase II residences. The total number of residences that would be Unacceptable for soil gas increases from 32 to 55 when the multi-story VAF is not included in the risk calculations. The total number of residences that would be Unacceptable for tap water (via ingestion+inhalation), soil, and soil gas increases from 88 to 105 when the multi-story VAF is not included in the risk calculations, see figure 4-30. The total number of residences that would be Unacceptable for tap water (via inhalation-only), soil, and soil gas increases from 46 to 69 when the multi-story VAF is not included in the risk calculations, see figure 4-31. The impact of removing the multi-story VAF would increase the number of Unacceptable residence by approximately 19% based on tap water (ingestion+inhalation), soil, and soil gas scenario and 50% based on tap water (inhalation-only), soil, and soil gas scenario.

Sensitivity Analysis of Removing the Multi-Story VAF for Phase II Residences Only⁴²

Sensitivity Analysis	Number of Unacceptable Residences based on Soil Gas Only	Number of Unacceptable Residences Ingestion+Inhalation ¹	Number of Unacceptable Residences Inhalation Only ²
Base Case Evaluated in SRE (VAF = 0.1, Exposure Duration = 30 Years, & Multi-Story VAF Applied)	32	88	46
Removed Multi-Story VAF from Soil Gas Risk Calculation	55	105	69
Notes:			
¹ Ingestion+Inhalation exposure scenario for residences based on the Total Cumulative EF-for tap water, soil, and soil gas, assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.			
² Inhalation-Only exposure scenario for residences based on the Total Cumulative EF-for tap water, soil, and soil gas, assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.			

⁴¹ Multi-story attenuation factors were assessed and supplied by Tetra Tech NUS, as described in Appendix B.

⁴² Multi-story VAFs only apply to Phase II locations, see Table 4-3.

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Tables

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Table 2-1: Number of Residences Sampled by Study Area and by Sampling Event

Sampling Event	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total
Phase I	21	8	5	3	32	13	7	39	2	130
Pre-Lease	83	6	2	4	63	27	17	37	1	240
500 Ft Step-Out	0	0	0	0	0	0	0	11	0	11
1,500 Ft Step-Out	0	0	0	0	0	0	0	25	0	25
Phase II	30	22	14	14	33	30	24	34	8	209
Total:	134	36	21	21	128	70	48	146	11	615

Notes:

Six hundred fifteen samples were collected from 543 residences during the PHE. Seventy-two of the residences were sampled (and re-sampled) during multiple sampling events (for a total of 615 samples). In most cases, the 72 residences were only re-sampled for media that were not sampled during previous sampling events.

Table 2-2: Number of Samples Collected by Medium at U.S. Government-Related Facilities

Facility (Study Area)	Tap Water		Irrigation Water		Soil		Soil Gas ²		Indoor Air		Ambient Air ³	
	Phase I	Phase II	Phase I	Phase II	Phase I	Phase II	Phase I	Phase II	Phase I	Phase II	Phase I	Phase II
Parco Artimide (5)	15	0	0	0	10	0	10	0	0	0	0	50
Parco Eva (7)	10	0	0	0	12	0	10	3	0	0	5	45
Parco Le Ginestre (9)	13	0	1	0	11	0	9	2	0	0	5	45
NAVFAC-Leased Homes (1)	9	0	0	0	6	0	6	0	0	0	0	50
Gricignano Support Site (6)	11	0	9	0	10	0	0	22	0	1	5	45
Capodichino (3)	10	0	1	0	10	0	10	17	0	5	5	45
Lago Patria Receiver Site (5)	3	0	0	0	0	0	0	0	0	0	5	45
Carney Park ¹ (1)	3	0	2	0	10	0	0	0	0	0	5	45
JFC NATO Site (1)	3	0	0	0	9	0	0	0	0	0	5	45
U.S. Consulate (2)	4	0	0	0	1	0	0	0	0	0	5	45
Total Number of Collected Samples:	81	0	13	0	79	0	45	44	0	6	40	460

Notes:
¹This facility is located in Study Area 1 but was used to evaluate ambient air in Study Area 4.

²All shallow soil gas samples collected during Phase I were passive soil gas samples (i.e., Gore-Sorber® samples). Phase II shallow and sub-slab soil gas samples were collected using SUMMA canisters in accordance with USEPA Method TO-15.

³Number of samples collected for ambient air are approximate because not all analytical classes (e.g., SVOCs, VOCs, pesticides, etc.) were analyzed in every sample. Approximately five ambient air samples were collected from the U.S. Government-leased Villa in Study Area 8 during Phase I. Approximately 45 air samples were collected from the U.S. Government-leased Villa in Area 8 during Phase II.

Table 2-3: 2,3,7,8-Tetrachlorodibenzo-p-dioxin Toxicity Equivalency Factors

CAS Number	Constituent	2,3,7,8-TCDD Toxicity Equivalency Factor
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.01
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.01
39227-28-6	1,2,3,4,7,8-HxCDD	0.1
70648-26-9	1,2,3,4,7,8-HxCDF	0.1
55673-89-7	1,2,3,4,7,8,9-HpCDF	0.01
57653-85-7	1,2,3,6,7,8-HxCDD	0.1
57117-44-9	1,2,3,6,7,8-HxCDF	0.1
40321-76-4	1,2,3,7,8-PeCDD	1.0
57117-41-6	1,2,3,7,8-PeCDF	0.03
19408-74-3	1,2,3,7,8,9-HxCDD	0.1
72918-21-9	1,2,3,7,8,9-HxCDF	0.1
60851-34-5	2,3,4,6,7,8-HxCDF	0.1
57117-31-4	2,3,4,7,8-PeCDF	0.3
1746-01-6	2,3,7,8-TCDD	1
51207-31-9	2,3,7,8-TCDF	0.1
3268-87-9	1,2,3,4,6,7,8,9-OCDD	0.0003
39001-02-0	1,2,3,4,6,7,8,9-OCDF	0.0003
37871-00-4	TOTAL HpCDD	0
38998-75-3	TOTAL HpCDF	0
34465-46-8	TOTAL HxCDD	0
55684-94-1	TOTAL HxCDF	0
36088-22-9	TOTAL PeCDD	0
30402-15-4	TOTAL PeCDF	0
41903-57-5	TOTAL TCDD	0
55722-27-5	TOTAL TCDF	0

Notes:

Source: Van den Berg, M., et al. (2006). The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds. *Toxicological Sciences* 93(2), 223–241 (2006).

Table 2-4: Benzo(a)pyrene Toxicity Equivalency Factors

CAS Number	Chemical	Benzo(a)pyrene Toxicity Equivalency Factor
50-32-8	Benzo(a)pyrene	1.0
56-55-3	Benzo(a)anthracene	0.1
205-99-2	Benzo(b)fluoranthene	0.1
207-08-9	Benzo(k)fluoranthene	0.01
218-01-9	Chrysene	0.001
53-70-3	Dibenz(a,h)anthracene	1.0
193-39-5	Indeno(1,2,3-cd)pyrene	0.1

Notes:

Source: Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment, Washington, DC, EPA/600/R-93/089 (NTIS PB94116571).

Table 2-5: Constituents Detected by Medium

CAS Number	Constituent	Class	Medium			
			Soil	Soil Gas	Tap Water	Ambient Air
75-07-0	Acetaldehyde	Aldehydes	--	Yes ¹	--	Yes ¹
100-52-7	Benzaldehyde	Aldehydes	--	--	--	Yes
123-72-8	Butyraldehyde	Aldehydes	--	--	--	Yes
4170-30-3	Crotonaldehyde	Aldehydes	--	--	--	Yes
50-00-0	Formaldehyde	Aldehydes	--	--	--	Yes
66-25-1	Hexaldehyde	Aldehydes	--	--	--	Yes
620-23-5	M-tolualdehyde	Aldehydes	--	--	--	Yes
78-85-3	Methacrylaldehyde	Aldehydes	--	--	--	Yes
110-62-3	N-valeraldehyde	Aldehydes	--	--	--	Yes
123-38-6	Propionaldehyde	Aldehydes	--	--	--	Yes
111-65-9	Octane	Alkane Hydrocarbon	--	--	--	--
629-62-9	Pentadecane	Alkane Hydrocarbon	--	Yes	--	--
629-50-5	Tridecane	Alkane Hydrocarbon	--	Yes	--	--
1120-21-4	Undecane	Alkane Hydrocarbon	--	Yes	--	--
16887-00-6	Chloride	Anion	--	--	Yes	--
57-12-5	Cyanide	Anion	Yes	--	Yes	--
16984-48-8	Fluoride	Anion	--	--	Yes	--
14797-55-8	Nitrate (measured as NO ₃ -)	Anion	--	--	Yes	--
14797-65-0	Nitrite (measured as NO ₂ -)	Anion	--	--	Yes	--
14265-44-2	Phosphate	Anion	--	--	Yes	--
14808-79-8	Sulfate	Anion	--	--	Yes	--
7440-70-2	Calcium	Conventional	--	--	Yes	--
7439-95-4	Magnesium	Conventional	--	--	Yes	--
7440-09-7	Potassium	Conventional	--	--	Yes	--
7440-23-5	Sodium	Conventional	--	--	Yes	--
DIOXIN-TEQ	Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	Dioxins/Furans	Yes	--	Yes	Yes
PTCCAS_0016	Chlorine (as Cl ₂)	Disinfectants	--	--	Yes	--
TOT-THMs	Total Trihalomethanes	Disinfection Byproducts	--	--	Yes	--
TTNUS504	Conductivity	Field Parameters	--	--	Yes	--
PTCCAS_0022	Dissolved Oxygen	Field Parameters	--	--	Yes	--
PTCCAS_0021	Oxidation Reduction Potential	Field Parameters	--	--	Yes	--

Table 2-5: Constituents Detected by Medium

CAS Number	Constituent	Class	Medium			
			Soil	Soil Gas	Tap Water	Ambient Air
PTCCAS_0019	pH	Field Parameters	--	--	Yes	--
PTCCAS_0023	Salinity	Field Parameters	--	--	Yes	--
PTCCAS_0024	Specific Conductance	Field Parameters	--	--	Yes	--
PTCCAS_0027	Temperature	Field Parameters	--	--	Yes	--
PTCCAS_0025	Total Dissolved Solids	Field Parameters	--	--	Yes	--
PTCCAS_0031	Total Solids	Field Parameters	Yes	--	--	--
PTCCAS_0020	Turbidity	Field Parameters	--	--	Yes	--
7429-90-5	Aluminum	Inorganics	Yes	--	Yes	Yes
7440-36-0	Antimony	Inorganics	Yes	--	Yes	Yes
7440-38-2	Arsenic	Inorganics	Yes	--	Yes	Yes
7440-39-3	Barium	Inorganics	Yes	--	Yes	Yes
7440-41-7	Beryllium	Inorganics	Yes	--	Yes	Yes
7440-43-9F	Cadmium (Diet)	Inorganics	Yes	--	--	Yes
7440-43-9W	Cadmium (Water)	Inorganics	--	--	Yes	--
7440-47-3	Chromium	Inorganics	Yes	--	Yes	Yes
7440-48-4	Cobalt	Inorganics	Yes	--	Yes	Yes
7440-50-8	Copper	Inorganics	Yes	--	Yes	Yes
7439-89-6	Iron	Inorganics	Yes	--	Yes	--
7439-92-1	Lead	Inorganics	Yes	--	Yes	Yes
7439-96-5F	Manganese (Diet)	Inorganics	Yes	--	--	Yes
7439-96-5W	Manganese (Water)	Inorganics	--	--	Yes	--
7439-97-6	Mercury	Inorganics	Yes	--	Yes	Yes
7440-02-0	Nickel	Inorganics	Yes	--	Yes	--
7782-49-2	Selenium	Inorganics	Yes	--	Yes	--
7440-22-4	Silver	Inorganics	Yes	--	Yes	--
7440-28-0	Thallium	Inorganics	Yes	--	Yes	Yes
7440-31-5	Tin	Inorganics	Yes	--	Yes	Yes
7440-62-2	Vanadium	Inorganics	Yes	--	Yes	Yes
7440-66-6	Zinc	Inorganics	Yes	--	Yes	--
PTCCAS_0009	Fecal Coliform	Microorganisms	--	--	Yes	--
PTCCAS_0017	Fecal Steptococcus	Microorganisms	--	--	Yes	--

Table 2-5: Constituents Detected by Medium

CAS Number	Constituent	Class	Medium			
			Soil	Soil Gas	Tap Water	Ambient Air
PTCCAS_0005	Heterotrophic plate count	Microorganisms	--	--	Yes	--
PTCCAS_0007	Total Coliforms	Microorganisms	--	--	Yes	--
PTCCAS_0032	Gravimetrics-PM ₁₀	PM ₁₀	--	--	--	Yes
72-54-8	4,4-DDD	Pesticides	--	--	--	Yes
72-55-9	4,4-DDE	Pesticides	Yes	--	--	--
50-29-3	4,4-DDT	Pesticides	Yes	--	--	--
309-00-2	Aldrin	Pesticides	--	--	--	--
319-84-6	alpha-BHC	Pesticides	Yes	--	--	--
5103-71-9	alpha-Chlordane	Pesticides	Yes	--	--	Yes
319-85-7	beta-BHC	Pesticides	--	--	--	--
57-74-9	Chlordane	Pesticides	--	--	--	--
319-86-8	delta-BHC	Pesticides	--	--	--	--
60-57-1	Dieldrin	Pesticides	--	--	--	Yes
959-98-8	Endosulfan I	Pesticides	Yes	--	--	Yes
33213-65-9	Endosulfan II	Pesticides	Yes	--	--	--
1031-07-8	Endosulfan Sulfate	Pesticides	Yes	--	--	Yes
72-20-8	Endrin	Pesticides	Yes	--	--	--
7421-93-4	Endrin Aldehyde	Pesticides	--	--	--	--
58-89-9	gamma-BHC (Lindane)	Pesticides	Yes	--	--	--
5103-74-2	gamma-Chlordane	Pesticides	Yes	--	--	--
76-44-8	Heptachlor	Pesticides	--	--	--	--
1024-57-3	Heptachlor Epoxide	Pesticides	Yes	--	--	--
72-43-5	Methoxychlor	Pesticides	--	--	--	--
8001-35-2	Toxaphene	Pesticides	--	--	--	--
12674-11-2	Aroclor 1016	Polychlorinated bi-phenyls	--	--	--	--
11104-28-2	Aroclor 1221	Polychlorinated bi-phenyls	--	--	--	--
11141-16-5	Aroclor 1232	Polychlorinated bi-phenyls	--	--	--	--
53469-21-9	Aroclor 1242	Polychlorinated bi-phenyls	--	--	--	--
12672-29-6	Aroclor 1248	Polychlorinated bi-phenyls	--	--	--	--
11097-69-1	Aroclor 1254	Polychlorinated bi-phenyls	--	--	--	--
11096-82-5	Aroclor 1260	Polychlorinated bi-phenyls	Yes	--	--	--

Table 2-5: Constituents Detected by Medium

CAS Number	Constituent	Class	Medium			
			Soil	Soil Gas	Tap Water	Ambient Air
PTCCAS_0029	Aroclor-1016/1260	Polychlorinated bi-phenyls	--	--	--	--
PTCCAS_0001	Alpha Particles	Radionuclides	--	--	Yes	--
PTCCAS_0002	Beta Particles and Photon Emitters	Radionuclides	--	--	Yes	--
15262-20-1	Radium-228	Radionuclides	--	--	Yes	--
10098-97-2	Strontium-90	Radionuclides	--	--	--	--
7440-61-1	Uranium	Radionuclides	--	--	Yes	--
92-52-4	1,1'-Biphenyl	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
95-94-3	1,2,4,5-Tetrachlorobenzene	Semi-Volatile Organic Compounds	Yes	--	--	--
58-90-2	2,3,4,6-Tetrachlorophenol	Semi-Volatile Organic Compounds	--	--	Yes	--
95-95-4	2,4,5-Trichlorophenol	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
88-06-2	2,4,6-Trichlorophenol	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
120-83-2	2,4-Dichlorophenol	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
105-67-9	2,4-Dimethylphenol	Semi-Volatile Organic Compounds	Yes	--	--	Yes
51-28-5	2,4-Dinitrophenol	Semi-Volatile Organic Compounds	--	--	--	--
121-14-2	2,4-Dinitrotoluene	Semi-Volatile Organic Compounds	--	--	--	--
87-65-0	2,6-Dichlorophenol	Semi-Volatile Organic Compounds	Yes	--	--	Yes
606-20-2	2,6-Dinitrotoluene	Semi-Volatile Organic Compounds	--	--	Yes	Yes
91-58-7	2-Chloronaphthalene	Semi-Volatile Organic Compounds	Yes	--	--	Yes
95-57-8	2-Chlorophenol	Semi-Volatile Organic Compounds	Yes	--	--	--
91-57-6	2-Methylnaphthalene	Semi-Volatile Organic Compounds	Yes	Yes	Yes	Yes
95-48-7	2-Methylphenol (o-Cresol)	Semi-Volatile Organic Compounds	Yes	--	--	Yes
88-75-5	2-Nitrophenol	Semi-Volatile Organic Compounds	Yes	--	--	Yes
PTCCAS_0026	3&4-Methylphenol	Semi-Volatile Organic Compounds	Yes	--	--	Yes
99-09-2	3-Nitroaniline	Semi-Volatile Organic Compounds	--	--	--	Yes
534-52-1	4,6-Dinitro-2-Methylphenol	Semi-Volatile Organic Compounds	--	--	--	--
101-55-3	4-Bromophenylphenylether	Semi-Volatile Organic Compounds	Yes	--	--	--
59-50-7	4-Chloro-3-Methylphenol	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
106-47-8	4-Chloroaniline	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
106-44-5	4-Methylphenol (p-Cresol)	Semi-Volatile Organic Compounds	--	--	--	--
100-01-6	4-Nitroaniline	Semi-Volatile Organic Compounds	--	--	--	--
100-02-7	4-Nitrophenol	Semi-Volatile Organic Compounds	--	--	--	Yes

Table 2-5: Constituents Detected by Medium

CAS Number	Constituent	Class	Medium			
			Soil	Soil Gas	Tap Water	Ambient Air
83-32-9	Acenaphthene	Semi-Volatile Organic Compounds	Yes	Yes	Yes	Yes
208-96-8	Acenaphthylene	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
62-53-3	Aniline	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
120-12-7	Anthracene	Semi-Volatile Organic Compounds	Yes	--	--	Yes
1912-24-9	Atrazine	Semi-Volatile Organic Compounds	--	--	--	--
56-55-3	Benzo(a)anthracene	Semi-Volatile Organic Compounds	Yes	--	--	Yes
50-32-8	Benzo(a)pyrene	Semi-Volatile Organic Compounds	Yes	--	--	Yes
205-99-2	Benzo(b)fluoranthene	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
191-24-2	Benzo(g,h,i)perylene	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
207-08-9	Benzo(k)fluoranthene	Semi-Volatile Organic Compounds	Yes	--	--	Yes
117-81-7	Bis(2-ethylhexyl)phthalate	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
85-68-7	Butylbenzylphthalate	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
86-74-8	Carbazole	Semi-Volatile Organic Compounds	Yes	--	--	Yes
218-01-9	Chrysene	Semi-Volatile Organic Compounds	Yes	--	--	Yes
84-74-2	Di-n-butylphthalate	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
117-84-0	Di-n-octylphthalate	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
53-70-3	Dibenzo(a,h)anthracene	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
132-64-9	Dibenzofuran	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
84-66-2	Diethylphthalate	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
131-11-3	Dimethylphthalate	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
122-39-4	Diphenylamine	Semi-Volatile Organic Compounds	--	--	--	Yes
206-44-0	Fluoranthene	Semi-Volatile Organic Compounds	Yes	--	--	Yes
86-73-7	Fluorene	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
118-74-1	Hexachlorobenzene	Semi-Volatile Organic Compounds	--	--	--	--
87-68-3	Hexachlorobutadiene	Semi-Volatile Organic Compounds	Yes	Yes	Yes	Yes
77-47-4	Hexachlorocyclopentadiene	Semi-Volatile Organic Compounds	--	--	--	--
67-72-1	Hexachloroethane	Semi-Volatile Organic Compounds	Yes	Yes	Yes	Yes
193-39-5	Indeno(1,2,3-c,d)pyrene	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
91-20-3	Naphthalene	Semi-Volatile Organic Compounds	Yes	Yes ¹	Yes	Yes ¹
98-95-3	Nitrobenzene	Semi-Volatile Organic Compounds	Yes	--	--	Yes
95-53-4	o-Toluidine	Semi-Volatile Organic Compounds	Yes	--	--	Yes

Table 2-5: Constituents Detected by Medium

CAS Number	Constituent	Class	Medium			
			Soil	Soil Gas	Tap Water	Ambient Air
608-93-5	Pentachlorobenzene	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
82-68-8	Pentachloronitrobenzene	Semi-Volatile Organic Compounds	--	--	--	--
87-86-5	Pentachlorophenol	Semi-Volatile Organic Compounds	--	--	Yes	--
85-01-8	Phenanthrene	Semi-Volatile Organic Compounds	Yes	Yes	--	Yes
108-95-2	Phenol	Semi-Volatile Organic Compounds	Yes	--	--	Yes
129-00-0	Pyrene	Semi-Volatile Organic Compounds	Yes	--	--	Yes
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	Semi-Volatile Organic Compounds	Yes	--	Yes	Yes
PTCCAS_0030	TPH (C03-C20)	Total Petroleum Hydrocarbon	--	Yes	--	--
630-20-6	1,1,1,2-Tetrachloroethane	Volatile Organic Compounds	Yes	Yes	--	Yes
71-55-6	1,1,1-Trichloroethane	Volatile Organic Compounds	--	Yes	Yes	Yes
79-34-5	1,1,2,2-Tetrachloroethane	Volatile Organic Compounds	Yes	Yes	--	Yes
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	Volatile Organic Compounds	Yes	Yes	--	Yes
79-00-5	1,1,2-Trichloroethane	Volatile Organic Compounds	Yes	Yes	--	Yes
75-34-3	1,1-Dichloroethane	Volatile Organic Compounds	--	Yes	Yes	Yes
75-35-4	1,1-Dichloroethene	Volatile Organic Compounds	--	Yes	Yes	Yes
87-61-6	1,2,3-Trichlorobenzene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
96-18-4	1,2,3-Trichloropropane	Volatile Organic Compounds	Yes	Yes	--	Yes
120-82-1	1,2,4-Trichlorobenzene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
95-63-6	1,2,4-Trimethylbenzene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
96-12-8	1,2-Dibromo-3-Chloropropane	Volatile Organic Compounds	--	Yes	--	Yes
106-93-4	1,2-Dibromoethane	Volatile Organic Compounds	--	Yes	--	Yes
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	Volatile Organic Compounds	--	Yes	--	Yes
95-50-1	1,2-Dichlorobenzene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
107-06-2	1,2-Dichloroethane	Volatile Organic Compounds	Yes	Yes	--	Yes
78-87-5	1,2-Dichloropropane	Volatile Organic Compounds	Yes	Yes	Yes	Yes
108-67-8	1,3,5-Trimethylbenzene	Volatile Organic Compounds	Yes	Yes	--	Yes
106-99-0	1,3-Butadiene	Volatile Organic Compounds	--	Yes	--	Yes
541-73-1	1,3-Dichlorobenzene	Volatile Organic Compounds	Yes	Yes	--	Yes
142-28-9	1,3-Dichloropropane	Volatile Organic Compounds	Yes	--	--	--
106-46-7	1,4-Dichlorobenzene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
594-20-7	2,2-Dichloropropane	Volatile Organic Compounds	Yes	--	--	--

Table 2-5: Constituents Detected by Medium

CAS Number	Constituent	Class	Medium			
			Soil	Soil Gas	Tap Water	Ambient Air
78-93-3	2-Butanone (methyl ethyl ketone)	Volatile Organic Compounds	Yes	Yes	--	Yes
95-49-8	2-Chlorotoluene	Volatile Organic Compounds	Yes	--	--	--
591-78-6	2-Hexanone	Volatile Organic Compounds	Yes	--	--	--
106-43-4	4-Chlorotoluene	Volatile Organic Compounds	Yes	--	--	--
99-87-6	4-Isopropyltoluene	Volatile Organic Compounds	Yes	--	--	--
108-10-1	4-Methyl-2-Pentanone	Volatile Organic Compounds	Yes	--	Yes	--
67-64-1	Acetone	Volatile Organic Compounds	Yes	Yes	Yes	Yes
75-05-8	Acetonitrile	Volatile Organic Compounds	--	Yes	--	Yes
98-86-2	Acetophenone	Volatile Organic Compounds	--	Yes	--	Yes
107-02-8	Acrolein	Volatile Organic Compounds	--	Yes	--	Yes
107-13-1	Acrylonitrile	Volatile Organic Compounds	--	Yes	--	Yes
71-43-2	Benzene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
111-44-4	Bis(2-Chloroethyl)ether	Volatile Organic Compounds	--	--	--	--
74-97-5	Bromochloromethane	Volatile Organic Compounds	--	--	--	--
75-27-4	Bromodichloromethane	Volatile Organic Compounds	Yes	Yes	Yes	Yes
75-25-2	Bromoform	Volatile Organic Compounds	--	Yes	Yes	Yes
74-83-9	Bromomethane	Volatile Organic Compounds	Yes	Yes	Yes	Yes
75-15-0	Carbon Disulfide	Volatile Organic Compounds	--	Yes	--	Yes
56-23-5	Carbon Tetrachloride	Volatile Organic Compounds	--	Yes	Yes	Yes
108-90-7	Chlorobenzene	Volatile Organic Compounds	Yes	Yes	--	Yes
75-00-3	Chloroethane	Volatile Organic Compounds	--	Yes	--	Yes
67-66-3	Chloroform	Volatile Organic Compounds	Yes	Yes	Yes	Yes
74-87-3	Chloromethane	Volatile Organic Compounds	Yes	Yes	Yes	Yes
156-59-2	cis-1,2-Dichloroethene	Volatile Organic Compounds	--	Yes	Yes	Yes
10061-01-5	cis-1,3-Dichloropropene	Volatile Organic Compounds	Yes	Yes	--	Yes
110-82-7	Cyclohexane	Volatile Organic Compounds	--	Yes	--	Yes
124-48-1	Dibromochloromethane	Volatile Organic Compounds	Yes	Yes	Yes	Yes
74-95-3	Dibromomethane	Volatile Organic Compounds	--	Yes	--	Yes
75-71-8	Dichlorodifluoromethane (Freon 12)	Volatile Organic Compounds	Yes	Yes	Yes	Yes
100-41-4	Ethylbenzene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
110-54-3	Hexane	Volatile Organic Compounds	--	Yes	--	Yes

Table 2-5: Constituents Detected by Medium

CAS Number	Constituent	Class	Medium			
			Soil	Soil Gas	Tap Water	Ambient Air
78-83-1	Isobutyl Alcohol	Volatile Organic Compounds	--	Yes	--	Yes
98-82-8	Isopropylbenzene	Volatile Organic Compounds	Yes	Yes	--	Yes
PTCCAS_0018	m,p-Xylenes	Volatile Organic Compounds	Yes	Yes	Yes	Yes
79-20-9	Methyl Acetate	Volatile Organic Compounds	--	Yes	--	Yes
1634-04-4	Methyl tert-Butyl Ether	Volatile Organic Compounds	--	Yes	Yes	Yes
108-87-2	Methylcyclohexane	Volatile Organic Compounds	--	Yes	--	Yes
75-09-2	Methylene Chloride	Volatile Organic Compounds	Yes	Yes	Yes	Yes
104-51-8	n-Butylbenzene	Volatile Organic Compounds	Yes	--	Yes	--
103-65-1	n-Propylbenzene	Volatile Organic Compounds	Yes	--	Yes	--
95-47-6	o-Xylene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
76-01-7	Pentachloroethane	Volatile Organic Compounds	--	Yes	--	Yes
135-98-8	sec-Butylbenzene	Volatile Organic Compounds	Yes	--	Yes	--
100-42-5	Styrene	Volatile Organic Compounds	Yes	Yes	--	Yes
98-06-6	tert-Butylbenzene	Volatile Organic Compounds	Yes	--	--	--
127-18-4	Tetrachloroethene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
108-88-3	Toluene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
156-60-5	trans-1,2-Dichloroethene	Volatile Organic Compounds	--	Yes	Yes	Yes
10061-02-6	trans-1,3-Dichloropropene	Volatile Organic Compounds	--	Yes	--	Yes
110-57-6	Trans-1,4-Dichloro-2-Butene	Volatile Organic Compounds	--	Yes	--	--
79-01-6	Trichloroethene	Volatile Organic Compounds	Yes	Yes	Yes	Yes
75-69-4	Trichlorofluoromethane	Volatile Organic Compounds	--	Yes	Yes	Yes
108-05-4	Vinyl Acetate	Volatile Organic Compounds	--	Yes	--	Yes
75-01-4	Vinyl Chloride	Volatile Organic Compounds	--	Yes	--	Yes
1330-20-7	Xylenes, Total	Volatile Organic Compounds	Yes	Yes	Yes	Yes

Notes:

-- = Constituent was not detected

¹Inconsistencies between the results obtained from two methods (TO-13A and TO-15 for naphthalene and TO-11 and TO-15 for acetaldehyde) led to further research and Tetra Tech determined that the active soil gas (and select ambient air) data for naphthalene and acetaldehyde analyzed by the USEPA Method TO-15 were not suitable for inclusion in the Screening Risk Evaluation. See Section 2.1.

Table 3-1: USEPA RSLs and USMCLs for Tap Water

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/L)						USMCL (mg/L)
	Cancer Risk Goal = 1E-06			Noncancer HI Goal = 1			
	Total	Ingestion	Inhalation	Total	Ingestion	Inhalation	
Aldehydes							
Acetaldehyde	0.00221	0.0188		0.00221		0.0188	
Benzaldehyde		3.65			3.65		
Butyraldehyde							
Crotonaldehyde							
Formaldehyde		7.3			7.3		
Hexaldehyde							
Methacrylaldehyde							
M-tolualdehyde							
N-valeraldehyde							
Propionaldehyde		0.0167				0.0167	
Alkane Hydrocarbon							
Octane							
Pentadecane							
Tridecane							
Undecane							
Anions							
Chloride							
Cyanide		0.73			0.73		0.2
Fluoride		1.46			1.46		4
Nitrate (measured as NO3-)		58.4			58.4		44.3
Nitrite (measured as NO2-)		3.65			3.65		3.29
Phosphate							
Sulfate							
Dioxins/Furans							
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	5.17E-10	3.65E-08	5.17E-10		3.65E-08		0.0000003
Disinfection Byproducts							
Chlorine (as Cl2)		3.65			3.65		4
Total Trihalomethanes							0.08
Inorganics							
Aluminum		36.5			36.5		
Antimony		0.0146			0.0146		0.006
Arsenic	0.0000448	0.011	0.0000448		0.011		0.01
Barium		7.3			7.3		2
Beryllium		0.073			0.073		0.004
Cadmium (Diet)							
Cadmium (Water)		0.0183			0.0183		0.005
Chromium							0.1
Cobalt		0.011			0.011		
Copper		1.46			1.46		
Iron		25.6			25.6		
Lead		0.02			0.02		
Manganese (Diet)							
Manganese (Water)		0.876			0.876		
Mercury		0.000565			0.00584	0.000626	0.002
Nickel		0.73			0.73		
Selenium		0.183			0.183		0.05
Silver		0.183			0.183		
Thallium							0.002
Tin		21.9			21.9		
Vanadium		0.00256			0.00256		
Zinc		11			11		
Microorganisms							
Fecal Coliform							0
Fecal Streptococcus							
Heterotrophic Plate Count							
Total Coliforms							0
Pesticides							
4,4-DDD	0.00028		0.00028				
4,4-DDE	0.000198		0.000198				
4,4-DDT	0.000198	0.0183	0.000198		0.0183		
Aldrin	0.00000396	0.0011	0.00000396		0.0011		
alpha-BHC	0.0000107	0.292	0.0000107		0.292		
alpha-Chlordane	0.000192	0.0183	0.000192		0.0183		0.002
beta-BHC	0.0000374		0.0000374				
Chlordane	0.000192	0.0183	0.000192		0.0183		0.002
delta-BHC							

Table 3-1: USEPA RSLs and USMCLs for Tap Water

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/L)						USMCL (mg/L)
	Cancer Risk Goal = 1E-06			Noncancer HI Goal = 1			
	Total	Ingestion	Inhalation	Total	Ingestion	Inhalation	
Dieldrin	0.0000042	0.00183	0.0000042		0.00183		
Endosulfan I		0.219			0.219		
Endosulfan II		0.219			0.219		
Endosulfan Sulfate		0.219			0.219		
Endrin		0.011			0.011		0.002
Endrin Aldehyde		0.011			0.011		
gamma-BHC (Lindane)	0.0000611	0.011	0.0000611		0.011		0.0002
gamma-Chlordane	0.000192	0.0183	0.000192		0.0183		0.002
Heptachlor	0.0000149	0.0183	0.0000149		0.0183		0.0004
Heptachlor Epoxide	0.00000739	0.000475	0.00000739		0.000475		0.0002
Methoxychlor		0.183			0.183		0.04
Toxaphene	0.0000611		0.0000611				0.003
PM₁₀							
Gravimetrics-PM ₁₀							
Polychlorinated bi-phenyls							
Aroclor 1016	0.000961	0.00256	0.000961		0.00256		
Aroclor 1016/1260	0.0000336		0.0000336				
Aroclor 1221	0.0000068		0.0000336	0.00000852			
Aroclor 1232	0.0000068		0.0000336	0.00000852			
Aroclor 1242	0.0000336		0.0000336				
Aroclor 1248	0.0000336		0.0000336				
Aroclor 1254	0.0000336	0.00073	0.0000336		0.00073		
Aroclor 1260	0.0000336		0.0000336				
Radionuclides							
Alpha Particles							15
Beta Particles and Photon Emitters							50
Radium-228	0.0458		0.0458				5
Strontium-90	0.644		0.644				8
Uranium	0.00163	0.11	0.00163		0.11		0.03
Semi-Volatile Organic Compounds							
1,1'-Biphenyl		1.83			1.83		
1,2,4,5-Tetrachlorobenzene		0.011			0.011		
2,3,4,6-Tetrachlorophenol		1.1			1.1		
2,4,5-Trichlorophenol		3.65			3.65		
2,4,6-Trichlorophenol	0.00611	0.0365	0.00611		0.0365		
2,4-Dichlorophenol		0.11			0.11		
2,4-Dimethylphenol		0.73			0.73		
2,4-Dinitrophenol		0.073			0.073		
2,4-Dinitrotoluene	0.000217	0.073	0.000217		0.073		
2,6-Dichlorophenol							
2,6-Dinitrotoluene		0.0365			0.0365		
2-Chloronaphthalene		2.92			2.92		
2-Chlorophenol		0.183			0.183		
2-Methylnaphthalene		0.146			0.146		
2-Methylphenol (o-Cresol)		1.83			1.83		
2-Nitrophenol							
3&4-Methylphenol		0.183			0.183		
3-Methylphenol		1.83			1.83		
3-Nitroaniline							
4,6-Dinitro-2-Methylphenol		0.00365			0.00365		
4-Bromophenylphenylether							
4-Chloro-3-Methylphenol		3.65			3.65		
4-Chloroaniline	0.000336	0.146	0.000336		0.146		
4-Methylphenol (p-Cresol)		0.183			0.183		
4-Nitroaniline	0.00336	0.146	0.00336		0.146		
4-Nitrophenol							
Acenaphthene		2.19			2.19		
Acenaphthylene							
Aniline	0.0118	0.256	0.0118		0.256		
Anthracene		11			11		
Atrazine	0.000292	1.28	0.000292		1.28		0.003
Benzo(a)anthracene	0.0000295		0.0000295				
Benzo(a)pyrene	0.00000295		0.00000295				0.0002
Benzo(b)fluoranthene	0.0000295		0.0000295				
Benzo(g,h,i)perylene							
Benzo(k)fluoranthene	0.000295		0.000295				
Bis(2-ethylhexyl)phthalate	0.0048	0.73	0.0048		0.73		0.006

Table 3-1: USEPA RSLs and USMCLs for Tap Water

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/L)						USMCL (mg/L)
	Cancer Risk Goal = 1E-06			Noncancer HI Goal = 1			
	Total	Ingestion	Inhalation	Total	Ingestion	Inhalation	
Butylbenzylphthalate	0.0354	7.3	0.0354		7.3		
Carbazole							
Chrysene	0.00295		0.00295				
Dibenzo(a,h)anthracene	0.00000295		0.00000295				
Dibenzofuran		0.0365			0.0365		
Diethylphthalate		29.2			29.2		
Dimethylphthalate							
Di-n-butylphthalate		3.65			3.65		
Di-n-octylphthalate							
Diphenylamine		0.913			0.913		
Fluoranthene		1.46			1.46		
Fluorene		1.46			1.46		
Hexachlorobenzene	0.000042	0.0292	0.000042		0.0292		0.001
Hexachlorobutadiene	0.000862	0.0365	0.000862		0.0365		
Hexachlorocyclopentadiene		0.219			0.219		0.05
Hexachloroethane	0.0048	0.0365	0.0048		0.0365		
Indeno(1,2,3-c,d)pyrene	0.0000295		0.0000295				
Naphthalene	0.000143	0.0062		0.000143	0.73	0.00626	
Nitrobenzene	0.000122	0.0149		0.000122	0.073	0.0188	
o-Toluidine	0.000354		0.000354				
Pentachlorobenzene		0.0292			0.0292		
Pentachloronitrobenzene	0.000259	0.11	0.000259		0.11		
Pentachlorophenol	0.00056	1.1	0.00056		1.1		0.001
Phenanthrene							
Phenol		11			11		
Pyrene		1.1			1.1		
Total Carcinogenic PAHS (BaP TEQs)	0.00000295		0.00000295				0.0002
Total Petroleum Hydrocarbon							
Tph (c03-c20)							
Tph (c08-c40)							
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	0.000524	1.1	0.00259	0.000658	1.1		
1,1,1-Trichloroethane		9.13			73	10.4	0.2
1,1,2,2-Tetrachloroethane	0.0000671	0.146	0.000336	0.0000839	0.146		
1,1,2-Trichloro-1,1,2,2-trifluoroethane (Freon 113)		59.2			1100	62.6	
1,1,2-Trichloroethane	0.000242	0.146	0.00118	0.000304	0.146		0.005
1,1-Dichloroethane	0.00242	7.3	0.0118	0.00304	7.3		
1,1-Dichloroethene		0.34			1.83	0.417	0.007
1,2,3-Trichlorobenzene		0.0292			0.0292		
1,2,3-Trichloropropane	0.000000718	0.000623	0.000000718		0.146	0.000626	
1,2,4-Trichlorobenzene	0.00232	0.00412	0.00232		0.365	0.00417	0.07
1,2,4-Trimethylbenzene		0.0146				0.0146	
1,2-Dibromo-3-Chloropropane	0.000000316	0.000395	0.0000269	0.00000032	0.0073	0.000417	0.0002
1,2-Dibromoethane	0.00000653	0.0178	0.0000336	0.00000811	0.329	0.0188	0.00005
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)							
1,2-Dichlorobenzene		0.37			3.29	0.417	0.6
1,2-Dichloroethane	0.000149	0.638	0.000739	0.000187	0.73	5.07	0.005
1,2-Dichloropropane	0.000386	0.00832	0.00187	0.000487	3.29	0.00834	0.005
1,3,5-Trimethylbenzene		0.365			0.365		
1,3-Butadiene	0.0000176	0.00417	0.0000198	0.000162		0.00417	
1,3-Dichlorobenzene							
1,3-Dichloropropane		0.73			0.73		
1,4-Dichlorobenzene	0.000427	1.01	0.0125	0.000442	2.56	1.67	0.075
2,2-Dichloropropane							
2-Butanone (methyl ethyl ketone)		7.06			21.9	10.4	
2-Chlorotoluene		0.73			0.73		
2-Hexanone		0.0466			0.183	0.0626	
4-Chlorotoluene		2.56			2.56		
4-Isopropyltoluene							
4-Methyl-2-Pentanone		1.99			2.92	6.26	
Acetone		21.8			32.9	64.4	
Acetonitrile		0.125				0.125	
Acetophenone		3.65			3.65		
Acrolein		0.0000416			0.0183	0.0000417	
Acrylonitrile	0.0000454	0.00416	0.000125	0.0000716	1.46	0.00417	
Benzene	0.000413	0.0438	0.00122	0.000624	0.146	0.0626	0.005

Table 3-1: USEPA RSLs and USMCLs for Tap Water

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/L)						USMCL (mg/L)
	Cancer Risk Goal = 1E-06			Noncancer HI Goal = 1			
	Total	Ingestion	Inhalation	Total	Ingestion	Inhalation	
Bis(2-Chloroethyl)ether	0.0000119		0.0000611	0.0000147			
Bis(chloromethyl)ether	6.25E-08		0.000000306	7.85E-08			
Bromochloromethane							
Bromodichloromethane							
Bromoform							
Bromomethane		0.00866			0.0511	0.0104	
Carbon Disulfide		1.04			3.65	1.46	
Carbon Tetrachloride	0.000199	0.024	0.000517	0.000324	0.0256	0.394	0.005
Chlorobenzene		0.0913			0.73	0.104	0.1
Chloroethane		20.9				20.9	
Chloroform							
Chloromethane		0.188				0.188	
Chloroprene		0.0143			0.73	0.0146	
cis-1,2-Dichloroethene		0.365			0.365		0.07
cis-1,3-Dichloropropene							
Cyclohexane		12.5				12.5	
Dibromochloromethane							
Dibromomethane		0.00816			0.365	0.00834	
Dichlorodifluoromethane (Freon 12)		0.395			7.3	0.417	
Ethylbenzene	0.00148	1.33	0.00611	0.00195	3.65	2.09	0.7
Hexane		0.876			2.19	1.46	
Isobutyl Alcohol		11			11		
Isophorone	0.0708	7.3	0.0708		7.3		
Isopropylbenzene		0.679			3.65	0.834	
m,p-Xylenes		0.203			7.3	0.209	
Methyl Acetate		36.5			36.5		
Methyl tert-Butyl Ether	0.0125	6.26	0.0374	0.0187		6.26	
Methylcyclohexane							
Methylene Chloride	0.0048	1.09	0.00896	0.0104	2.19	2.17	0.005
n-Butylbenzene							
n-Propylbenzene		1.33			3.65	2.09	
o-Xylene		1.22			7.3	1.46	
Pentachloroethane	0.000747		0.000747				
sec-Butylbenzene							
Styrene		1.62			7.3	2.09	0.1
tert-Butylbenzene							
Tetrachloroethene	0.000108	0.222	0.000125	0.000825	0.365	0.566	0.005
Toluene		2.28			2.92	10.4	1
trans-1,2-Dichloroethene		0.107			0.73	0.125	0.1
trans-1,3-Dichloropropene							
Trans-1,4-Dichloro-2-Butene	0.00000116			0.00000116			
Trichloroethene	0.00201		0.0114	0.00243			0.005
Trichlorofluoromethane		1.29			11	1.46	
Vinyl Acetate		0.412			36.5	0.417	
Vinyl Chloride	0.0000162	0.0718	0.000017	0.000322	0.11	0.209	0.002
Xylenes, Total		0.203			7.3	0.209	10

Notes:

 Source: USEPA. 2009. USEPA Regional Screening Levels : http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

Table 3-2: USEPA RSLs for Soil

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/kg)							
	Cancer Risk Goal = 1E-06				Noncancer HI Goal = 1			
	Total	Ingestion	Inhalation	Dermal	Total	Ingestion	Inhalation	Dermal
Aldehydes								
Acetaldehyde	10.4		10.4		88.1		88.1	
Benzaldehyde					7820	7820		
Butyraldehyde								
Crotonaldehyde								
Formaldehyde	254000		254000		12200	15600	13900000	55900
Hexaldehyde								
Methacrylaldehyde								
M-tolualdehyde								
N-valeraldehyde								
Propionaldehyde					80.3		80.3	
Alkane Hydrocarbon								
Octane								
Pentadecane								
Tridecane								
Undecane								
Anions								
Chloride								
Cyanide					1560	1560		
Fluoride					3130	3130	18400000	
Nitrate (measured as NO3-)					125000	125000		
Nitrite (measured as NO2-)					7820	7820		
Phosphate								
Sulfate								
Dioxins/Furans								
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000449	0.00000491	0.087	0.0000519	0.0000722	0.0000782	56.7	0.000931
Disinfection Byproducts								
Chlorine (as Cl2)					7530	7820	206000	
Total Trihalomethanes								
Inorganics								
Aluminum					77400	78200	7090000	
Antimony					31.3	31.3		
Arsenic	0.389	0.426	769	4.5	21.6	23.5	21300	279
Barium					15300	15600	709000	
Beryllium	1380		1380		156	156	28400	
Cadmium (Diet)	1840		1840		70	78.2	14200	698
Cadmium (Water)								
Chromium					117000	117000		
Cobalt	368		368		23.4	23.5	8510	
Copper					3130	3130		
Iron					54800	54800		
Lead					400			
Manganese (Diet)					1830	1880	70900	
Manganese (Water)								
Mercury					5.6	12.5	10.2	
Nickel	12700		12700		1550	1560	128000	
Selenium					391	391	28400000	
Silver					391	391		
Thallium								
Tin					46900	46900		
Vanadium					5.48	5.48		
Zinc					23500	23500		
Microorganisms								
Fecal Coliform								
Fecal Streptococcus								
Heterotrophic Plate Count								
Total Coliforms								
Pesticides								
4,4-DDD	2.02	2.66	47900	8.43				
4,4-DDE	1.43	1.88	34100	5.95				
4,4-DDT	1.72	1.88	34100	19.8	36.1	39.1		466
Aldrin	0.0286	0.0376	675	0.119	1.83	2.35		8.38
alpha-BHC	0.0771	0.101	1840	0.321	489	626		2230
alpha-Chlordane	1.62	1.83	33100	14.5	35.2	39.1	992000	349
beta-BHC	0.27	0.355	6240	1.12				

Table 3-2: USEPA RSLs for Soil

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/kg)							
	Cancer Risk Goal = 1E-06				Noncancer HI Goal = 1			
	Total	Ingestion	Inhalation	Dermal	Total	Ingestion	Inhalation	Dermal
Chlordane	1.62	1.83	33100	14.5	35.2	39.1	992000	349
delta-BHC								
Dieldrin	0.0303	0.0399	719	0.126	3.06	3.91		14
Endosulfan I					367	469		1680
Endosulfan II					367	469		1680
Endosulfan Sulfate					367	469		1680
Endrin					18.3	23.5		83.8
Endrin Aldehyde					18.3	23.5		83.8
gamma-BHC (Lindane)	0.516	0.581	10700	4.6	21.1	23.5		210
gamma-Chlordane	1.62	1.83	33100	14.5	35.2	39.1	992000	349
Heptachlor	0.108	0.142	2540	0.45	30.6	39.1		140
Heptachlor Epoxide	0.0533	0.0702	1270	0.222	0.794	1.02		3.63
Methoxychlor					306	391		1400
Toxaphene	0.441	0.581	10300	1.84				
PM₁₀								
Gravimetrics-PM ₁₀								
Polychlorinated bi-phenyls								
Aroclor 1016	6.33	9.13	165000	20.6	3.93	5.48		14
Aroclor 1016/1260	0.221	0.319	5790	0.723				
Aroclor 1221	0.141	0.319	0.39	0.723				
Aroclor 1232	0.141	0.319	0.39	0.723				
Aroclor 1242	0.221	0.319	5790	0.723				
Aroclor 1248	0.221	0.319	5790	0.723				
Aroclor 1254	0.221	0.319	5790	0.723	1.12	1.56		3.99
Aroclor 1260	0.221	0.319	5790	0.723				
Radionuclides								
Alpha Particles								
Beta Particles and Photon Emitters								
Radium-228								
Strontium-90								
Uranium	2.21	2.21			235	235	425000	
Semi-Volatile Organic Compounds								
1,1'-Biphenyl					3910	3910		
1,2,4,5-Tetrachlorobenzene					18.3	23.5		83.8
2,3,4,6-Tetrachlorophenol					1830	2350		8380
2,4,5-Trichlorophenol					6110	7820		27900
2,4,6-Trichlorophenol	44.1	58.1	1070000	184	61.1	78.2		279
2,4-Dichlorophenol					183	235		838
2,4-Dimethylphenol					1220	1560		5590
2,4-Dinitrophenol					122	156		559
2,4-Dinitrotoluene	1.56	2.06	37200	6.4	122	156		548
2,6-Dichlorophenol								
2,6-Dinitrotoluene					61.2	78.2		282
2-Chloronaphthalene					6260	6260		
2-Chlorophenol					391	391		
2-Methylnaphthalene					313	313		
2-Methylphenol (o-Cresol)					3060	3910	851000000	14000
2-Nitrophenol								
3&4-Methylphenol					306	391	851000000	1400
3-Methylphenol					3060	3910	851000000	14000
3-Nitroaniline								
4,6-Dinitro-2-Methylphenol					6.11	7.82		27.9
4-Bromophenylphenylether								
4-Chloro-3-Methylphenol					6110	7820		27900
4-Chloroaniline	2.43	3.19		10.1	244	313		1120
4-Methylphenol (p-Cresol)					306	391	851000000	1400
4-Nitroaniline	24.3	31.9		101	244	313	8510000	1120
4-Nitrophenol								
Acenaphthene					3440	4690		12900
Acenaphthylene								
Aniline	85.2	112	2070000	355	428	548	1420000	1960
Anthracene					17200	23500		64500
Atrazine	2.11	2.78		8.8	2140	2740		9780
Benzo(a)anthracene	0.148	0.204	11900	0.532				
Benzo(a)pyrene	0.0148	0.0204	1190	0.0532				

Table 3-2: USEPA RSLs for Soil

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/kg)							
	Cancer Risk Goal = 1E-06				Noncancer HI Goal = 1			
	Total	Ingestion	Inhalation	Dermal	Total	Ingestion	Inhalation	Dermal
Benzo(b)fluoranthene	0.148	0.204	11900	0.532				
Benzo(g,h,i)perylene								
Benzo(k)fluoranthene	1.48	2.04	11900	5.32				
Bis(2-ethylhexyl)phthalate	34.7	45.6	1380000	145	1220	1560		5590
Butylbenzylphthalate	256	336		1060	12200	15600		55900
Carbazole								
Chrysene	14.8	20.4	119000	53.2				
Dibenzo(a,h)anthracene	0.0148	0.0204	1090	0.0532				
Dibenzofuran					78.2	78.2		
Diethylphthalate					48900	62600		223000
Dimethylphthalate								
Di-n-butylphthalate					6110	7820		27900
Di-n-octylphthalate								
Diphenylamine					1530	1960		6980
Fluoranthene					2290	3130		8590
Fluorene					2290	3130		8590
Hexachlorobenzene	0.303	0.399	7190	1.26	48.9	62.6		223
Hexachlorobutadiene	6.22	8.19	150000	25.9	61.1	78.2		279
Hexachlorocyclopentadiene					366	469	284000	1680
Hexachloroethane	34.7	45.6	827000	145	61.1	78.2		279
Indeno(1,2,3-c,d)pyrene	0.148	0.204	11900	0.532				
Naphthalene	3.57		3.57		137	1560	156	4300
Nitrobenzene	4.79		4.79		129	156	740	
o-Toluidine	2.56	3.36		10.6				
Pentachlorobenzene					48.9	62.6		223
Pentachloronitrobenzene	1.87	2.46		7.78	183	235		838
Pentachlorophenol	2.97	5.32	649000	6.74	1380	2350		3350
Phenanthrene								
Phenol					18300	23500	284000000	83800
Pyrene					1720	2350		6450
Total Carcinogenic PAHS (BaP TEQs)	0.0148	0.0204	1190	0.0532				
Total Petroleum Hydrocarbon								
Tph (c03-c20)								
Tph (c08-c40)								
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	1.86	24.6	2.01		2350	2350		
1,1,1-Trichloroethane					8740	156000	9250	
1,1,1,2-Tetrachloroethane	0.562	3.19	0.682		313	313		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)					42500	2350000	43300	
1,1,2-Trichloroethane	1.07	11.2	1.18		313	313		
1,1-Dichloroethane	3.31	112	3.41		15600	15600		
1,1-Dichloroethene					243	3910	259	
1,2,3-Trichlorobenzene					48.9	62.6		223
1,2,3-Trichloropropane	0.00497	0.00497			5.2	313	5.29	
1,2,4-Trichlorobenzene	22	22			61.9	782	67.2	
1,2,4-Trimethylbenzene					62.2		62.2	
1,2-Dibromo-3-Chloropropane	0.00535	0.186	0.00551		4.92	15.6	7.18	
1,2-Dibromoethane	0.0337	0.319	0.0377		77.7	704	87.3	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)								
1,2-Dichlorobenzene					1910	7040	2620	
1,2-Dichloroethane	0.432	7.02	0.461		1390	1560	12500	
1,2-Dichloropropane	0.895	17.7	0.942		16.1	7040	16.2	
1,3,5-Trimethylbenzene					782	782		
1,3-Butadiene	0.0539	0.188	0.0756		1.94		1.94	
1,3-Dichlorobenzene								
1,3-Dichloropropane					1560	1560		
1,4-Dichlorobenzene	2.44	118	2.49		3460	5480	9380	
2,2-Dichloropropane								
2-Butanone (methyl ethyl ketone)					27800	46900	68500	
2-Chlorotoluene					1560	1560		
2-Hexanone					209	391	448	
4-Chlorotoluene					5480	5480		
4-Isopropyltoluene								

Table 3-2: USEPA RSLs for Soil

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/kg)							
	Cancer Risk Goal = 1E-06				Noncancer HI Goal = 1			
	Total	Ingestion	Inhalation	Dermal	Total	Ingestion	Inhalation	Dermal
4-Methyl-2-Pentanone					5320	6260	35600	
Acetone					61300	70400	474000	
Acetonitrile					873		873	
Acetophenone					7820	7820		
Acrolein					0.155	39.1	0.155	
Acrylonitrile	0.237	1.18	0.296		17.2	3130	17.3	
Benzene	1.08	11.6	1.19		86.2	313	119	
Bis(2-Chloroethyl)ether	0.214	0.581	0.338					
Bis(chloromethyl)ether	0.0000772	0.0029	0.0000793					
Bromochloromethane								
Bromodichloromethane	0.273	10.3	0.281		1560	1560		
Bromoform	61.5	80.9	3010000	256	1220	1560		5590
Bromomethane					7.32	110	7.85	
Carbon Disulfide					821	7820	917	
Carbon Tetrachloride	0.248	4.91	0.261		46.7	54.8	317	
Chlorobenzene					294	1560	362	
Chloroethane					14500		14500	
Chloroform	0.295	20.6	0.299		211	782	288	
Chloromethane					119		119	
Chloroprene					8.42	1560	8.47	
cis-1,2-Dichloroethene					782	782		
cis-1,3-Dichloropropene								
Cyclohexane					7020		7020	
Dibromochloromethane	0.68	7.6	0.771	24.1	1220	1560		5590
Dibromomethane					24.6	782	25.3	
Dichlorodifluoromethane (Freon 12)					184	15600	187	
Ethylbenzene	5.39	58.1	5.94		3510	7820	6360	
Hexane					572	4690	652	
Isobutyl Alcohol					23500	23500		
Isophorone	511	672		2130	12200	15600	2840000000	55900
Isopropylbenzene					2050	7820	2790	
m,p-Xylenes					627	15600	654	
Methyl Acetate					78200	78200		
Methyl tert-Butyl Ether	43.3	355	49.4		16500		16500	
Methylcyclohexane								
Methylene Chloride	10.7	85.2	12.2		1660	4690	2560	
n-Butylbenzene								
n-Propylbenzene					3440	7820	7850	27900
o-Xylene					3830	15600	5070	
Pentachloroethane	5.39	7.1		22.5				
sec-Butylbenzene								
Styrene					6280	15600	10500	
tert-Butylbenzene								
Tetrachloroethene	0.554	1.18	1.04		374	782	715	
Toluene					4970	6260	24100	
trans-1,2-Dichloroethene					153	1560	169	
trans-1,3-Dichloropropene								
Trans-1,4-Dichloro-2-Butene	0.00694		0.00694					
Trichloroethene	2.82	108	2.89					
Trichlorofluoromethane					787	23500	814	
Vinyl Acetate					975	78200	987	
Vinyl Chloride	0.0597	0.0932	0.166		73.6	235	107	
Xylenes, Total					627	15600	654	

Notes:

Source: USEPA. 2009. USEPA Regional Screening Levels : http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

Table 3-3: USEPA RSLs and U.S. Quality Standards for Ambient Air

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/m ³)		U.S. NAAQS (mg/m ³)
	Cancer Risk Goal = 1E-06	Noncancer HI Goal = 1	
	Inhalation	Inhalation	
Aldehydes			
Acetaldehyde	0.00111	0.00939	
Benzaldehyde			
Butyraldehyde			
Crotonaldehyde			
Formaldehyde	0.000187	0.0102	
Hexaldehyde			
Methacrylaldehyde			
M-tolualdehyde			
N-valeraldehyde			
Propionaldehyde		0.00834	
Alkane Hydrocarbon			
Octane			
Pentadecane			
Tridecane			
Undecane			
Anions			
Chloride			
Cyanide			
Fluoride		0.0136	
Nitrate (measured as NO ₃ -)			
Nitrite (measured as NO ₂ -)			
Phosphate			
Sulfate			
Dioxins/Furans			
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000064	0.000000042	
Disinfection Byproducts			
Chlorine (as Cl ₂)		0.000151	
Total Trihalomethanes			
Inorganics			
Aluminum		0.00521	
Antimony			
Arsenic	0.00000566	0.0000156	
Barium		0.000521	
Beryllium	0.00000101	0.0000209	
Cadmium (Diet)	0.00000135	0.0000104	
Cadmium (Water)	0.00000135	0.0000104	
Chromium			
Cobalt	0.00000027	0.00000626	
Copper			
Iron			
Lead		0.0017	0.0015
Manganese (Diet)		0.0000521	
Manganese (Water)		0.0000521	
Mercury		0.000313	
Nickel	0.00000936	0.0000939	
Selenium		0.0209	
Silver			
Thallium			
Tin			
Vanadium			
Zinc			
Microorganisms			

Table 3-3: USEPA RSLs and U.S. Quality Standards for Ambient Air

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/m ³)		U.S. NAAQS (mg/m ³)
	Cancer Risk Goal = 1E-06	Noncancer HI Goal = 1	
	Inhalation	Inhalation	
Fecal Coliform			
Fecal Streptococcus			
Heterotrophic Plate Count			
Total Coliforms			
Pesticides			
4,4-DDD	0.0000353		
4,4-DDE	0.0000251		
4,4-DDT	0.0000251		
Aldrin	0.000000497		
alpha-BHC	0.00000135		
alpha-Chlordane	0.0000243	0.00073	
beta-BHC	0.00000459		
Chlordane	0.0000243	0.00073	
delta-BHC			
Dieldrin	0.000000529		
Endosulfan I			
Endosulfan II			
Endosulfan Sulfate			
Endrin			
Endrin Aldehyde			
gamma-BHC (Lindane)	0.00000785		
gamma-Chlordane	0.0000243	0.00073	
Heptachlor	0.00000187		
Heptachlor Epoxide	0.000000936		
Methoxychlor			
Toxaphene	0.0000076		
PM₁₀			
Gravimetrics-PM ₁₀			0.15
Polychlorinated bi-phenyls			
Aroclor 1016	0.000122		
Aroclor 1016/1260	0.00000426		
Aroclor 1221	0.00000426		
Aroclor 1232	0.00000426		
Aroclor 1242	0.00000426		
Aroclor 1248	0.00000426		
Aroclor 1254	0.00000426		
Aroclor 1260	0.00000426		
Radionuclides			
Alpha Particles			
Beta Particles and Photon Emitters			
Radium-228			
Strontium-90			
Uranium		0.000313	
Semi-Volatile Organic Compounds			
1,1'-Biphenyl			
1,2,4,5-Tetrachlorobenzene			
2,3,4,6-Tetrachlorophenol			
2,4,5-Trichlorophenol			
2,4,6-Trichlorophenol	0.000785		
2,4-Dichlorophenol			
2,4-Dimethylphenol			
2,4-Dinitrophenol			
2,4-Dinitrotoluene	0.0000273		

Table 3-3: USEPA RSLs and U.S. Quality Standards for Ambient Air

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/m ³)		U.S. NAAQS (mg/m ³)
	Cancer Risk Goal = 1E-06	Noncancer HI Goal = 1	
	Inhalation	Inhalation	
2,6-Dichlorophenol			
2,6-Dinitrotoluene			
2-Chloronaphthalene			
2-Chlorophenol			
2-Methylnaphthalene			
2-Methylphenol (o-Cresol)		0.626	
2-Nitrophenol			
3&4-Methylphenol		0.626	
3-Methylphenol		0.626	
3-Nitroaniline			
4,6-Dinitro-2-Methylphenol			
4-Bromophenylphenylether			
4-Chloro-3-Methylphenol			
4-Chloroaniline			
4-Methylphenol (p-Cresol)		0.626	
4-Nitroaniline		0.00626	
4-Nitrophenol			
Acenaphthene			
Acenaphthylene			
Aniline	0.00152	0.00104	
Anthracene			
Atrazine			
Benzo(a)anthracene	0.00000873		
Benzo(a)pyrene	0.000000873		
Benzo(b)fluoranthene	0.00000873		
Benzo(g,h,i)perylene			
Benzo(k)fluoranthene	0.00000873		
Bis(2-ethylhexyl)phthalate	0.00101		
Butylbenzylphthalate			
Carbazole			
Chrysene	0.0000873		
Dibenzo(a,h)anthracene	0.0000008		
Dibenzofuran			
Diethylphthalate			
Dimethylphthalate			
Di-n-butylphthalate			
Di-n-octylphthalate			
Diphenylamine			
Fluoranthene			
Fluorene			
Hexachlorobenzene	0.00000529		
Hexachlorobutadiene	0.000111		
Hexachlorocyclopentadiene		0.000209	
Hexachloroethane	0.000608		
Indeno(1,2,3-c,d)pyrene	0.00000873		
Naphthalene	0.0000716	0.00313	
Nitrobenzene	0.0000608	0.00939	
o-Toluidine			
Pentachlorobenzene			
Pentachloronitrobenzene			
Pentachlorophenol	0.000477		
Phenanthrene			
Phenol		0.209	
Pyrene			

Table 3-3: USEPA RSLs and U.S. Quality Standards for Ambient Air

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/m ³)		U.S. NAAQS (mg/m ³)
	Cancer Risk Goal = 1E-06	Noncancer HI Goal = 1	
	Inhalation	Inhalation	
Total Carcinogenic PAHS (BaP TEQs)	0.00000873		
Total Petroleum Hydrocarbon			
Tph (c03-c20)			
Tph (c08-c40)			
Volatile Organic Compounds			
1,1,1,2-Tetrachloroethane	0.000329		
1,1,1-Trichloroethane		5.21	
1,1,2,2-Tetrachloroethane	0.000042		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		31.3	
1,1,2-Trichloroethane	0.000152		
1,1-Dichloroethane	0.00152		
1,1-Dichloroethene		0.209	
1,2,3-Trichlorobenzene			
1,2,3-Trichloropropane		0.000313	
1,2,4-Trichlorobenzene		0.00209	
1,2,4-Trimethylbenzene		0.0073	
1,2-Dibromo-3-Chloropropane	0.0000016	0.000209	
1,2-Dibromoethane	0.0000406	0.00939	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)			
1,2-Dichlorobenzene		0.209	
1,2-Dichloroethane	0.0000936	2.53	
1,2-Dichloropropane	0.000243	0.00417	
1,3,5-Trimethylbenzene			
1,3-Butadiene	0.0000811	0.00209	
1,3-Dichlorobenzene			
1,3-Dichloropropane			
1,4-Dichlorobenzene	0.000221	0.834	
2,2-Dichloropropane			
2-Butanone (methyl ethyl ketone)		5.21	
2-Chlorotoluene			
2-Hexanone		0.0313	
4-Chlorotoluene			
4-Isopropyltoluene			
4-Methyl-2-Pentanone		3.13	
Acetone		32.2	
Acetonitrile		0.0626	
Acetophenone			
Acrolein		0.0000209	
Acrylonitrile	0.0000358	0.00209	
Benzene	0.000312	0.0313	
Bis(2-Chloroethyl)ether	0.00000737		
Bis(chloromethyl)ether	3.92E-08		
Bromochloromethane			
Bromodichloromethane	0.0000658		
Bromoform	0.00221		
Bromomethane		0.00521	
Carbon Disulfide		0.73	
Carbon Tetrachloride	0.000162	0.197	
Chlorobenzene		0.0521	
Chloroethane		10.4	
Chloroform	0.000106	0.102	
Chloromethane		0.0939	
Chloroprene		0.0073	
cis-1,2-Dichloroethene			

Table 3-3: USEPA RSLs and U.S. Quality Standards for Ambient Air

Constituent (by class)	December 2009 USEPA Regional Screening Levels Calculated Based on a 30-Year Residential Exposure (mg/m ³)		U.S. NAAQS (mg/m ³)
	Cancer Risk Goal = 1E-06	Noncancer HI Goal = 1	
	Inhalation	Inhalation	
cis-1,3-Dichloropropene			
Cyclohexane		6.26	
Dibromochloromethane	0.0000901		
Dibromomethane		0.00417	
Dichlorodifluoromethane (Freon 12)		0.209	
Ethylbenzene	0.000973	1.04	
Hexane		0.73	
Isobutyl Alcohol			
Isophorone		2.09	
Isopropylbenzene		0.417	
m,p-Xylenes		0.104	
Methyl Acetate			
Methyl tert-Butyl Ether	0.00936	3.13	
Methylcyclohexane			
Methylene Chloride	0.00518	1.09	
n-Butylbenzene			
n-Propylbenzene		1.04	
o-Xylene		0.73	
Pentachloroethane			
sec-Butylbenzene			
Styrene		1.04	
tert-Butylbenzene			
Tetrachloroethene	0.000412	0.283	
Toluene		5.21	
trans-1,2-Dichloroethene		0.0626	
trans-1,3-Dichloropropene			
Trans-1,4-Dichloro-2-Butene	0.000000579		
Trichloroethene	0.00122		
Trichlorofluoromethane		0.73	
Vinyl Acetate		0.209	
Vinyl Chloride	0.000161	0.104	
Xylenes, Total		0.104	

Notes:

 Source: USEPA. 2009. USEPA Regional Screening Levels : http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

Table 4-1: Naples Background Constituent Concentrations in Soil

Constituent	Element	Unit	Number of Samples	Min.	Max.	Mean	Median	Geometric Mean	Std. Dev.	Skewness	Kurtosis
Aluminum	Al	mg/kg	982	6,400	86,900	39,200	39,100	35,600	15,500	-0.04	-1.06
Antimony	Sb	mg/kg	794	0.21	42.8	1.4	0.7	0.9	2.7	9.75	134
Arsenic	As	mg/kg	982	1	164	12.4	11.6	10.6	9.2	8.38	110
Barium	Ba	mg/kg	982	9	1813	429	427	322	261	0.67	1.53
Bismuth	Bi	mg/kg	647	0.12	35	0.7	0.5	0.5	1.6	17.3	364
Boron	B	mg/kg	982	1	63	17.4	14	14	11	0.76	-0.06
Cadmium	Cd	mg/kg	861	0.005	10.6	0.5	0.3	0.3	0.7	7.16	85.7
Calcium	Ca	mg/kg	982	1,700	165,700	24,900	20,300	17,900	22,600	2.64	9.74
Chromium	Cr	mg/kg	982	0.25	579	12.5	8.3	8.2	27	15	276
Cobalt	Co	mg/kg	982	0.5	36.6	9.3	7.2	7.6	5.7	0.65	-0.25
Copper	Cu	mg/kg	982	4	3965	163	97	85	262	30	916
Gallium	Ga	mg/kg	794	2	15.3	7.6	7.3	7.1	2.6	0.18	-0.78
Gold	Au	mg/kg	592	0.0001	1.279	0.033	0.009	0.011	0.081	8.53	108
Iron	Fe	mg/kg	982	5,200	154,600	23,700	21,800	21,700	10,200	2.46	26.4
Lanthanum	La	mg/kg	982	10	108	42	41	40	11	0.88	3.18
Lead	Pb	mg/kg	982	6	2052	100	61	68	140	6.94	73
Magnesium	Mg	mg/kg	982	1,000	23,000	5,800	5,000	4,900	3,100	0.76	0.58
Manganese	Mn	mg/kg	982	215	5923	738	720	702	309	7.69	102
Mercury	Hg	mg/kg	596	0.005	2.66	0.19	0.91	0.1	0.27	3.61	18.9
Molybdenum	Mo	mg/kg	940	0.1	20.4	1.8	1.6	1.5	1.3	6.43	81.4
Nickel	Ni	mg/kg	982	0.8	689	11.8	9.9	8.8	23	26.2	769
Phosphorus	P	mg/kg	982	100	8,400	1,900	1,600	1,400	1,300	0.96	0.92
Potassium	K	mg/kg	982	2,100	68,200	21,300	14,300	15,800	15,700	0.76	-0.72
Scandium	Sc	mg/kg	758	0.5	4.1	1.5	1.4	1.4	0.49	1.04	2.01
Selenium	Se	mg/kg	587	0.05	1.9	0.3	0.3	0.3	0.22	1.78	7.87
Silver	Ag	mg/kg	596	0.001	8.132	0.242	0.129	0.145	0.42	11.9	212
Sodium	Na	mg/kg	982	300	29,500	6,100	5,300	4,900	3,900	1.05	1.82
Strontium	Sr	mg/kg	982	13	835	214	189	167	131	0.52	-0.14
Sulfur	S	mg/kg	794	50	6,600	500	400	300	700	5.12	34.1
Tellurium	Te	mg/kg	596	0.01	0.56	0.07	0.05	0.06	0.05	3.34	22.8
Thallium	Tl	mg/kg	794	0.18	69	1.5	1.1	1.3	2.6	23.2	600
Thorium	Th	mg/kg	982	1	44	13.8	13.4	12.6	5.5	0.85	1.89
Titanium	Ti	mg/kg	982	200	2,800	1,300	1,300	1,200	500	0.14	-0.71
Tungsten	W	mg/kg	690	0.3	12.2	1.3	1.2	1.2	0.8	6.05	62.1
Uranium	U	mg/kg	816	0.9	16	3.7	3.1	3.3	1.9	2.11	7.89
Vanadium	V	mg/kg	982	6	187	71	57	60	38	0.43	-1.05
Zinc	Zn	mg/kg	982	24	3211	142	99	109	172	29.6	909

Notes:

Min. – Minimum

Max. – Maximum

 Source: Background and Baseline Concentration Values of Elements Harmful to Human Health in the Volcanic Soils of the Metropolitan and Provincial Areas of Napoli (Italy) Domenico Cicchella^{1,2}, Benedetto De Vivo² & Annamaria Lima²
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Table 4-2: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
1,1,1,2-Tetrachloroethane	9.73E-05	1.65E-04	1.27E-04	1.01E-04	1.22E-04	3.72E-04	1.10E-04	1.46E-04	1.12E-04	--
1,1,1-Trichloroethane	1.22E-04	1.67E-04	1.27E-04	1.18E-04	1.26E-04	1.42E-04	1.24E-04	1.99E-04	1.21E-04	1.39E-04
1,1,2,2-Tetrachloroethane	8.04E-05	1.27E-04	1.09E-04	8.67E-05	9.53E-05	1.37E-04	1.16E-04	1.22E-04	1.12E-04	1.52E-04
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	7.41E-04	5.73E-04	6.46E-04	7.57E-04	7.27E-04	6.99E-04	6.93E-04	7.20E-04	7.18E-04	--
1,1,2-Trichloroethane	--	7.57E-05	5.23E-05	--	5.80E-05	6.87E-05	--	7.38E-05	5.79E-05	1.20E-04
1,1'-Biphenyl	3.52E-07	5.25E-07	1.02E-06	4.51E-07	1.14E-06	2.00E-06	1.68E-06	9.16E-07	9.42E-07	--
1,1-Dichloroethane	3.53E-05	--	3.57E-05	--	3.93E-05	4.21E-05	3.66E-05	6.66E-05	3.21E-05	8.91E-05
1,1-Dichloroethene	6.09E-05	9.84E-05	6.25E-05	6.42E-05	6.93E-05	6.85E-05	6.17E-05	9.50E-05	5.72E-05	8.89E-05
1,2,3-Trichlorobenzene	4.80E-04	1.48E-03	3.55E-04	5.05E-04	7.93E-04	5.84E-04	3.74E-04	7.02E-04	4.47E-04	--
1,2,3-Trichloropropane	4.27E-05	--	7.30E-05	--	6.12E-05	5.73E-05	4.32E-05	7.44E-05	--	--
1,2,4-Trichlorobenzene	7.85E-04	1.72E-03	7.29E-04	5.91E-04	1.04E-03	9.11E-04	7.25E-04	1.39E-03	7.02E-04	2.11E-04
1,2,4-Trimethylbenzene	1.05E-03	3.17E-03	1.56E-03	1.03E-03	7.48E-04	9.97E-04	1.48E-03	1.23E-03	1.15E-03	1.02E-03
1,2-Dibromo-3-Chloropropane	7.03E-05	1.04E-04	1.16E-04	6.34E-05	9.07E-05	9.78E-05	1.06E-04	9.37E-05	9.11E-05	--
1,2-Dibromoethane	7.00E-05	1.11E-04	--	7.62E-05	1.01E-04	9.96E-05	--	1.29E-04	7.05E-05	1.69E-04
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	1.57E-04	2.40E-04	1.64E-04	1.56E-04	1.66E-04	1.52E-04	1.47E-04	2.25E-04	1.60E-04	--
1,2-Dichlorobenzene	1.71E-04	1.95E-04	2.47E-04	1.36E-04	1.87E-04	4.69E-04	2.49E-04	4.76E-04	2.50E-04	--
1,2-Dichloroethane	7.26E-05	1.13E-04	8.49E-05	1.66E-04	1.06E-04	9.37E-05	9.12E-05	1.43E-04	9.27E-05	1.84E-04
1,2-Dichloropropane	8.49E-03	4.43E-03	6.74E-03	2.73E-03	6.91E-03	5.71E-03	1.05E-02	6.43E-03	2.96E-03	7.34E-05
1,3,5-Trimethylbenzene	3.54E-04	9.53E-04	4.78E-04	3.07E-04	3.19E-04	3.22E-04	4.42E-04	4.73E-04	3.51E-04	2.10E-04
1,3-Butadiene	--	4.56E-04	3.38E-04	--	3.04E-04	3.11E-04	4.28E-04	4.13E-04	3.37E-04	9.10E-04
1,3-Dichlorobenzene	1.62E-04	1.82E-04	2.36E-04	1.25E-04	1.55E-04	3.72E-04	2.27E-04	1.77E-04	2.13E-04	--
1,4-Dichlorobenzene	1.88E-04	2.34E-04	3.04E-04	1.56E-04	2.07E-04	5.10E-04	3.00E-04	2.48E-04	3.11E-04	2.77E-04
2,4,5-Trichlorophenol	8.16E-07	9.37E-07	1.01E-06	6.72E-07	1.04E-06	7.29E-07	5.92E-07	5.22E-07	--	--
2,4,6-Trichlorophenol	7.08E-07	6.54E-07	5.04E-07	3.72E-07	1.02E-06	6.30E-07	4.52E-07	6.00E-07	4.55E-07	--
2,4-Dichlorophenol	8.72E-07	6.84E-07	4.81E-07	5.07E-07	1.22E-06	8.47E-07	6.69E-07	4.33E-07	4.39E-07	--
2,4-Dimethylphenol	1.22E-06	2.23E-06	5.97E-06	2.69E-06	5.97E-06	5.73E-06	1.77E-05	6.93E-06	1.09E-05	--
2,6-Dichlorophenol	3.90E-07	4.09E-07	5.40E-07	3.32E-07	7.42E-07	5.66E-07	4.72E-07	3.16E-07	3.59E-07	--
2,6-Dinitrotoluene	2.10E-07	2.23E-07	3.54E-07	--	--	--	2.53E-07	--	--	--
2-Butanone (methyl ethyl ketone)	1.83E-03	2.66E-03	3.07E-03	2.03E-03	3.02E-03	2.54E-03	2.62E-03	2.11E-03	2.86E-03	4.55E-04
2-Chloronaphthalene	1.91E-07	--	--	1.79E-07	2.18E-07	1.60E-07	--	1.69E-07	--	--
2-Methylnaphthalene	2.91E-07	6.52E-07	8.46E-07	3.65E-07	7.04E-07	1.18E-06	1.04E-06	5.07E-07	7.17E-07	--
2-Methylphenol (o-Cresol)	8.21E-07	1.43E-06	4.71E-06	1.86E-06	7.01E-06	6.72E-06	1.08E-05	6.47E-06	9.53E-06	--
2-Nitrophenol	3.40E-07	3.50E-07	6.62E-07	3.56E-07	6.43E-07	5.18E-07	4.01E-07	6.43E-07	5.17E-07	--
3&4-Methylphenol	3.27E-06	4.71E-06	1.69E-05	7.02E-06	1.97E-05	1.79E-05	4.21E-05	2.35E-05	3.04E-05	--

Table 4-2: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
3-Nitroaniline	--	--	--	--	2.95E-07	--	--	--	--	--
4,4-DDD	--	--	--	--	4.80E-07	--	--	4.11E-07	--	--
4-Chloro-3-Methylphenol	7.41E-07	8.78E-07	8.55E-07	8.64E-07	1.81E-06	4.15E-07	1.10E-06	4.73E-07	6.33E-07	--
4-Chloroaniline	--	1.71E-07	--	--	--	--	1.79E-07	--	--	--
4-Nitrophenol	--	1.01E-06	8.25E-07	--	7.91E-07	1.14E-06	5.78E-07	7.51E-07	7.00E-07	--
Acenaphthene	2.56E-07	2.45E-07	3.66E-07	1.88E-07	1.60E-06	5.00E-07	3.68E-07	2.38E-07	3.56E-07	--
Acenaphthylene	3.12E-07	7.38E-07	2.26E-06	3.19E-07	2.35E-06	2.95E-06	4.24E-06	1.06E-06	2.31E-06	--
Acetaldehyde	9.73E-03	1.07E-02	6.96E-03	1.04E-02	1.06E-02	9.98E-03	7.49E-03	1.79E-02	9.75E-03	7.75E-03
Acetone	1.60E-02	4.67E-02	4.50E+00	1.64E-02	1.64E-02	1.82E-02	2.04E-02	1.86E-02	1.73E-02	5.82E-02
Acetonitrile	4.21E-04	6.71E-03	5.99E-04	8.93E-04	7.89E-04	7.07E-04	5.65E-04	1.40E-03	6.92E-04	6.08E-04
Acetophenone	6.80E-03	1.31E-02	8.41E-03	7.67E-03	6.82E-03	3.89E-03	1.01E-02	3.94E-03	7.27E-03	--
Acrolein	2.56E-03	2.01E-03	3.46E-03	1.50E-03	2.59E-03	2.52E-03	5.16E-03	1.95E-03	2.90E-03	6.15E-04
Acrylonitrile	1.68E-04	2.21E-04	1.49E-04	1.25E-04	1.52E-04	1.52E-04	1.43E-04	2.01E-04	1.49E-04	1.07E-04
alpha-Chlordane	--	--	3.83E-07	--	--	--	--	--	3.29E-07	--
Aluminum	3.19E-04	6.90E-04	5.39E-04	2.63E-04	7.53E-04	6.00E-04	7.30E-04	9.41E-04	1.17E-03	--
Aniline	2.69E-07	2.12E-07	--	--	--	--	2.02E-07	4.32E-07	--	--
Anthracene	2.49E-07	1.22E-06	1.46E-06	4.64E-07	8.40E-07	9.05E-07	3.57E-06	1.06E-06	2.00E-06	2.38E-07
Antimony	--	7.99E-06	1.18E-05	--	8.25E-06	1.11E-05	7.80E-06	1.17E-06	4.81E-06	--
Arsenic	2.50E-06	3.72E-06	9.28E-06	2.14E-06	3.95E-06	3.62E-06	1.82E-06	1.05E-06	2.29E-06	5.59E-06
Barium	1.30E-05	3.98E-05	2.39E-05	1.06E-05	1.25E-05	1.96E-05	2.31E-05	1.79E-05	2.15E-05	--
Benzaldehyde	1.38E-03	6.58E-04	7.04E-04	8.29E-04	8.24E-04	6.23E-04	7.79E-04	3.12E-03	8.62E-04	--
Benzene	1.27E-03	3.03E-03	2.28E-03	1.24E-03	1.80E-03	1.96E-03	2.68E-03	2.12E-02	1.93E-03	1.62E-03
Benzo(a)anthracene	1.79E-07	--	5.98E-07	2.86E-07	6.90E-07	5.66E-07	1.98E-06	6.36E-07	9.47E-07	1.26E-07
Benzo(a)pyrene	1.55E-07	1.46E-07	4.51E-07	1.96E-07	6.98E-07	1.53E-06	1.72E-06	5.21E-07	7.30E-07	1.80E-07
Benzo(b)fluoranthene	3.29E-07	--	4.03E-07	5.35E-07	6.29E-07	5.46E-07	1.11E-06	4.51E-07	6.46E-07	1.43E-07
Benzo(g,h,i)perylene	3.07E-07	3.20E-07	6.05E-07	3.30E-07	6.28E-07	6.46E-07	1.57E-06	4.49E-07	7.43E-07	--
Benzo(k)fluoranthene	3.34E-07	--	3.99E-07	3.87E-07	6.40E-07	5.62E-07	1.30E-06	6.25E-07	6.42E-07	1.30E-07
Beryllium	--	1.34E-07	1.54E-07	--	1.59E-07	9.88E-08	9.98E-08	1.15E-07	1.30E-07	--
Bis(2-ethylhexyl)phthalate	1.55E-05	1.94E-04	1.83E-04	3.34E-04	2.21E-05	1.40E-05	3.93E-05	5.57E-05	2.13E-05	--
Bromodichloromethane	1.08E-04	1.54E-04	--	1.30E-04	1.53E-04	1.37E-04	1.02E-04	1.42E-04	1.06E-04	--
Bromoform	6.52E-05	1.10E-04	--	6.60E-05	7.18E-05	7.94E-05	6.68E-05	9.78E-05	--	1.50E-04
Bromomethane	8.42E-05	8.22E-05	7.45E-05	7.11E-05	1.17E-04	7.74E-05	5.67E-05	1.08E-04	7.13E-05	1.58E-04
Butylbenzylphthalate	2.90E-06	--	3.19E-06	4.42E-06	2.00E-06	7.21E-07	2.26E-05	1.11E-06	8.51E-06	--
Butyraldehyde	2.47E-04	5.40E-04	4.18E-04	3.05E-04	3.74E-04	3.61E-04	5.62E-04	3.76E-04	4.61E-04	--

Table 4-2: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
Cadmium (Diet)	2.66E-07	5.47E-07	7.91E-07	1.58E-07	4.03E-07	7.61E-07	8.29E-07	4.82E-07	4.67E-07	3.75E-07
Carbazole	--	1.64E-07	1.70E-07	--	1.68E-07	2.09E-07	2.85E-07	2.08E-07	1.73E-07	--
Carbon Disulfide	3.26E-03	4.85E-03	3.33E-03	1.91E-03	5.11E-03	3.04E-03	1.95E-03	2.49E-03	2.03E-03	6.70E-05
Carbon Tetrachloride	6.39E-04	6.33E-04	5.98E-04	6.30E-04	6.81E-04	6.57E-04	6.58E-04	6.49E-04	6.27E-04	5.66E-04
Chlorobenzene	7.02E-05	9.22E-05	8.31E-05	6.31E-05	7.77E-05	1.07E-04	7.92E-05	1.43E-04	7.27E-05	6.05E-05
Chloroethane	1.07E-04	1.09E-04	--	--	7.37E-05	7.53E-05	6.22E-05	9.82E-05	6.39E-05	6.47E-05
Chloroform	1.55E-04	1.64E-04	1.26E-04	3.34E-04	1.30E-04	2.06E-04	1.85E-04	2.63E-04	1.50E-04	2.73E-04
Chloromethane	1.56E-03	2.93E-03	1.53E-03	2.21E-03	1.81E-03	2.01E-03	2.09E-03	5.52E-03	3.50E-03	1.51E-03
Chromium	1.80E-06	7.77E-06	5.16E-06	1.91E-06	2.55E-06	5.21E-06	4.14E-06	2.86E-06	4.76E-06	4.74E-06
Chrysene	2.69E-07	3.38E-07	1.15E-06	4.92E-07	1.22E-06	1.42E-06	2.80E-06	1.03E-06	1.52E-06	1.70E-07
cis-1,2-Dichloroethene	5.28E-05	1.11E-04	5.67E-05	--	6.25E-05	6.63E-05	1.23E-04	7.86E-05	6.55E-05	--
cis-1,3-Dichloropropene	3.79E-05	5.40E-05	4.78E-05	2.68E-05	2.56E-04	3.88E-04	1.33E-04	1.67E-04	4.88E-05	--
Cobalt	1.80E-07	3.93E-07	4.01E-07	1.39E-07	2.36E-07	4.15E-07	3.53E-07	2.58E-07	4.57E-07	--
Copper	--	7.75E-04	--	--	--	--	5.79E-04	--	3.06E-04	--
Crotonaldehyde	3.14E-05	4.35E-05	6.11E-05	3.48E-05	4.87E-05	3.88E-05	4.31E-05	6.13E-05	1.86E-05	--
Cyclohexane	1.95E-03	1.38E-03	2.97E-03	2.13E-03	1.43E-03	2.05E-03	2.50E-03	3.58E-02	1.03E-03	9.48E-04
Dibenzo(a,h)anthracene	1.16E-07	--	1.20E-07	--	1.67E-07	1.59E-07	4.16E-07	--	--	--
Dibenzofuran	1.12E-06	1.23E-06	3.52E-06	1.48E-06	3.92E-06	4.08E-06	5.91E-06	3.40E-06	4.04E-06	--
Dibromochloromethane	--	--	--	--	1.75E-04	1.89E-04	1.40E-04	2.07E-04	1.27E-04	--
Dibromomethane	9.14E-05	1.47E-04	1.14E-04	8.32E-05	1.43E-04	1.42E-04	9.94E-05	1.22E-04	9.31E-05	--
Dichlorodifluoromethane (Freon 12)	2.35E-03	2.36E-03	3.76E-03	2.24E-03	2.61E-03	2.74E-03	2.51E-03	3.94E-03	3.24E-03	--
Dieldrin	--	4.65E-07	1.08E-06	--	7.01E-07	--	8.69E-07	6.59E-07	4.70E-07	2.50E-07
Diethylphthalate	5.85E-06	7.64E-06	5.76E-06	2.85E-06	1.28E-05	5.56E-06	7.46E-06	6.50E-06	8.26E-06	--
Dimethylphthalate	3.50E-07	6.49E-07	4.04E-07	5.29E-07	2.83E-07	6.24E-07	4.91E-07	2.50E-07	3.70E-07	--
Di-n-butylphthalate	3.87E-05	3.66E-05	4.77E-05	3.75E-05	4.76E-05	4.04E-05	1.92E-05	1.95E-05	3.49E-05	--
Di-n-octylphthalate	--	--	--	3.57E-07	4.36E-07	--	6.15E-07	--	5.63E-07	--
Diphenylamine	4.37E-07	8.67E-07	3.07E-07	3.54E-07	3.24E-07	4.31E-07	3.05E-07	4.47E-07	3.11E-07	--
Endosulfan I	--	--	8.69E-07	--	--	8.66E-07	8.12E-07	--	8.72E-07	--
Endosulfan Sulfate	--	--	--	--	1.42E-06	--	2.15E-06	--	--	--
Ethylbenzene	7.84E-04	2.31E-03	1.47E-03	7.69E-04	7.41E-04	1.07E-03	1.22E-03	1.81E-03	1.07E-03	6.36E-04
Fluoranthene	1.43E-06	2.99E-06	4.23E-06	1.25E-06	3.47E-06	4.53E-06	8.76E-06	3.19E-06	4.58E-06	--
Fluorene	1.04E-06	1.69E-06	2.81E-06	1.02E-06	2.65E-06	2.88E-06	5.23E-06	2.39E-06	3.29E-06	4.80E-06
Formaldehyde	2.74E-03	3.12E-03	3.44E-03	3.05E-03	2.60E-03	3.10E-03	3.89E-03	2.80E-03	3.30E-03	1.15E-02
Gravimetrics-PM10	4.57E-02	8.27E-02	6.67E-02	3.61E-02	6.76E-02	6.99E-02	6.90E-02	6.54E-02	7.65E-02	2.22E-02

Table 4-2: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
Hexachlorobutadiene	5.56E-04	5.97E-04	5.55E-04	3.57E-04	3.54E-04	5.09E-04	4.94E-04	3.93E-04	4.83E-04	2.02E-04
Hexachloroethane	2.79E-05	--	3.66E-05	--	4.85E-05	3.76E-05	3.08E-05	4.38E-05	--	--
Hexaldehyde	2.25E-04	2.05E-04	2.01E-04	2.13E-04	1.64E-04	4.47E-04	2.49E-04	3.06E-04	1.82E-04	--
Hexane	2.31E-02	2.75E-02	6.69E-02	8.96E-03	6.31E-01	9.15E-01	4.26E-03	2.63E-01	2.06E-02	2.40E-03
Indeno(1,2,3-c,d)pyrene	--	--	8.34E-07	--	1.01E-06	9.80E-07	1.73E-06	9.39E-07	9.69E-07	--
Isobutyl Alcohol	8.33E-04	1.30E-03	6.30E-04	9.20E-04	1.32E-03	1.48E-03	1.09E-03	1.49E-03	1.18E-03	--
Isopropylbenzene	7.76E-05	1.89E-04	1.17E-04	6.45E-05	8.31E-05	8.79E-05	1.05E-04	2.83E-04	1.17E-04	8.74E-05
Lead	7.44E-06	1.34E-05	2.61E-05	5.76E-06	1.65E-05	2.78E-05	3.06E-05	2.99E-05	1.77E-05	4.80E-06
Manganese (Diet)	7.31E-06	2.17E-05	2.13E-05	6.71E-06	1.58E-05	1.61E-05	1.32E-05	1.39E-05	2.11E-05	2.03E-05
Mercury	3.04E-06	2.71E-06	2.87E-06	3.30E-06	2.83E-06	3.19E-06	3.65E-06	4.44E-06	3.27E-06	--
Methacrylaldehyde	1.30E-04	1.63E-04	2.05E-04	9.36E-05	1.61E-04	1.61E-04	3.19E-04	4.69E-04	2.05E-04	--
Methyl Acetate	2.70E-04	3.45E-04	6.96E-04	2.19E-04	3.81E-04	4.72E-04	7.55E-04	4.22E-04	4.77E-04	--
Methyl tert-Butyl Ether	7.18E-04	3.00E-03	3.01E-03	4.57E-04	4.53E-04	4.67E-04	7.10E-04	7.22E-04	8.13E-04	4.05E-04
Methylcyclohexane	1.93E-03	9.88E-04	1.38E-03	2.67E-03	6.35E-04	1.01E-03	1.09E-03	2.85E-02	1.18E-03	9.30E-04
Methylene Chloride	2.13E-03	2.28E-03	2.26E-03	9.00E-04	1.45E-03	1.63E-03	3.00E-03	1.57E-03	1.24E-03	7.52E-04
M-tolualdehyde	3.12E-04	2.14E-04	1.81E-04	1.83E-04	1.73E-04	3.66E-04	3.38E-04	2.20E-04	1.84E-04	--
Naphthalene	7.24E-05	1.94E-04	8.14E-05	5.52E-05	7.64E-05	7.76E-05	8.21E-05	7.06E-05	5.12E-05	7.96E-05
Nitrobenzene	--	--	--	--	1.89E-07	--	2.37E-07	--	--	--
N-valeraldehyde	1.36E-04	1.52E-04	2.09E-04	9.43E-05	1.42E-04	1.98E-04	2.15E-04	2.35E-04	1.60E-04	--
o-Toluidine	--	--	--	--	--	--	2.44E-07	--	--	--
Pentachlorobenzene	--	1.87E-07	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	1.59E-04	--	1.45E-04	1.51E-04	--	--	--	--
Phenanthrene	5.58E-06	1.11E-05	1.70E-05	6.48E-06	1.32E-05	1.36E-05	2.80E-05	1.13E-05	1.68E-05	1.06E-05
Phenol	9.95E-07	2.01E-06	5.71E-06	1.77E-06	9.82E-06	9.71E-06	1.38E-05	8.74E-06	9.28E-06	--
Propionaldehyde	2.24E-04	4.25E-04	3.19E-04	2.50E-04	2.45E-04	2.95E-04	5.13E-04	2.60E-04	3.27E-04	3.71E-04
Pyrene	1.22E-06	3.32E-06	3.90E-06	1.13E-06	2.75E-06	3.55E-06	8.09E-06	2.68E-06	3.96E-06	1.20E-06
Styrene	9.58E-04	6.23E-04	1.16E-03	1.12E-03	5.77E-04	1.21E-03	2.71E-03	8.17E-04	5.44E-04	1.43E-03
Tetrachloroethene	1.83E-03	4.42E-03	2.39E-03	4.09E-03	2.73E-03	3.76E-03	2.53E-03	4.80E-03	3.99E-03	2.48E-04
Thallium	1.35E-06	1.25E-06	9.37E-07	8.75E-07	1.11E-06	1.01E-06	9.15E-07	1.08E-06	7.23E-07	--
Tin	2.64E-06	1.03E-05	7.35E-06	1.83E-06	3.52E-06	4.71E-06	4.72E-06	5.56E-06	4.40E-06	--
Toluene	4.67E-03	1.21E-02	8.34E-03	5.44E-03	3.86E-03	5.01E-03	6.47E-03	3.01E-02	5.55E-03	3.64E-03
Total Carcinogenic PAHS (BaP TEQs)	3.42E-07	3.27E-07	5.43E-07	4.04E-07	9.01E-07	1.73E-06	2.36E-06	7.14E-07	9.37E-07	2.05E-07
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	4.03E-11	3.87E-11	3.20E-10	4.62E-11	3.46E-10	2.53E-09	5.18E-10	1.36E-09	1.95E-09	--
trans-1,2-Dichloroethene	6.10E-05	1.02E-04	6.85E-05	6.34E-05	6.83E-05	6.92E-05	6.63E-05	9.61E-05	--	--

Table 4-2: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
trans-1,3-Dichloropropene	4.23E-05	7.19E-05	6.85E-05	4.56E-05	2.37E-04	3.99E-04	1.59E-04	1.55E-04	7.60E-05	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	-- ⁽⁴⁾	--	--	--	--	--
Trichloroethene	1.01E-04	2.03E-04	2.42E-04	1.08E-04	1.33E-04	1.35E-04	1.34E-04	1.69E-04	1.43E-04	1.93E-04
Trichlorofluoromethane	1.68E-03	1.64E-03	1.66E-03	1.61E-03	1.76E-03	1.77E-03	1.78E-03	1.73E-03	1.76E-03	--
Vanadium	6.25E-06	9.25E-06	1.18E-05	6.62E-06	7.03E-06	--	6.04E-06	6.63E-06	6.83E-06	--
Vinyl Acetate	9.36E-04	7.95E-04	6.51E-04	4.49E-04	6.01E-04	9.42E-04	4.88E-04	6.29E-04	7.73E-04	--
Vinyl Chloride	4.55E-05	8.34E-05	--	--	4.34E-05	--	4.25E-05	5.61E-05	3.97E-05	6.28E-05
Xylenes, Total	3.96E-03	1.23E-02	7.22E-03	3.51E-03	3.49E-03	4.63E-03	5.95E-03	6.88E-03	5.03E-03	6.92E-04

Notes:

-- = Constituent was not detected at this location.

Shaded cells indicate where the exposure point concentration exceeded the 2007 USEPA Air Toxics Ambient Air Concentration
⁽¹⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level was, "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

⁽²⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level was, "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

⁽³⁾ This facility is located within Study Area 1 but data collected from this facility was used to evaluate air for Study Area 4.

⁽⁴⁾ Trans-1,4-Dichloro-2-Butene was only detected in 1 of 52 (1.92%) samples analyzed in Study Area 5 and was only detected in 1 of 455 (0.2%) ambient air samples from all nine study areas. The single detection was observed in a sample from residence #1756 located on the Italian economy and is not considered representative of the ambient air in Study Area 5. Therefore, trans-1,4-dichloro-2-butene was not evaluated further in the SRE for exposures associated with ambient air.

Table 4-3: Phase II Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNCEF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNCEF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNCEF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent? ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNCEF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNCEF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
Study Area 1																			
0010	PUBLIC	Phase II	--	--	0.1	0.0	3.2	0.5	1.5	0.0	0.0	0.5	4.7	0.0	3.2	No	No	Acceptable	Acceptable
0021	PUBLIC	Phase II	--	--	0.1	0.0	0.5	0.4	0.8	0.0	0.0	0.4	1.3	0.0	0.5	No	No	Acceptable	Acceptable
0024	PUBLIC	Phase II	--	--	0.1	0.0	0.0	0.9	0.4	0.0	0.0	0.9	0.4	0.0	0.0	No	No	Acceptable	Acceptable
0082	PUBLIC	Phase II	0.0	0.1	0.1	0.0	0.0	0.6	0.6	0.0	0.0	0.6	0.8	0.0	0.1	No	No	Acceptable	Acceptable
0085	PUBLIC	Phase II	0.0	0.3	0.1	0.0	2.9	0.3	0.6	0.0	0.0	0.3	3.8	0.0	3.2	No	No	Acceptable	Acceptable
0167	PUBLIC	Phase II	--	--	0.1	0.0	3.0	0.5	1.0	0.0	0.0	0.5	4.0	0.0	3.0	No	No	Acceptable	Acceptable
0171	PUBLIC	Phase II	--	--	0.1	0.0	3.5	0.6	4.4	0.0	0.4	0.6	7.9	0.0	3.9	No	No	Acceptable	Acceptable
0180	PUBLIC	Phase II	--	--	0.1	0.0	18.7	0.5	0.7	0.0	0.0	0.5	19.3	0.0	18.7	No	No	Unacceptable	Unacceptable
0185	PUBLIC	Phase II	--	--	0.0144	0.0	0.5	--	--	--	--	0.0	0.5	0.0	0.5	No	No	Acceptable	Acceptable
0588	PUBLIC	Phase II	0.0	0.1	0.1	0.0	1.5	0.2	1.1	0.0	0.0	0.2	2.7	0.0	1.6	No	No	Acceptable	Acceptable
0589	PUBLIC	Phase II	0.1	0.6	0.1	0.0	1.3	0.3	1.1	0.0	0.0	0.4	3.1	0.1	1.9	No	No	Acceptable	Acceptable
0598	PUBLIC	Phase II	--	--	0.1	0.1	82.0	2.0	2.2	0.0	0.0	2.1	84.2	0.1	82.0	No	No	Unacceptable	Unacceptable
1187	PUBLIC	Phase II	--	--	0.1	--	--	0.1	0.7	0.0	0.0	0.1	0.7	0.0	0.0	No	No	Acceptable	Acceptable
1227	PUBLIC	Phase II	--	--	0.1	0.0	0.7	0.8	5.3	0.0	0.6	0.8	6.0	0.0	1.4	No	No	Acceptable	Acceptable
1312	PUBLIC	Phase II	0.0	0.1	0.12	0.1	38.9	0.2	0.6	0.0	0.0	0.4	39.6	0.1	39.0	No	No	Unacceptable	Unacceptable
1443	PUBLIC	Phase II	0.0	0.1	0.1	0.0	6.3	0.8	5.7	0.0	0.7	0.9	12.1	0.0	7.0	No	No	Unacceptable	Acceptable
1450	PUBLIC	Phase II	--	--	0.1	0.0	2.7	0.2	1.2	0.0	0.0	0.2	3.9	0.0	2.7	No	No	Acceptable	Acceptable
1456	PUBLIC	Phase II	--	--	0.1	0.0	3.1	1.1	0.7	0.0	0.0	1.1	3.8	0.0	3.1	No	No	Unacceptable	Acceptable
1459	PUBLIC	Phase II	0.0	0.0	0.1	0.0	2.0	0.3	3.7	0.0	0.0	0.3	5.7	0.0	2.0	No	No	Acceptable	Acceptable
1517	PUBLIC	Phase II	--	--	0.1	--	--	0.7	4.6	0.0	0.5	0.7	4.6	0.0	0.5	No	No	Acceptable	Acceptable
1529	PUBLIC	Phase II	--	--	0.12	0.0	4.7	0.2	0.8	0.0	0.0	0.2	5.5	0.0	4.7	No	No	Acceptable	Acceptable
1811	PUBLIC	Phase II	0.0	0.0	0.1	0.0	1.8	0.2	0.8	0.0	0.0	0.2	2.7	0.0	1.9	No	No	Acceptable	Acceptable
1812	PUBLIC	Phase II	0.0	0.1	0.1	--	--	0.2	0.6	0.0	0.0	0.2	0.7	0.0	0.1	No	No	Acceptable	Acceptable
1839	PUBLIC	Phase II	--	--	0.1	0.0	1.9	0.7	3.6	0.0	0.3	0.7	5.5	0.0	2.2	No	No	Acceptable	Acceptable
1867	PUBLIC	Phase II	0.0	0.3	0.1	0.0	20.2	0.2	0.9	0.0	0.0	0.3	21.4	0.1	20.5	No	No	Unacceptable	Unacceptable
1928	PUBLIC	Phase II	--	--	0.1	0.0	4.8	0.9	4.7	0.0	0.6	0.9	9.5	0.0	5.4	No	No	Acceptable	Acceptable
1964	PUBLIC	Phase II	--	--	0.1	--	--	0.3	0.8	0.0	0.0	0.3	0.8	0.0	0.0	No	No	Acceptable	Acceptable
2090	PUBLIC	Phase II	--	--	0.1	0.0	11.7	0.6	4.5	0.0	0.5	0.6	16.2	0.0	12.3	No	No	Unacceptable	Unacceptable
2103	PUBLIC	Phase II	0.0	0.7	0.1	0.0	1.5	0.2	0.6	0.0	0.0	0.3	2.8	0.0	2.1	No	No	Acceptable	Acceptable
2139	PUBLIC	Phase II	--	--	0.1	0.0	3.0	1.3	5.3	0.0	0.6	1.3	8.3	0.0	3.6	No	No	Unacceptable	Acceptable
Study Area 2																			
1332	PUBLIC	Phase II	--	--	0.1	--	--	0.9	7.4	0.0	0.8	0.9	7.4	0.0	0.8	No	No	Acceptable	Acceptable
1334	PUBLIC	Phase II	--	--	0.1	0.0	5.7	0.7	6.5	0.0	0.7	0.8	12.2	0.0	6.4	Yes	No	Unacceptable	Unacceptable
1344	PUBLIC	Phase II	--	--	0.1	--	--	0.8	3.3	0.0	0.7	0.8	3.3	0.0	0.7	No	No	Acceptable	Acceptable
1345	PUBLIC	Phase II	--	--	0.1	--	--	6.3	6.2	0.0	0.7	6.3	6.2	0.0	0.7	No	No	Unacceptable	Acceptable
1346	PUBLIC	Phase II	--	--	0.1	--	--	0.8	3.0	0.0	0.3	0.8	3.0	0.0	0.3	No	No	Acceptable	Acceptable
1351	PUBLIC	Phase II	--	--	0.1	--	--	1.4	4.0	0.0	0.2	1.4	4.0	0.0	0.2	No	No	Unacceptable	Acceptable
1355	PUBLIC	Phase II	--	--	0.1	--	--	0.8	5.4	0.0	0.7	0.8	5.4	0.0	0.7	No	No	Acceptable	Acceptable
1356	PUBLIC	Phase II	--	--	0.1	--	--	0.8	5.4	0.0	0.6	0.8	5.4	0.0	0.6	No	No	Acceptable	Acceptable
1384	PUBLIC	Phase II	--	--	0.1	0.0	1.5	1.3	5.8	0.0	0.6	1.3	7.3	0.0	2.1	No	No	Unacceptable	Acceptable
1385	PUBLIC	Phase II	--	--	0.1	--	--	1.4	6.5	0.0	0.8	1.4	6.5	0.0	0.8	No	No	Unacceptable	Acceptable
1389	PUBLIC	Phase II	--	--	0.1	0.0	3.8	1.1	7.7	0.0	1.1	1.1	11.5	0.0	4.8	No	No	Unacceptable	Acceptable
1402	PUBLIC	Phase II	--	--	0.1	--	--	0.9	3.9	0.0	0.4	0.9	3.9	0.0	0.4	No	No	Acceptable	Acceptable
1783	PUBLIC	Phase II	--	--	0.1	--	--	0.8	6.0	0.0	0.8	0.8	6.0	0.0	0.8	No	No	Acceptable	Acceptable
1785	PUBLIC	Phase II	--	--	0.1	0.0	7.2	1.0	8.0	0.0	0.8	1.0	15.2	0.0	8.0	No	No	Unacceptable	Acceptable
1787	PUBLIC	Phase II	--	--	0.1	--	--	0.8	6.7	0.0	0.8	0.8	6.7	0.0	0.8	No	No	Acceptable	Acceptable
1788	PUBLIC	Phase II	0.0	10.0	0.1	0.0	2.5	0.9	90.6	0.0	0.8	0.9	103.1	0.0	13.3	No	Yes	Unacceptable	Unacceptable
1790	PUBLIC	Phase II	--	--	0.1	--	--	1.5	7.0	0.0	0.8	1.5	7.0	0.0	0.8	No	No	Unacceptable	Acceptable

Table 4-3: Phase II Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNCEF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNCEF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNCEF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent? ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNCEF	Total CCEF	Total CNCEF	Total CCEF				
												Ing.+ Inh. ⁽⁴⁾	Ing.+ Inh. ⁽⁴⁾	Inh. Only ⁽⁵⁾	Inh. Only ⁽⁵⁾				
1794	PUBLIC	Phase II	--	--	2.48832E-05	0.0	0.0	1.3	8.3	0.0	0.9	1.3	8.3	0.0	0.9	No	No	Unacceptable	Acceptable
1817	PUBLIC	Phase II	0.1	7.8	0.12	0.0	0.6	1.0	6.4	0.0	0.6	1.1	14.9	0.1	9.0	No	No	Unacceptable	Acceptable
1838	PUBLIC	Phase II	--	--	0.1	--	--	1.1	5.3	0.0	0.5	1.1	5.3	0.0	0.5	No	No	Unacceptable	Acceptable
2110	PUBLIC	Phase II	--	--	0.1	0.0	0.0	2.2	7.3	0.0	0.7	2.2	7.3	0.0	0.7	No	No	Unacceptable	Acceptable
2151	PUBLIC	Phase II	--	--	0.1	--	--	0.8	7.6	0.0	0.8	0.8	7.6	0.0	0.8	No	No	Unacceptable	Acceptable
Study Area 3																			
0479	PUBLIC	Phase II	0.0	0.1	0.1	0.0	7.4	0.2	2.2	0.0	0.0	0.3	9.6	0.0	7.5	No	No	Acceptable	Acceptable
1989	PUBLIC	Phase II	0.0	0.3	0.12	0.0	1.3	0.1	0.8	0.0	0.0	0.2	2.4	0.0	1.6	No	No	Acceptable	Acceptable
2006	PUBLIC	Phase II	--	--	0.1	--	--	0.2	0.6	0.0	0.0	0.2	0.6	0.0	0.0	No	No	Acceptable	Acceptable
2030	PUBLIC	Phase II	--	--	0.1	--	--	0.8	4.0	0.0	0.2	0.8	4.0	0.0	0.2	No	No	Acceptable	Acceptable
2035	PUBLIC	Phase II	--	--	0.1	--	--	0.7	1.4	0.0	0.0	0.7	1.4	0.0	0.0	No	No	Acceptable	Acceptable
2044	PUBLIC	Phase II	0.1	0.4	0.1	0.1	8.7	0.1	0.1	0.0	0.0	0.2	9.2	0.1	9.1	No	No	Acceptable	Acceptable
2045	PUBLIC	Phase II	0.1	0.7	0.1	0.0	3.1	0.5	1.2	0.0	0.0	0.6	5.0	0.1	3.8	No	No	Acceptable	Acceptable
2065	PUBLIC	Phase II	--	--	0.1	--	--	0.9	7.1	0.0	0.9	0.9	7.1	0.0	0.9	No	No	Acceptable	Acceptable
2079	PUBLIC	Phase II	--	--	0.1	0.1	6.0	1.8	0.8	0.0	0.0	1.9	6.8	0.1	6.0	No	No	Unacceptable	Acceptable
2106	PUBLIC	Phase II	0.0	0.1	0.1	0.0	1.8	0.1	0.5	0.0	0.0	0.2	2.4	0.0	1.9	No	No	Acceptable	Acceptable
2108	PUBLIC	Phase II	0.0	0.3	0.1	0.3	5.3	0.2	0.6	0.0	0.0	0.5	6.3	0.3	5.7	No	No	Acceptable	Acceptable
2111	PUBLIC	Phase II	--	--	0.1	0.0	1.2	0.1	0.2	0.0	0.0	0.1	1.4	0.0	1.2	No	No	Acceptable	Acceptable
2112	PUBLIC	Phase II	--	--	2.98598E-06	0.0	0.0	0.1	0.7	0.0	0.0	0.1	0.7	0.0	0.0	No	No	Acceptable	Acceptable
2140	PUBLIC	Phase II	--	--	2.48832E-05	0.0	0.0	0.4	4.9	0.0	0.8	0.4	4.9	0.0	0.8	No	No	Acceptable	Acceptable
Study Area 4																			
0114	PUBLIC	Phase II	--	--	0.1	0.0	4.5	0.5	2.6	0.0	0.0	0.5	7.2	0.0	4.5	No	No	Acceptable	Acceptable
0771	PUBLIC	Phase II	0.1	0.1	0.1	0.0	5.4	0.2	1.1	0.0	0.0	0.2	6.5	0.1	5.5	No	No	Acceptable	Acceptable
1562	PUBLIC	Phase II	0.0	0.0	0.1	2.2	116.4	0.2	1.5	0.0	0.0	2.4	118.0	2.2	116.5	No	No	Unacceptable	Unacceptable
1566	PUBLIC	Phase II	--	--	0.1	--	--	0.8	6.6	0.0	0.6	0.8	6.6	0.0	0.6	No	No	Acceptable	Acceptable
1569	PUBLIC	Phase II	0.0	0.0	0.1	0.0	1.3	0.7	0.6	0.0	0.0	0.7	1.9	0.0	1.3	No	No	Acceptable	Acceptable
1570	PUBLIC	Phase II	--	--	0.1	0.0	0.0	0.4	1.0	0.0	0.0	0.4	1.0	0.0	0.0	No	No	Acceptable	Acceptable
1809	PUBLIC	Phase II	--	--	0.1	--	--	1.2	3.7	0.0	0.1	1.2	3.7	0.0	0.1	No	No	Unacceptable	Acceptable
1872	PUBLIC	Phase II	0.0	0.0	0.1	0.0	0.9	0.1	2.0	0.0	0.0	0.2	3.0	0.0	0.9	No	No	Acceptable	Acceptable
2060	PUBLIC	Phase II	0.0	1.8	0.1	0.0	1.3	0.2	0.6	0.0	0.0	0.2	3.7	0.0	3.0	No	No	Acceptable	Acceptable
2071	PUBLIC	Phase II	--	--	0.1	0.0	2.3	0.3	2.2	0.0	0.0	0.4	4.5	0.0	2.3	No	No	Acceptable	Acceptable
2073	PUBLIC	Phase II	0.0	0.2	0.1	0.0	1.0	0.3	0.5	0.0	0.0	0.3	1.7	0.0	1.2	No	No	Acceptable	Acceptable
2093	PUBLIC	Phase II	0.0	0.1	0.12	0.0	1.8	0.2	1.3	0.0	0.0	0.3	3.2	0.0	1.9	Yes	No	Unacceptable	Unacceptable
2152	PUBLIC	Phase II	--	--	0.1	0.0	6.5	0.2	1.5	0.0	0.0	0.2	8.0	0.0	6.5	No	No	Acceptable	Acceptable
2153	PUBLIC	Phase II	--	--	0.1	--	--	1.1	2.6	0.0	0.0	1.1	2.6	0.0	0.0	No	No	Unacceptable	Acceptable
Study Area 5																			
0949	PUBLIC	Phase I	0.1	0.6	0.1	0.0	28.4	0.2	0.9	0.0	0.0	0.3	30.0	0.1	29.1	No	No	Unacceptable	Unacceptable
0564	PUBLIC	Phase II	--	--	0.1	0.0	2.8	2.0	1.3	0.0	0.0	2.0	4.1	0.0	2.8	No	No	Unacceptable	Acceptable
0574	PUBLIC	Phase II	--	--	0.1	0.0	0.0	0.8	1.5	0.0	0.0	0.8	1.5	0.0	0.0	No	No	Acceptable	Acceptable
0894	PUBLIC	Phase II	0.0	0.1	0.1	0.0	2.1	0.4	1.0	0.0	0.0	0.4	3.2	0.0	2.2	No	No	Acceptable	Acceptable
0917	PUBLIC	Phase II	--	--	0.1	0.0	4.1	0.1	0.2	0.0	0.0	0.1	4.3	0.0	4.1	No	No	Acceptable	Acceptable
0923	PUBLIC	Phase II	--	--	0.1	0.0	15.0	3.2	6.0	0.0	0.0	3.2	20.9	0.0	15.0	No	No	Unacceptable	Unacceptable
0961	PUBLIC	Phase II	--	--	0.1	--	--	0.2	0.7	0.0	0.0	0.2	0.7	0.0	0.0	No	No	Acceptable	Acceptable
0975	PUBLIC	Phase II	0.1	0.4	0.1	0.0	44.9	0.6	2.7	0.0	0.0	0.7	48.0	0.1	45.3	No	No	Unacceptable	Unacceptable
1020	PUBLIC	Phase II	--	--	0.1	0.0	3.8	0.1	1.5	0.0	0.0	0.1	5.3	0.0	3.8	No	No	Acceptable	Acceptable
1119	PUBLIC	Phase II	--	--	0.1	0.0	11.1	0.2	0.6	0.0	0.0	0.2	11.8	0.0	11.1	No	No	Unacceptable	Unacceptable
1120	PUBLIC	Phase II	0.0	0.1	0.1	0.0	2.1	0.2	2.9	0.0	0.0	0.2	5.1	0.0	2.2	Yes	No	Unacceptable	Unacceptable
1132	PUBLIC	Phase II	0.0	0.2	0.1	0.0	1.3	1.0	1.9	0.0	0.0	1.1	3.3	0.0	1.5	No	No	Unacceptable	Acceptable
1148	PUBLIC	Phase II	--	--	0.1	0.0	4.9	0.2	0.2	0.0	0.0	0.2	5.1	0.0	4.9	No	No	Acceptable	Acceptable

Table 4-3: Phase II Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent? ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
0238	WELL	Phase I	0.1	0.1	0.1	0.6	421.8	1.9	9.4	0.0	0.4	2.6	431.4	0.7	422.3	Yes	Yes	Unacceptable	Unacceptable
0246	WELL	Phase II	0.1	0.3	0.1	--	--	4.3	410.5	0.1	53.4	4.4	410.8	0.1	53.7	Yes	Yes	Unacceptable	Unacceptable
0302	WELL	Phase II	--	--	0.1	0.0	10.4	3.2	12.6	0.0	0.8	3.2	23.0	0.0	11.2	Yes	Yes	Unacceptable	Unacceptable
0333	WELL	Phase II	0.1	0.2	0.1	0.1	44.9	2.5	284.9	0.1	36.3	2.7	329.9	0.2	81.4	Yes	Yes	Unacceptable	Unacceptable
0488	WELL	Phase II	--	--	0.1	0.1	11.1	2.6	13.3	0.0	0.7	2.7	24.4	0.1	11.8	Yes	Yes	Unacceptable	Unacceptable
1613	WELL	Phase II	--	--	0.1	--	--	1.5	5.1	0.0	0.0	1.5	5.1	0.0	0.0	Yes	No	Unacceptable	Unacceptable
1638	WELL	Phase II	0.0	0.0	0.1	--	--	2.9	28.8	0.0	2.4	3.0	28.8	0.0	2.4	Yes	Yes	Unacceptable	Unacceptable
2032	WELL	Phase II	--	--	0.1	0.0	0.0	3.6	16.4	0.0	0.6	3.6	16.4	0.0	0.6	Yes	Yes	Unacceptable	Unacceptable
Study Area 9																			
2102	PUBLIC	Phase II	0.0	0.1	0.1	0.0	7.6	3.8	2.0	0.0	0.0	3.9	9.6	0.1	7.7	No	No	Unacceptable	Acceptable
2078	PUBLIC	Phase II	0.0	3.5	0.1	0.1	5.3	0.7	1.1	0.0	0.0	0.8	9.9	0.1	8.8	No	No	Acceptable	Acceptable
2040	PUBLIC	Phase II	--	--	0.1	0.0	1.3	0.1	0.1	0.0	0.0	0.1	1.5	0.0	1.3	No	No	Acceptable	Acceptable
2003	PUBLIC	Phase II	0.0	0.0	0.1	0.0	2.3	0.2	0.6	0.0	0.0	0.2	2.9	0.0	2.3	No	No	Acceptable	Acceptable
2002	PUBLIC	Phase II	--	--	0.1	--	--	0.2	0.3	0.0	0.0	0.2	0.3	0.0	0.0	No	No	Acceptable	Acceptable
0552	PUBLIC	Phase II	0.1	0.3	0.1	0.0	5.9	0.5	2.3	0.0	0.0	0.5	8.4	0.1	6.2	No	No	Acceptable	Acceptable
0551	PUBLIC	Phase II	0.1	6.2	0.12	0.1	1.1	0.1	0.1	0.0	0.0	0.2	7.5	0.1	7.3	No	No	Acceptable	Acceptable
0200	PUBLIC	Phase II	--	--	0.1	--	--	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	No	No	Acceptable	Acceptable

Notes:

0.0 = Value is less than 0.1

-- = Value is zero or samples were not collected for that medium

Inh. - Inhalation

Ing. - Ingestion

Shaded cells indicate residence is Unacceptable based on

⁽¹⁾ A vapor attenuation factor of 0.1 was applied in all instances to evaluate soil gas with the exception of multi-story residences that had a subsurface ventilated garages (i.e., podium-style construction) or apartment-type dwellings where the resident above the ground floor of the structure (i.e., the resident lived on the second floor or higher, assuming that the first floor is the ground floor of the building. In these instances a multi-story attenuation factor was applied as described in Appendix B

⁽²⁾ Ing.+Inh. exposure scenario for residences assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁽³⁾ Inh. Only exposure scenario for residences assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁽⁴⁾ Ing.+Inh. exposure scenario for residences (total cumulative exceedance factor based on tap water, soil, and soil gas) assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.

⁽⁵⁾ Inh. Only exposure scenario for residences (total cumulative exceedance factor based on tap water, soil, and soil gas) assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.

⁽⁶⁾ Excluding constituents that are present at concentrations similar to those found in the environment (e.g., inorganic elements except for lead, copper, and thallium)

⁽⁷⁾ For explanation of the Risk Management Categories see Section 4.3.

⁽⁸⁾ Residence is located outside of study area boundaries. It was included with the study area it was nearest to for analyses purposes.

Table 4-4: Study Area 1 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
30 Residences Sampled: 30 on Public Water					
Total – Ingestion+Inhalation ⁶	8	0.0005 - 2.1	0.39 - 84.2	<ul style="list-style-type: none"> ▪ Tap Water RSLs (3) ▪ Tap Water USMCLs⁸ (0) ▪ Soil (0) ▪ Soil Gas (5) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Lead ▪ Tetrachloroethene ▪ Total Dioxin/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,2-Dichloropropane ▪ 1,4-Dichlorobenzene ▪ Benzene ▪ Bromoform ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Methyl tert-Butyl Ether ▪ Tetrachloroethene ▪ Trichloroethene
Total – Inhalation Only ⁷	5	0.0001 - 0.15	0.12 - 82.0	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (0) ▪ Soil (0) ▪ Soil Gas (5) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL or USMCL <p>Soil</p> <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,2-Dichloropropane ▪ 1,4-Dichlorobenzene ▪ Benzene ▪ Bromoform ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Methyl tert-Butyl Ether ▪ Tetrachloroethene ▪ Trichloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10, or tap water concentrations that exceed the USMCL

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedance of chemical or microorganism USMCL

⁹Exceedance of microorganism USMCLs only

Table 4-5: Study Area 2 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
22 Residences Sampled: 22 on Public Water					
Total – Ingestion+Inhalation ⁶	13	0.76 - 6.3	3.0 - 103.1	<ul style="list-style-type: none"> ▪ Tap Water RSLs (11) ▪ Tap Water USMCLs⁸ (2) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ Lead ▪ Tetrachloroethene ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Tetrachloroethene
Total – Inhalation Only ⁷	2	0.0005 - 0.07	0.21 - 13.3	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (1) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Coliforms Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Tetrachloroethene

Notes:

¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10, or tap water concentrations that exceed the USMCL

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedance of chemical or microorganism USMCL

⁹Exceedance of microorganism USMCLs only

Table 4-6: Study Area 3 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
14 Residences Sampled: 14 on Public Water					
Total – Ingestion+Inhalation ⁶	1	0.09 - 1.9	0.64 - 9.6	<ul style="list-style-type: none"> ▪ Tap Water RSLs (1) ▪ Tap Water USMCLs⁸ (0) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ Lead ▪ Tetrachloroethene ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium Soil <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL Soil Gas <ul style="list-style-type: none"> ▪ 1,2-Dichloropropane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Tetrachloroethene
Total – Inhalation Only ⁷	0	0.0000004 - 0.32	0.0001 - 9.1	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (0) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL or USMCL Soil <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL Soil Gas <ul style="list-style-type: none"> ▪ 1,2-Dichloropropane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Tetrachloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10, or tap water concentrations that exceed the USMCL

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedance of chemical or microorganism USMCL

⁹Exceedance of microorganism USMCLs only

Table 4-7: Study Area 4 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
14 Residences Sampled: 14 on Public Water					
Total – Ingestion+Inhalation ⁶	4	0.17 - 2.4	1.0 - 118.0	<ul style="list-style-type: none"> ▪ Tap Water RSLs (2) ▪ Tap Water USMCLs⁸ (1) ▪ Soil (0) ▪ Soil Gas (1) 	Public Water Supply <ul style="list-style-type: none"> ▪ Tetrachloroethene ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexane ▪ Tetrachloroethene
Total – Inhalation Only ⁷	2	0.00002 - 2.2	0.10 - 116.5	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (1) ▪ Soil (0) ▪ Soil Gas (1) 	Public Water Supply <ul style="list-style-type: none"> ▪ Total Coliforms Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexane ▪ Tetrachloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10, or tap water concentrations that exceed the USMCL

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedance of chemical or microorganism USMCL

⁹Exceedance of microorganism USMCLs only

Table 4-8: Study Area 5 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
33 Residences Sampled: 28 Public Water and 5 on Private Wells					
Total – Ingestion + Inhalation ⁶	15	0.12 - 3.3	0.69 - 257.1	<ul style="list-style-type: none"> ▪ Tap Water RSLs (10) ▪ Tap Water USMCLs⁸ (6) ▪ Soil (0) ▪ Soil Gas (8) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Copper ▪ Fluoride ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Private Well</p> <ul style="list-style-type: none"> ▪ Fecal Coliform ▪ Nitrate (measured as NO₃-) ▪ Tetrachloroethene ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene

Table 4-8: Study Area 5 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
33 Residences Sampled: 28 Public Water and 5 on Private Wells					
Total – Inhalation Only ⁷	10	0.0005 - 0.13	0.08 - 89.6	<ul style="list-style-type: none"> ▪ Tap Water RSLs (4) ▪ Tap Water USMCLs⁹ (4) ▪ Soil (0) ▪ Soil Gas (8) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Total Coliforms <p>Private Well</p> <ul style="list-style-type: none"> ▪ Fecal Coliform ▪ Nitrate (measured as NO₃-) ▪ Tetrachloroethene ▪ Total Coliforms <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10, or tap water concentrations that exceed the USMCL

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedance of chemical or microorganism USMCL

⁹Exceedance of microorganism USMCLs only

Table 4-9: Study Area 6 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
30 Residences Sampled: 29 Public Water and one on Private Well					
Total – Ingestion + Inhalation ⁶	13	0.0006 - 33.6	0.43 - 29193.6	<ul style="list-style-type: none"> ▪ Tap Water RSLs (7) ▪ Tap Water USMCLs⁸ (3) ▪ Soil (0) ▪ Soil Gas (5) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Fluoride ▪ Lead ▪ Nitrate (measured as NO₃-) ▪ Tetrachloroethene ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Private Well</p> <ul style="list-style-type: none"> ▪ Carbon Tetrachloride ▪ Nitrate (measured as NO₃-) ▪ Tetrachloroethene ▪ Total Coliforms ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ 1,3-Butadiene ▪ Acrylonitrile ▪ Benzene ▪ Carbon Tetrachloride ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene ▪ Vinyl Chloride

Table 4-9: Study Area 6 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
30 Residences Sampled: 29 Public Water and one on Private Well					
Total – Inhalation Only ⁷	5	0.0004 - 30.5	0.43 - 29177.6	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (1) ▪ Soil (0) ▪ Soil Gas (5) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL or USMCL <p>Private Well</p> <ul style="list-style-type: none"> ▪ Carbon Tetrachloride ▪ Nitrate (measured as NO₃-) ▪ Total Coliforms <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ 1,3-Butadiene ▪ Acrylonitrile ▪ Benzene ▪ Carbon Tetrachloride ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene ▪ Vinyl Chloride

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10, or tap water concentrations that exceed the USMCL

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedance of chemical or microorganism USMCL

⁹Exceedance of microorganism USMCLs only

Table 4-10: Study Area 7 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
24 Residences Sampled: 24 on Public Water					
Total – Ingestion+Inhalation ⁶	9	0.12 - 2.9	0.97 - 20.8	<ul style="list-style-type: none"> ▪ Tap Water RSLs (8) ▪ Tap Water USMCLs⁸ (3) ▪ Soil (0) ▪ Soil Gas (1) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene
Total – Inhalation Only ⁷	4	0.000005 - 0.07	0.0004 - 12.5	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁸ (2) ▪ Soil (0) ▪ Soil Gas (1) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Total Coliforms <p>Soil</p> <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10, or tap water concentrations that exceed the USMCL

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedance of chemical or microorganism USMCL

⁹Exceedance of microorganism USMCLs only

Table 4-11: Study Area 8 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
34 Residences Sampled: 27 Public Water and 7 on Private Wells					
Total – Ingestion+Inhalation ⁶	24	0.51 - 4.4	1.4 - 410.8	<ul style="list-style-type: none"> ▪ Tap Water RSLs (15) ▪ Tap Water USMCLs⁸ (9) ▪ Soil (0) ▪ Soil Gas (12) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Copper ▪ Fecal Coliform ▪ Lead ▪ Tetrachloroethene ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Private Well</p> <ul style="list-style-type: none"> ▪ Copper ▪ Fluoride ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ 1,2-Dichloropropane ▪ 1,3-Butadiene ▪ Acrylonitrile ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Hexane ▪ Tetrachloroethene

Table 4-11: Study Area 8 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
34 Residences Sampled: 27 Public Water and 7 on Private Wells					
Total – Inhalation Only ⁷	18	0.0005 - 2.7	0.02 - 152.0	<ul style="list-style-type: none"> ▪ Tap Water RSLs (2) ▪ Tap Water USMCLs⁹ (9) ▪ Soil (0) ▪ Soil Gas (12) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Fecal Coliform ▪ Total Coliforms <p>Private Well</p> <ul style="list-style-type: none"> ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Total Coliforms <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ 1,2-Dichloropropane ▪ 1,3-Butadiene ▪ Acrylonitrile ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Hexane ▪ Tetrachloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10, or tap water concentrations that exceed the USMCL

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedance of chemical or microorganism USMCL

⁹Exceedance of microorganism USMCLs only

Table 4-12: Study Area 9 – Phase II Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
8 Residences Sampled: 8 on Public Water					
Total – Ingestion+Inhalation ⁶	1	0.11 - 3.9	0.11 - 9.9	<ul style="list-style-type: none"> ▪ Tap Water RSLs (1) ▪ Tap Water USMCLs⁸ (0) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ Lead ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene
Total – Inhalation Only ⁷	0	0.002 - 0.11	1.3 - 8.8	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (0) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ No constituents exceeded the RSL or USMCL Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene

Notes:

¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10, or tap water concentrations that exceed the USMCL

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedance of chemical or microorganism USMCL

⁹Exceedance of microorganism USMCLs only

Table 4-13: Number of Exceedances for Tap Water from Public Sources – Inhalation-Only by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
No Noncancer or Cancer-based RSL data collected											

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
No unacceptable Noncancer or Cancer-based EFS data collected											

Number of Residences with Exceedances of USMCLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
PTCCAS_0009	Fecal Coliform	0 of 29	0 of 22	0 of 14	0 of 14	0 of 28	0 of 27	0 of 24	1 of 27	0 of 8	1 of 193
PTCCAS_0007	Total Coliforms	0 of 29	1 of 22	0 of 14	1 of 14	1 of 28	0 of 27	2 of 24	2 of 27	0 of 8	7 of 193

Table 4-14: Number of Exceedances for Tap Water from Private Wells – Inhalation-Only by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
56-23-5	Carbon Tetrachloride	0 of 0	0 of 0	0 of 0	0 of 0	0 of 5	1 of 1	0 of 0	0 of 7	0 of 0	1 of 13
127-18-4	Tetrachloroethene	0 of 0	0 of 0	0 of 0	0 of 0	4 of 5	0 of 1	0 of 0	3 of 7	0 of 0	7 of 13

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
127-18-4	Tetrachloroethene	0 of 0	0 of 0	0 of 0	0 of 0	4 of 5	0 of 1	0 of 0	2 of 7	0 of 0	6 of 13

Number of Residences with Exceedances of USMCLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
PTCCAS_0009	Fecal Coliform	0 of 0	0 of 0	0 of 0	0 of 0	1 of 5	0 of 1	0 of 0	0 of 7	0 of 0	1 of 13
PTCCAS_0007	Total Coliforms	0 of 0	0 of 0	0 of 0	0 of 0	3 of 5	1 of 1	0 of 0	7 of 7	0 of 0	11 of 13

Table 4-15: Number of Exceedances for Tap Water from Public Sources – Ingestion+Inhalation by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
7440-50-8	Copper	0 of 29	0 of 22	0 of 14	0 of 14	1 of 28	0 of 27	0 of 24	1 of 27	0 of 8	2 of 193
16984-48-8	Fluoride	0 of 29	0 of 22	0 of 14	0 of 14	1 of 28	1 of 27	0 of 24	0 of 27	0 of 8	2 of 193
7439-92-1	Lead	1 of 29	2 of 22	1 of 14	0 of 14	0 of 28	3 of 27	0 of 24	1 of 27	1 of 8	9 of 193
14797-55-8	Nitrate (measured as NO3-)	0 of 29	0 of 22	0 of 14	0 of 14	0 of 28	2 of 27	1 of 24	0 of 27	0 of 8	3 of 193
127-18-4	Tetrachloroethene	8 of 29	19 of 22	2 of 14	1 of 14	0 of 28	2 of 27	4 of 24	1 of 27	0 of 8	37 of 193
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 12	1 of 14	0 of 7	0 of 6	0 of 16	0 of 17	0 of 11	0 of 21	0 of 2	1 of 106
DIOXIN-TEQ	Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	1 of 29	4 of 22	2 of 14	3 of 14	6 of 28	7 of 27	1 of 24	2 of 27	1 of 8	27 of 193
7440-61-1	Uranium	9 of 29	21 of 22	3 of 14	4 of 14	5 of 28	7 of 27	10 of 24	11 of 27	1 of 8	71 of 193

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
7440-50-8	Copper	0 of 29	0 of 22	0 of 14	0 of 14	1 of 28	0 of 27	0 of 24	1 of 27	0 of 8	2 of 193
16984-48-8	Fluoride	0 of 29	0 of 22	0 of 14	0 of 14	1 of 28	1 of 27	0 of 24	0 of 27	0 of 8	2 of 193
7439-92-1	Lead	1 of 29	2 of 22	1 of 14	0 of 14	0 of 28	3 of 27	0 of 24	1 of 27	1 of 8	9 of 193
14797-55-8	Nitrate (measured as NO3-)	0 of 29	0 of 22	0 of 14	0 of 14	0 of 28	2 of 27	1 of 24	0 of 27	0 of 8	3 of 193
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 12	1 of 14	0 of 7	0 of 6	0 of 16	0 of 17	0 of 11	0 of 21	0 of 2	1 of 106

Number of Residences with Exceedances of USMCLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
PTCCAS_0009	Fecal Coliform	0 of 29	0 of 22	0 of 14	0 of 14	0 of 28	0 of 27	0 of 24	1 of 27	0 of 8	1 of 193
14797-55-8	Nitrate (measured as NO3-)	0 of 29	0 of 22	0 of 14	0 of 14	0 of 28	2 of 27	2 of 24	0 of 27	0 of 8	4 of 193
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 12	1 of 14	0 of 7	0 of 6	0 of 16	0 of 17	0 of 11	0 of 21	0 of 2	1 of 106
PTCCAS_0007	Total Coliforms	0 of 29	1 of 22	0 of 14	1 of 14	1 of 28	0 of 27	2 of 24	2 of 27	0 of 8	7 of 193

Table 4-16: Number of Exceedances for Tap Water from Private Wells – Ingestion+Inhalation by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
56-23-5	Carbon Tetrachloride	0 of 0	0 of 0	0 of 0	0 of 0	0 of 5	1 of 1	0 of 0	0 of 7	0 of 0	1 of 13
7440-50-8	Copper	0 of 0	0 of 0	0 of 0	0 of 0	0 of 5	0 of 1	0 of 0	1 of 7	0 of 0	1 of 13
16984-48-8	Fluoride	0 of 0	0 of 0	0 of 0	0 of 0	0 of 5	0 of 1	0 of 0	1 of 7	0 of 0	1 of 13
14797-55-8	Nitrate (measured as NO3-)	0 of 0	0 of 0	0 of 0	0 of 0	5 of 5	1 of 1	0 of 0	6 of 7	0 of 0	12 of 13
127-18-4	Tetrachloroethene	0 of 0	0 of 0	0 of 0	0 of 0	4 of 5	1 of 1	0 of 0	6 of 7	0 of 0	11 of 13
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 0	0 of 0	0 of 0	0 of 0	1 of 1	0 of 1	0 of 0	0 of 5	0 of 0	1 of 7
DIOXIN-TEQ	Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0 of 0	0 of 0	0 of 0	0 of 0	1 of 5	0 of 1	0 of 0	1 of 7	0 of 0	2 of 13
7440-61-1	Uranium	0 of 0	0 of 0	0 of 0	0 of 0	5 of 5	1 of 1	0 of 0	7 of 7	0 of 0	13 of 13

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
56-23-5	Carbon Tetrachloride	0 of 0	0 of 0	0 of 0	0 of 0	0 of 5	1 of 1	0 of 0	0 of 7	0 of 0	1 of 13
7440-50-8	Copper	0 of 0	0 of 0	0 of 0	0 of 0	0 of 5	0 of 1	0 of 0	1 of 7	0 of 0	1 of 13
16984-48-8	Fluoride	0 of 0	0 of 0	0 of 0	0 of 0	0 of 5	0 of 1	0 of 0	1 of 7	0 of 0	1 of 13
14797-55-8	Nitrate (measured as NO3-)	0 of 0	0 of 0	0 of 0	0 of 0	5 of 5	1 of 1	0 of 0	6 of 7	0 of 0	12 of 13
127-18-4	Tetrachloroethene	0 of 0	0 of 0	0 of 0	0 of 0	4 of 5	0 of 1	0 of 0	3 of 7	0 of 0	7 of 13
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 0	0 of 0	0 of 0	0 of 0	1 of 1	0 of 1	0 of 0	0 of 5	0 of 0	1 of 7
7440-61-1	Uranium	0 of 0	0 of 0	0 of 0	0 of 0	1 of 5	0 of 1	0 of 0	2 of 7	0 of 0	3 of 13

Number of Residences with Exceedances of USMCLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
PTCCAS_0009	Fecal Coliform	0 of 0	0 of 0	0 of 0	0 of 0	1 of 5	0 of 1	0 of 0	0 of 7	0 of 0	1 of 13
14797-55-8	Nitrate (measured as NO3-)	0 of 0	0 of 0	0 of 0	0 of 0	5 of 5	1 of 1	0 of 0	6 of 7	0 of 0	12 of 13
127-18-4	Tetrachloroethene	0 of 0	0 of 0	0 of 0	0 of 0	4 of 5	0 of 1	0 of 0	2 of 7	0 of 0	6 of 13
PTCCAS_0007	Total Coliforms	0 of 0	0 of 0	0 of 0	0 of 0	3 of 5	1 of 1	0 of 0	7 of 7	0 of 0	11 of 13

Table 4-17: Number of Exceedances for Soil by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas No	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 11	2 of 2	0 of 6	1 of 7	2 of 11	1 of 11	0 of 7	2 of 20	2 of 5	10 of 80

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area - For Soil

Cas No	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 11	0 of 2	0 of 6	0 of 7	0 of 11	0 of 11	0 of 7	0 of 20	0 of 5	0 of 80

Table 4-18: Number of Exceedances for Soil Gas by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
630-20-6	1,1,1,2-Tetrachloroethane	0 of 26	1 of 8	0 of 10	0 of 11	1 of 32	0 of 30	0 of 22	0 of 30	0 of 6	2 of 175
79-34-5	1,1,2,2-Tetrachloroethane	0 of 26	0 of 8	0 of 10	0 of 11	0 of 32	1 of 30	1 of 22	1 of 30	0 of 6	3 of 175
78-87-5	1,2-Dichloropropane	1 of 26	0 of 8	1 of 10	0 of 11	0 of 32	0 of 30	0 of 22	2 of 29	0 of 6	4 of 174
106-99-0	1,3-Butadiene	0 of 26	0 of 8	0 of 10	0 of 11	0 of 32	1 of 30	0 of 22	3 of 29	0 of 6	4 of 174
106-46-7	1,4-Dichlorobenzene	1 of 26	0 of 8	0 of 10	0 of 11	0 of 32	0 of 30	0 of 22	0 of 30	0 of 6	1 of 175
107-13-1	Acrylonitrile	0 of 26	0 of 8	0 of 10	0 of 11	0 of 32	4 of 30	0 of 22	1 of 29	0 of 6	5 of 174
71-43-2	Benzene	2 of 26	1 of 8	3 of 10	2 of 11	2 of 32	2 of 30	2 of 22	7 of 30	2 of 6	23 of 175
75-25-2	Bromoform	1 of 26	0 of 8	0 of 10	0 of 11	0 of 32	0 of 30	0 of 22	0 of 29	0 of 6	1 of 174
56-23-5	Carbon Tetrachloride	0 of 26	0 of 8	0 of 10	0 of 11	0 of 32	1 of 30	0 of 22	0 of 30	0 of 6	1 of 175
67-66-3	Chloroform	6 of 26	1 of 8	1 of 10	1 of 11	15 of 32	8 of 30	7 of 22	6 of 30	3 of 6	48 of 175
100-41-4	Ethylbenzene	4 of 26	0 of 8	1 of 10	2 of 11	1 of 32	3 of 30	4 of 22	9 of 30	1 of 6	25 of 175
87-68-3	Hexachlorobutadiene	1 of 26	0 of 8	0 of 10	0 of 11	1 of 32	2 of 30	2 of 22	1 of 29	1 of 6	8 of 174
110-54-3	Hexane	0 of 26	0 of 8	0 of 10	1 of 11	0 of 32	0 of 30	0 of 22	1 of 29	0 of 6	2 of 174
1634-04-4	Methyl tert-Butyl Ether	1 of 26	0 of 8	0 of 10	0 of 11	0 of 32	0 of 30	0 of 22	0 of 30	0 of 6	1 of 175
127-18-4	Tetrachloroethene	11 of 26	4 of 8	3 of 10	8 of 11	13 of 32	21 of 30	9 of 22	21 of 30	3 of 6	93 of 175
79-01-6	Trichloroethene	2 of 26	0 of 8	0 of 10	0 of 11	0 of 32	0 of 30	0 of 22	0 of 30	0 of 6	2 of 175
75-01-4	Vinyl Chloride	0 of 26	0 of 8	0 of 10	0 of 11	0 of 32	1 of 30	0 of 22	0 of 30	0 of 6	1 of 175

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
106-46-7	1,4-Dichlorobenzene	1 of 26	0 of 8	0 of 10	0 of 11	0 of 32	0 of 30	0 of 22	0 of 30	0 of 6	1 of 175
71-43-2	Benzene	0 of 26	0 of 8	0 of 10	1 of 11	0 of 32	1 of 30	0 of 22	1 of 30	0 of 6	3 of 175
56-23-5	Carbon Tetrachloride	0 of 26	0 of 8	0 of 10	0 of 11	0 of 32	1 of 30	0 of 22	0 of 30	0 of 6	1 of 175
67-66-3	Chloroform	3 of 26	0 of 8	0 of 10	0 of 11	3 of 32	1 of 30	0 of 22	1 of 30	0 of 6	8 of 175
100-41-4	Ethylbenzene	0 of 26	0 of 8	0 of 10	0 of 11	0 of 32	0 of 30	0 of 22	1 of 30	0 of 6	1 of 175
110-54-3	Hexane	0 of 26	0 of 8	0 of 10	1 of 11	0 of 32	0 of 30	0 of 22	1 of 29	0 of 6	2 of 174
127-18-4	Tetrachloroethene	2 of 26	0 of 8	0 of 10	0 of 11	3 of 32	4 of 30	0 of 22	6 of 30	0 of 6	15 of 175
79-01-6	Trichloroethene	1 of 26	0 of 8	0 of 10	0 of 11	0 of 32	0 of 30	0 of 22	0 of 30	0 of 6	1 of 175

Table 4-19: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 1 JFC NATO		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	9.7E-05	3.0E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	8.04E-05	1.9E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	7.03E-05	4.4E+02	3.4E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	7.00E-05	1.7E+01	7.5E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	7.26E-05	7.8E-01	2.9E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	8.49E-03	3.5E+01	2.0E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	--	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	1.88E-04	8.5E-01	2.3E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	9.73E-03	8.8E+00	1.0E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.56E-03	--	1.2E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.68E-04	4.7E+00	8.0E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	2.50E-06	4.4E+00	1.6E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.27E-03	4.1E+00	4.0E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.08E-04	1.6E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.39E-04	3.9E+00	3.2E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.55E-04	1.5E+00	1.5E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	1.80E-07	6.7E-01	2.9E-02
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	7.84E-04	8.1E-01	7.5E-04
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	2.74E-03	1.5E+01	2.7E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.56E-04	5.0E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.3E-02	--	3.2E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.24E-05	1.0E+00	2.3E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	1.83E-03	4.5E+00	6.5E-03
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	3.42E-07	3.9E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	4.03E-11	6.3E-01	9.7E-04
TOTAL (4):				159.55	33.12		552.86	127.75
TOTAL (5):				159.55	33.12		110.49	127.11

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdata/mart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-19: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 2 Consulate		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.6E-04	5.0E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.27E-04	3.0E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	1.04E-04	6.5E+02	5.0E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	1.11E-04	2.7E+01	1.2E-02
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.13E-04	1.2E+00	4.5E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	4.43E-03	1.8E+01	1.1E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	4.56E-04	5.6E+00	2.2E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	2.34E-04	1.1E+00	2.8E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.07E-02	9.6E+00	1.1E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.01E-03	--	9.6E+01
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	2.21E-04	6.2E+00	1.1E-01
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	3.72E-06	6.6E+00	2.4E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	3.03E-03	9.7E+00	9.7E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.54E-04	2.3E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.33E-04	3.9E+00	3.2E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.64E-04	1.5E+00	1.6E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	3.93E-07	1.5E+00	6.3E-02
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	4.65E-07	8.8E-01	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	2.31E-03	2.4E+00	2.2E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.12E-03	1.7E+01	3.1E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.97E-04	5.4E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.8E-02	--	3.8E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	1.94E-04	2.7E+00	6.2E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	4.42E-03	1.1E+01	1.6E-02
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	3.27E-07	3.7E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	3.87E-11	6.0E-01	9.3E-04
TOTAL (4):				159.55	33.12		790.57	102.49
TOTAL (5):				159.55	33.12		135.57	101.65

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdata/mart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-19: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 3 CAPO		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.3E-04	3.9E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.09E-04	2.6E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	1.16E-04	7.3E+02	5.6E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	--	--	--
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	8.49E-05	9.1E-01	3.4E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	6.74E-03	2.8E+01	1.6E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.38E-04	4.2E+00	1.6E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	3.04E-04	1.4E+00	3.6E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	6.96E-03	6.3E+00	7.4E-01
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	3.46E-03	--	1.7E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.49E-04	4.2E+00	7.1E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	9.28E-06	1.6E+01	5.9E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	2.28E-03	7.3E+00	7.3E-02
Bromodichloromethane	6.6E-05	--	--	--	--	--	--	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	5.98E-04	3.7E+00	3.0E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.26E-04	1.2E+00	1.2E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	4.01E-07	1.5E+00	6.4E-02
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	1.08E-06	2.0E+00	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.47E-03	1.5E+00	1.4E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.44E-03	1.8E+01	3.4E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.55E-04	5.0E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	6.7E-02	--	9.2E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	8.14E-05	1.1E+00	2.6E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	2.39E-03	5.8E+00	8.4E-03
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	5.43E-07	6.2E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	3.20E-10	5.0E+00	7.7E-03
TOTAL (4):				159.55	33.12		845.98	171.87
TOTAL (5):				159.55	33.12		112.17	170.79

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-19: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 4 ⁽³⁾ Carney Park		
			Exposure Point Concentration mg/m ³ ⁽¹⁾	CEF	NCEF	Exposure Point Concentration mg/m ³ ⁽²⁾	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.0E-04	3.1E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	8.67E-05	2.1E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	6.34E-05	4.0E+02	3.0E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	7.62E-05	1.9E+01	8.1E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.66E-04	1.8E+00	6.5E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	2.73E-03	1.1E+01	6.5E-01
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	--	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	1.56E-04	7.1E-01	1.9E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.04E-02	9.3E+00	1.1E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	1.50E-03	--	7.2E+01
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.25E-04	3.5E+00	6.0E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	2.14E-06	3.8E+00	1.4E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.24E-03	4.0E+00	3.9E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.30E-04	2.0E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.30E-04	3.9E+00	3.2E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	3.34E-04	3.1E+00	3.3E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	1.39E-07	5.2E-01	2.2E-02
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	7.69E-04	7.9E-01	7.4E-04
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.05E-03	1.6E+01	3.0E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	3.57E-04	3.2E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	9.0E-03	--	1.2E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	5.52E-05	7.7E-01	1.8E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	4.09E-03	9.9E+00	1.4E-02
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	4.04E-07	4.6E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	4.62E-11	7.2E-01	1.1E-03
TOTAL⁽⁴⁾				159.55	33.12		494.47	75.40
TOTAL⁽⁵⁾				159.55	33.12		94.09	74.96

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

⁽¹⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdata/mart/index.htm>.

⁽²⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

⁽³⁾ This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

⁽⁴⁾ These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

⁽⁵⁾ These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-19: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 5 Receiver Site		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.2E-04	3.7E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	9.53E-05	2.3E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.07E-05	5.7E+02	4.3E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	1.01E-04	2.5E+01	1.1E-02
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.06E-04	1.1E+00	4.2E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	6.91E-03	2.8E+01	1.7E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.04E-04	3.8E+00	1.5E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	2.07E-04	9.4E-01	2.5E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.06E-02	9.5E+00	1.1E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.59E-03	--	1.2E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.52E-04	4.2E+00	7.3E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	3.95E-06	7.0E+00	2.5E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.80E-03	5.8E+00	5.8E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.53E-04	2.3E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.81E-04	4.2E+00	3.5E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.30E-04	1.2E+00	1.3E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	2.36E-07	8.8E-01	3.8E-02
Dibromochloromethane	9.0E-05	--	--	--	--	1.75E-04	1.9E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	7.01E-07	1.3E+00	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	7.41E-04	7.6E-01	7.1E-04
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	2.60E-03	1.4E+01	2.5E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	3.54E-04	3.2E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	6.3E-01	--	8.6E-01
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.64E-05	1.1E+00	2.4E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	2.73E-03	6.6E+00	9.7E-03
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	9.01E-07	1.0E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	3.46E-10	5.4E+00	8.3E-03
TOTAL (4):				159.55	33.12		700.79	130.21
TOTAL (5):				159.55	33.12		122.80	129.30

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdata/mart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-19: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 6 Support Site		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	3.7E-04	1.1E+00	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.37E-04	3.3E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.78E-05	6.1E+02	4.7E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	9.96E-05	2.5E+01	1.1E-02
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	9.37E-05	1.0E+00	3.7E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	5.71E-03	2.4E+01	1.4E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.11E-04	3.8E+00	1.5E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	5.10E-04	2.3E+00	6.1E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	9.98E-03	9.0E+00	1.1E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.52E-03	--	1.2E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.52E-04	4.2E+00	7.3E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	3.62E-06	6.4E+00	2.3E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.96E-03	6.3E+00	6.3E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.37E-04	2.1E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.57E-04	4.1E+00	3.3E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	2.06E-04	1.9E+00	2.0E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	4.15E-07	1.5E+00	6.6E-02
Dibromochloromethane	9.0E-05	--	--	--	--	1.89E-04	2.1E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.07E-03	1.1E+00	1.0E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.10E-03	1.7E+01	3.0E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.09E-04	4.6E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	9.2E-01	--	1.3E+00
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.76E-05	1.1E+00	2.5E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	3.76E-03	9.1E+00	1.3E-02
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	1.73E-06	2.0E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	2.53E-09	4.0E+01	6.1E-02
TOTAL (4):				159.55	33.12		784.45	127.22
TOTAL (5):				159.55	33.12		126.35	126.21

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdata/mart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-19: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 7 Parco Eva		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.1E-04	3.4E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.16E-04	2.8E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	1.06E-04	6.6E+02	5.1E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	--	--	--
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	9.12E-05	9.7E-01	3.6E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	1.05E-02	4.3E+01	2.5E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	4.28E-04	5.3E+00	2.0E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	3.00E-04	1.4E+00	3.6E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	7.49E-03	6.7E+00	8.0E-01
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	5.16E-03	--	2.5E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.43E-04	4.0E+00	6.9E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	1.82E-06	3.2E+00	1.2E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	2.68E-03	8.6E+00	8.6E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.02E-04	1.5E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.58E-04	4.1E+00	3.3E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.85E-04	1.7E+00	1.8E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	3.53E-07	1.3E+00	5.6E-02
Dibromochloromethane	9.0E-05	--	--	--	--	1.40E-04	1.6E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	8.69E-07	1.6E+00	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.22E-03	1.3E+00	1.2E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.89E-03	2.1E+01	3.8E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	4.94E-04	4.4E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	4.3E-03	--	5.8E-03
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	8.21E-05	1.1E+00	2.6E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	2.53E-03	6.1E+00	8.9E-03
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	2.36E-06	2.7E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	5.18E-10	8.1E+00	1.2E-02
TOTAL (4):				159.55	33.12		797.83	253.08
TOTAL (5):				159.55	33.12		121.96	252.13

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdata/mart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-19: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 8 Villa		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.5E-04	4.4E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.22E-04	2.9E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.37E-05	5.9E+02	4.5E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	1.29E-04	3.2E+01	1.4E-02
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.43E-04	1.5E+00	5.7E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	6.43E-03	2.6E+01	1.5E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	4.13E-04	5.1E+00	2.0E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	2.48E-04	1.1E+00	3.0E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.79E-02	1.6E+01	1.9E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	1.95E-03	--	9.3E-01
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	2.01E-04	5.6E+00	9.6E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	1.05E-06	1.9E+00	6.8E-02
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	2.12E-02	6.8E+01	6.8E-01
Bromodichloromethane	6.6E-05	--	--	--	--	1.42E-04	2.2E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.49E-04	4.0E+00	3.3E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	2.63E-04	2.5E+00	2.6E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	2.58E-07	9.6E-01	4.1E-02
Dibromochloromethane	9.0E-05	--	--	--	--	2.07E-04	2.3E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	6.59E-07	1.2E+00	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.81E-03	1.9E+00	1.7E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	2.80E-03	1.5E+01	2.7E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	3.93E-04	3.5E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.6E-01	--	3.6E-01
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.06E-05	9.9E-01	2.3E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	4.80E-03	1.2E+01	1.7E-02
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	7.14E-07	8.2E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	1.36E-09	2.1E+01	3.3E-02
TOTAL (4):				159.55	33.12		816.95	101.02
TOTAL (5):				159.55	33.12		203.93	99.97

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdata/mar/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-19: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 9 Parco Le Ginestra		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.1E-04	3.4E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.12E-04	2.7E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.11E-05	5.7E+02	4.4E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	7.05E-05	1.7E+01	7.5E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	9.27E-05	9.9E-01	3.7E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	2.96E-03	1.2E+01	7.1E-01
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.37E-04	4.2E+00	1.6E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	3.11E-04	1.4E+00	3.7E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	9.75E-03	8.8E+00	1.0E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.90E-03	--	1.4E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.49E-04	4.2E+00	7.1E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	2.29E-06	4.0E+00	1.5E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.93E-03	6.2E+00	6.2E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.06E-04	1.6E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.27E-04	3.9E+00	3.2E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.50E-04	1.4E+00	1.5E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	4.57E-07	1.7E+00	7.3E-02
Dibromochloromethane	9.0E-05	--	--	--	--	1.27E-04	1.4E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	4.70E-07	8.9E-01	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.07E-03	1.1E+00	1.0E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.30E-03	1.8E+01	3.2E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	4.83E-04	4.3E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.1E-02	--	2.8E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	5.12E-05	7.1E-01	1.6E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	3.99E-03	9.7E+00	1.4E-02
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	9.37E-07	1.1E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	1.95E-09	3.0E+01	4.7E-02
TOTAL (4):				159.55	33.12		708.90	143.20
TOTAL (5):				159.55	33.12		104.03	142.32

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-20: Constituents of Concern Identified for Ambient Air

COCs ⁽¹⁾	Typical Urban Air (2007 USEPA Air Toxics Database) ⁽²⁾			Summary of CEFs and NCEFs for the Nine Study Areas								
				Minimum and Maximum CEFs (NCEFs)				Ratio of Max CEF to CEF for Typical Urban Air or (Ratio Max NCEF to NCEF for Typical Urban Air)	Contribution to CCEF or CNCEF			
	EPC	CEF	NCEF	Min CEF (NCEF)	Location of Minimum	Max CEF (NCEF)	Location of Maximum		Average % of Naples Air CCEF	Average % of Naples Air CNCEF	% of U.S. Air CCEF	% of U.S. Air CNCEF
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	396.5	Study Area 4	726.5	Study Area 3	--	80.2%	0.3%	N/A	N/A
1,2-Dichloropropane	7.3E-05	0.3	0.02	11.2	Study Area 4	43.4	Study Area 7	143.8	3.5%	1.1%	0.2%	0.1%
Acetaldehyde	7.8E-03	7.0	0.8	6.3	Study Area 3	16.1	Study Area 8	2.3	1.3%	0.9%	4.4%	2.5%
Acrolein	6.1E-04	--	29.4	(71.9)	Study Area 4	(246.8)	Study Area 7	(8.4)	--	95.4%	--	88.8%
Arsenic	5.6E-06	9.9	0.4	1.9	Study Area 8	16.4	Study Area 3	1.7	0.8%	0.2%	6.2%	1.1%
Benzene	1.6E-03	5.2	0.05	4.0	Study Area 4	68.1	Study Area 8	13.1	1.7%	0.1%	3.3%	0.2%
Hexane	2.4E-03	--	0.00	(0.01)	Study Area 7	(1.3)	Study Area 6	--	--	0.2%	--	0.01%
Tetrachloroethene	2.5E-04	0.6	0.001	4.5	Study Area 1	11.6	Study Area 8	19.3	1.2%	0.01%	0.4%	0.003%
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	N/A	N/A	N/A	0.6	Study Area 2	39.6	Study Area 6	N/A	1.6%	0.01%	N/A	N/A

Notes:

-- = Constituent was not detected in at least one study area.

N/A = Data were not available for this constituent in the 2007 USEPA Air Toxics Database.

⁽¹⁾ COC - Constituent of Concern with EPCs resulting in CEF greater than 10 or NCEF greater than one in at least one study area and with an EPC greater than the EPC for typical urban air (2007 USEPA Air Toxics Database)

⁽²⁾ See Table 4-19 and Appendix F for explanation of the development of EPCs using the 2007 USEPA Air Toxics Database.

Table 4-21: Naples Ambient Air Cumulative Exceedance Factors by Study Area Compared to 2007 USEPA Air Toxics Database Ambient Air Cumulative Exceedance Factors

Study Area/Location	Ambient Air Cumulative EFs for All Constituents Detected in Ambient Air in Naples ⁽³⁾		Ambient Air Cumulative EFs for All Constituents Detected in Ambient Air in Naples for Which Ambient Air Concentrations in the United States Were Available for Comparison ⁽⁴⁾	
	CCEF	CNCEF	CCEF	CNCEF
Study Area 1 - JFC NATO	552.9	127.7	110.5	127.1
Study Area 2 - U.S. Consulate	790.6	102.5	135.6	101.7
Study Area 3 - Cappodichino	846.0	171.9	112.2	170.8
Study Area 4 - Carney Park ⁽¹⁾	494.5	75.4	94.1	75.0
Study Area 5 - Receiver Site	700.8	130.2	122.8	129.3
Study Area 6 - Support Site	784.4	127.2	126.4	126.2
Study Area 7 - Parco Eva	797.8	253.1	122.0	252.1
Study Area 8 - Villa	816.9	101.0	203.9	100.0
Study Area 9 - Parco LeGinestre	708.9	143.2	104.0	142.3
<i>Range of CCEFs and CNCEFs for Ambient Air from the 9 Study Areas in Naples</i>	<i>494.5 - 846.0</i>	<i>75.4 - 253.1</i>	<i>94.1 - 203.9</i>	<i>75.0 - 252.1</i>
U.S. Ambient Air 2007 ⁽²⁾	159.5	33.1	159.5	33.1

Notes:

⁽¹⁾This facility is located in Study Area 1 but was used to evaluate ambient air in Study Area 4.

⁽²⁾ Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdart/index.htm>.

⁽³⁾ These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

⁽⁴⁾ These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table 4-22: Parco Eva Active Soil Gas Results Compared to USEPA RSLs

Cas No	Constituent	Sample Location EV50SG001						Sample Location EV51SG001						
		Result (mg/m ³)	Qualifier	December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)	CEF	NCEF	Result (mg/m ³)	Qualifier	December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)	CEF	NCEF	
67-64-1	Acetone	0.00653		--		322	0.00002	0.0164	--			322		0.0001
75-05-8	Acetonitrile	0.00038	U	--		0.626		0.00038	U	--		0.626		
98-86-2	Acetophenone	0.00223		--				0.00457		--				
107-02-8	Acrolein	0.00295		--		0.000209	14.1	0.00317		--		0.000209		15.2
107-13-1	Acrylonitrile	0.0002	U		0.000358	0.0209		0.0002	U		0.000358	0.0209		
71-43-2	Benzene	0.000239			0.00312	0.313	0.1	0.000986			0.00312	0.313	0.3	0.003
111-44-4	Bis(2-Chloroethyl)ether	0.00016	U		0.0000737	--		0.00016	U		0.0000737	--		
75-27-4	Bromodichloromethane	0.00015	U		0.000658	--		0.00015	U		0.000658	--		
75-25-2	Bromoform	0.00011	U		0.0221	--		0.00011	UJ		0.0221	--	0.005	
74-83-9	Bromomethane	0.00007	U	--		0.0521		0.00007	U	--		0.0521		
75-15-0	Carbon Disulfide	0.0001	U	--		7.3		0.000196	J	--		7.3		0.00003
56-23-5	Carbon Tetrachloride	0.00013	U		0.00162	1.97		0.000237	J		0.00162	1.97	0.1	0.0001
108-90-7	Chlorobenzene	0.00004	U	--		0.521		0.00004	U	--		0.521		
75-00-3	Chloroethane	0.00011	U	--		104		0.00011	U	--		104		
67-66-3	Chloroform	0.000518			0.00106	1.02	0.5	0.000975			0.00106	1.02	0.9	0.001
74-87-3	Chloromethane	0.00007	U	--		0.939		0.00007	U	--		0.939		
156-59-2	cis-1,2-Dichloroethene	0.00009	U	--		--		0.00009	U	--		--		
10061-01-5	cis-1,3-Dichloropropene	0.00004	U	--		--		0.00004	U	--		--		
110-82-7	Cyclohexane	0.00011	U	--		62.6		0.00011	U	--		62.6		
124-48-1	Dibromochloromethane	0.00024	U		0.000901	--		0.00024	U		0.000901	--		
74-95-3	Dibromomethane	0.00015	U	--		0.0417		0.00015	U	--		0.0417		
75-71-8	Dichlorodifluoromethane (Freon 12)	0.00612		--		2.09	0.003	0.00253	J	--		2.09		0.001
100-41-4	Ethylbenzene	0.00003	U		0.00973	10.4		0.00457			0.00973	10.4	0.5	0.0004
87-68-3	Hexachlorobutadiene	0.0003	U		0.00111	--		0.00024	U		0.00111	--		
67-72-1	Hexachloroethane	0.00007	U		0.00608	--		0.00007	U		0.00608	--		
110-54-3	Hexane	0.000314		--		7.3	0.00004	0.000278	J	--		7.3		0.00004
78-83-1	Isobutyl Alcohol	0.00046	U	--		--		0.000584	J	--		--		
98-82-8	Isopropylbenzene	0.00007	U	--		4.17		0.00007	U	--		4.17		
79-20-9	Methyl Acetate	0.00027	U	--		--		0.00027	U	--		--		
1634-04-4	Methyl tert-Butyl Ether	0.00017	U		0.0936	31.3		0.00017	U		0.0936	31.3		

Table 4-22: Parco Eva Active Soil Gas Results Compared to USEPA RSLs

Cas No	Constituent	Sample Location EV50SG001						Sample Location EV51SG001					
		Result (mg/m ³)	Qualifier	December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)	CEF	NCEF	Result (mg/m ³)	Qualifier	December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)	CEF	NCEF
108-87-2	Methylcyclohexane	0.00008	U	--	--			0.00008	U	--	--		
75-09-2	Methylene Chloride	0.00008	U	0.0518	10.9			0.00008	U	0.0518	10.9		
76-01-7	Pentachloroethane	0.00025	U	--	--			0.00025	UJ	--	--		
100-42-5	Styrene	0.000297		--	10.4		0.00003	0.033		--	10.4		0.003
127-18-4	Tetrachloroethene	0.00612		0.00412	2.83	1.5	0.002	0.343		0.00412	2.83	83.3	0.1
					Total	2.1	14.1	0.343			Total	85.1	15.3

Notes:
 Qualifier
 U = Not Detected
 J = Estimated

Shaded cells represent chemical concentrations that exceeded USEPA RSLs

Table 4-22: Parco Eva Active Soil Gas Results Compared to USEPA RSLs

Cas No	Constituent	Result (mg/m ³)	Qualifier	Sample Location EV52SG001		CEF	NCEF
				December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)		
67-64-1	Acetone	0.00442	--		322		0.00001
75-05-8	Acetonitrile	0.00038	U	--	0.626		
98-86-2	Acetophenone	0.00111	J	--	--		
107-02-8	Acrolein	0.00139	--		0.000209		6.7
107-13-1	Acrylonitrile	0.0002	U	0.000358	0.0209		
71-43-2	Benzene	0.00121		0.00312	0.313	0.4	0.004
111-44-4	Bis(2-Chloroethyl)ether	0.00016	U	0.0000737	--		
75-27-4	Bromodichloromethane	0.000897		0.000658	--	1.4	
75-25-2	Bromoform	0.00011	U	0.0221	--		
74-83-9	Bromomethane	0.00007	U	--	0.0521		
75-15-0	Carbon Disulfide	0.000316	--		7.3		0.00004
56-23-5	Carbon Tetrachloride	0.00013	U	0.00162	1.97		
108-90-7	Chlorobenzene	0.00004	U	--	0.521		
75-00-3	Chloroethane	0.00011	U	--	104		
67-66-3	Chloroform	0.0364		0.00106	1.02	34.3	0.04
74-87-3	Chloromethane	0.00007	U	--	0.939		
156-59-2	cis-1,2-Dichloroethene	0.00009	U	--	--		
10061-01-5	cis-1,3-Dichloropropene	0.00004	U	--	--		
110-82-7	Cyclohexane	0.00011	U	--	62.6		
124-48-1	Dibromochloromethane	0.00024	U	0.000901	--		
74-95-3	Dibromomethane	0.00015	U	--	0.0417		
75-71-8	Dichlorodifluoromethane (Freon 12)	0.00166	--		2.09		0.001
100-41-4	Ethylbenzene	0.045		0.00973	10.4	4.6	0.004
87-68-3	Hexachlorobutadiene	0.00024	U	0.00111	--		
67-72-1	Hexachloroethane	0.00007	U	0.00608	--		
110-54-3	Hexane	0.00017	U	--	7.3		
78-83-1	Isobutyl Alcohol	0.00046	U	--	--		
98-82-8	Isopropylbenzene	0.00238	--		4.17		0.001
79-20-9	Methyl Acetate	0.00027	U	--	--		
1634-04-4	Methyl tert-Butyl Ether	0.00017	U	0.0936	31.3		

Table 4-22: Parco Eva Active Soil Gas Results Compared to USEPA RSLs

		Sample Location EV52SG001					
Cas No	Constituent	Result (mg/m ³)	Qualifier	December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)	CEF	NCEF
108-87-2	Methylcyclohexane	0.00008	U	--	--		
75-09-2	Methylene Chloride	0.000685		0.0518	10.9	0.01	0.0001
76-01-7	Pentachloroethane	0.00025	U	--	--		
100-42-5	Styrene	0.0443		--	10.4		0.004
127-18-4	Tetrachloroethene	0.118		0.00412	2.83	28.6	0.04
Total						69.4	6.7

Notes:

Qualifier

U = Not Detected

J = Estimated

Shaded cells represent chemical concentrations that exceeded USEPA RSLs

Table 4-23: Parco Le Ginestre Soil Gas Results Compared to USEPA RSLs

Cas No	Constituent	Sample Location LE50SG001						Sample Location LE51SG001					
		Result (mg/m ³)	Qualifier	December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)	CEF	NCEF	Result (mg/m ³)	Qualifier	December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)	CEF	NCEF
106-93-4	1,2-Dibromoethane	0.00012	U	0.0000406	0.00939			0.000184	J	0.0000406	0.00939	4.53	0.0
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.00026	U	--	--			0.00026	U	--	--		
95-50-1	1,2-Dichlorobenzene	0.0001	U	--	0.209			0.0001	U	--	0.209		
107-06-2	1,2-Dichloroethane	0.0001	U	0.000936	2.53			0.000654		0.000936	2.53	0.6987	0.0
78-87-5	1,2-Dichloropropane	0.00102		0.00243	0.00417	0.4	0.2	0.000703		0.00243	0.00417	0.3	0.2
108-67-8	1,3,5-Trimethylbenzene	0.0026	--	--	--			0.000889	--	--	--		
106-99-0	1,3-Butadiene	0.00049	U	0.000811	0.00209			0.00049	U	0.000811	0.00209		
541-73-1	1,3-Dichlorobenzene	0.00009	U	--	--			0.00009	U	--	--		
106-46-7	1,4-Dichlorobenzene	0.00009	U	0.00221	0.834			0.000223	U	0.00221	0.834		
78-93-3	2-Butanone (methyl ethyl ketone)	0.00807	--	--	5.21		0.0015	0.00446	--	--	5.21		0.0009
67-64-1	Acetone	0.0646	--	--	32.2		0.0020	0.0373	--	--	32.2		0.0012
75-05-8	Acetonitrile	0.0029	--	--	0.0626		0.046	0.00038	U	--	0.0626		
98-86-2	Acetophenone	0.00308	--	--	--			0.00102	U	--	--		
107-02-8	Acrolein	0.00135	--	--	0.0000209		64.6	0.00041	U	--	0.0000209		
107-13-1	Acrylonitrile	0.0002	U	0.000358	0.00209			0.0002	U	0.000358	0.00209		
71-43-2	Benzene	0.0076		0.00312	0.0313	2.4	0.2	0.00293		0.00312	0.0313	0.9	0.1
111-44-4	Bis(2-Chloroethyl)ether	0.00016	U	0.0000737	--			0.00016	U	0.0000737	--		
75-27-4	Bromodichloromethane	0.000269	J	0.000658	--	0.4		0.000192	J	0.000658	--	0.3	
75-25-2	Bromoform	0.00011	U	0.0221	--			0.000459		0.0221	--	0.02	
74-83-9	Bromomethane	0.00007	U	--	0.00521			0.00007	U	--	0.00521		
75-15-0	Carbon Disulfide	0.00207	--	--	0.73		0.0028	0.0014	--	--	0.73		0.0019
56-23-5	Carbon Tetrachloride	0.000203	J	0.00162	0.197	0.125	0.0	0.000197	J	0.00162	0.197	0.122	0.0
108-90-7	Chlorobenzene	0.00004	U	--	0.0521			0.000208	--	--	0.0521		0.0040
75-00-3	Chloroethane	0.00011	U	--	10.4			0.00011	U	--	10.4		
67-66-3	Chloroform	0.00394		0.00106	0.102	3.72	0.0	0.00786		0.00106	0.102	7.4	0.1
74-87-3	Chloromethane	0.00007	U	--	0.0939			0.00018	J	--	0.0939		0.0019
156-59-2	cis-1,2-Dichloroethene	0.00009	U	--	--			0.00009	U	--	--		
10061-01-5	cis-1,3-Dichloropropene	0.00004	U	--	--			0.00004	U	--	--		
110-82-7	Cyclohexane	0.0041	--	--	6.26		0.0007	0.00183	--	--	6.26		0.00029
124-48-1	Dibromochloromethane	0.00024	U	0.000901	--			0.00024	U	0.000901	--		
74-95-3	Dibromomethane	0.00015	U	--	0.00417			0.00015	U	--	0.00417		
75-71-8	Dichlorodifluoromethane (Freon 12)	0.00357	--	--	0.209		0.017	0.0036	--	--	0.209		0.017
100-41-4	Ethylbenzene	0.00506		0.00973	1.04	0.520	0.0	0.00132		0.00973	1.04	0.136	0.00
87-68-3	Hexachlorobutadiene	0.00024	U	0.00111	--			0.000694	U	0.00111	--		
67-72-1	Hexachloroethane	0.00007	U	0.00608	--			0.00007	U	0.00608	--		
110-54-3	Hexane	0.0136	--	--	0.73		0.019	0.0049	--	--	0.73		0.007
78-83-1	Isobutyl Alcohol	0.00046	U	--	--			0.00046	U	--	--		
98-82-8	Isopropylbenzene	0.00079	--	--	0.417		0.0019	0.00007	U	--	0.417		
79-20-9	Methyl Acetate	0.00027	U	--	--			0.00027	U	--	--		
1634-04-4	Methyl tert-Butyl Ether	0.00017	U	0.0936	3.13			0.00017	U	0.0936	3.13		
108-87-2	Methylcyclohexane	0.00584	--	--	--			0.00206	--	--	--		
75-09-2	Methylene Chloride	0.000441		0.0518	1.09	0.0085	0.000	0.000635		0.0518	1.09	0.012	0.001

Table 4-23: Parco Le Ginestre Soil Gas Results Compared to USEPA RSLs

Cas No	Constituent	Sample Location LE50SG001						Sample Location LE51SG001						
		Result (mg/m ³)	Qualifier	December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)	CEF	NCEF	Result (mg/m ³)	Qualifier	December 2009 Residential Soil Gas Cancer Regional Screening Level (mg/m ³)	December 2009 Residential Soil Gas Noncancer Regional Screening Level (mg/m ³)	CEF	NCEF	
76-01-7	Pentachloroethane	0.00025	U	--	--			0.00025	U	--	--			
100-42-5	Styrene	0.0103		--	1.04		0.010	U	--		1.04			
127-18-4	Tetrachloroethene	0.0233			0.00412	5.7	0.1	0.145			0.00412	0.283	35.2	0.5
					Total	13.3	65.3				Total	49.7	0.9	

Notes:

Qualifier

U = Not Detected

J = Estimated

Shaded cells represent chemical concentrations that exceeded USEPA RSLs

Figures

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to allow for double-sided printing.**



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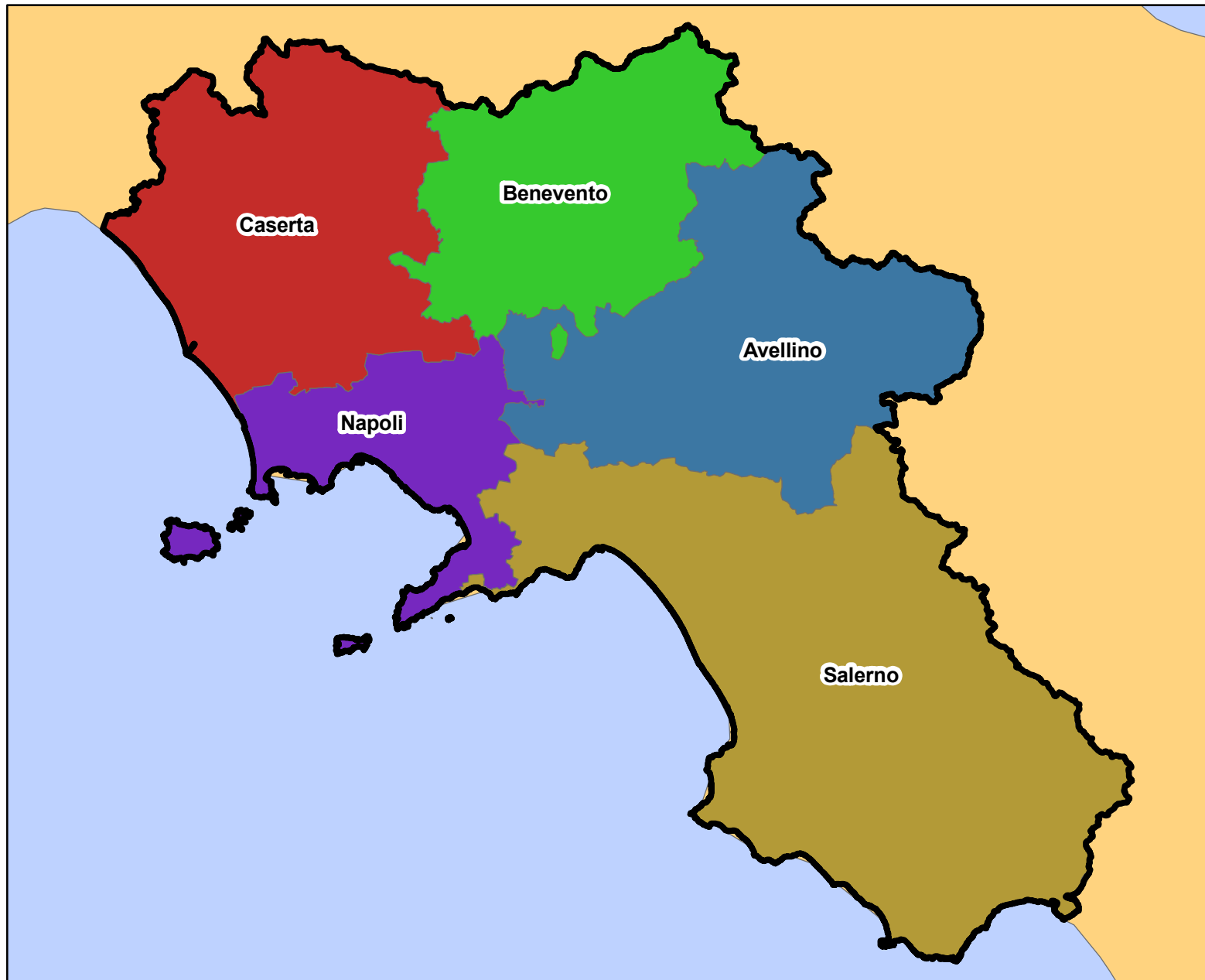
Naples Regional Map
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN:
KR

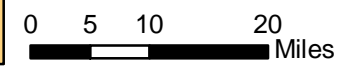
PROJECT:

DATE:
December 2010

FIGURE NO.:
1-1

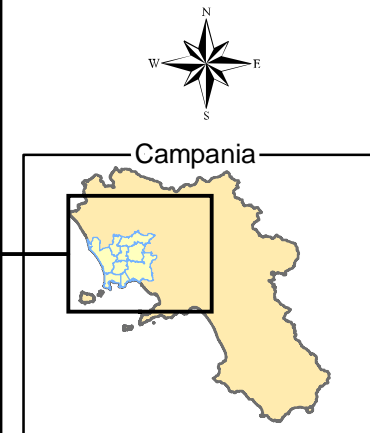
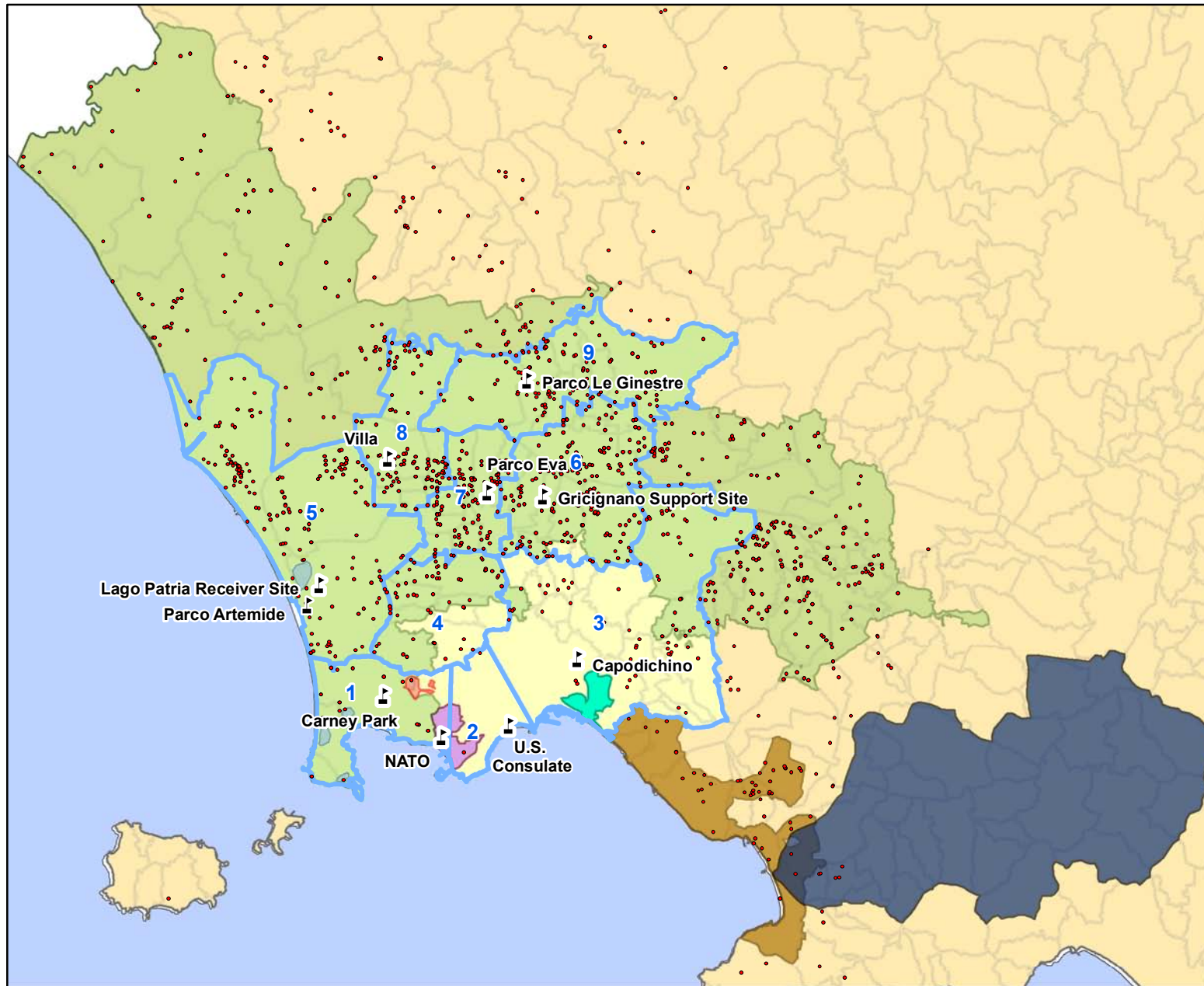


- Legend**
- Campania Region
 - Italy
 - Campania Provinces**
 - Avellino
 - Benevento
 - Caserta
 - Napoli
 - Salerno



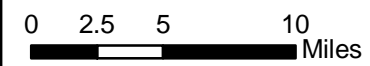
Campania Provinces
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 1-2



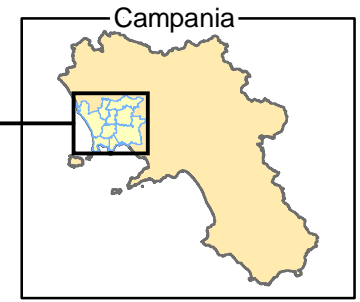
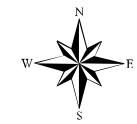
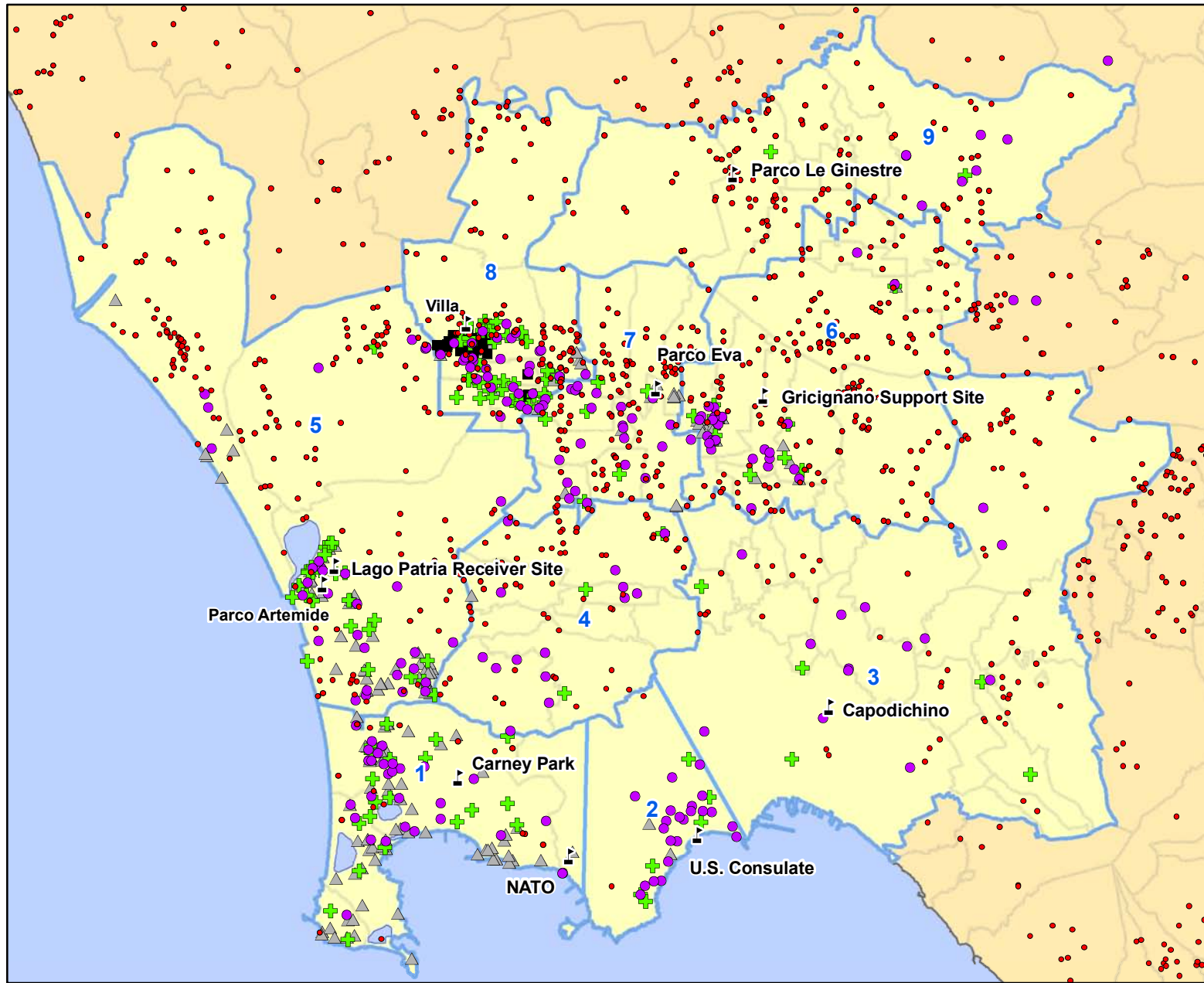
- Legend**
- U.S. Government-Related Facilities
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
- Contaminated Sites of National Interest**
- Pianura
 - Napoli Orientale
 - Bagnoli - Coroglio
 - Aree del Litorale Vesuviano
 - Bacino idrografico del fiume Sarno
 - Litorale Domitio Flegreo e Agro Aversano

Notes:
 -Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)
 -The locations of 'Sites of National Interest' are approximate and are based off of ARPAC's interactive GIS website: http://89.97.205.100/GisViewer_light/index.jsp?strati=RMA:LIM_PROV,RMA:LIM_COM,RMA:SC_Aree



**Study Areas and Trash or Potential Hazardous Waste Sites
 Naples, Italy – Public Health Evaluation
 Volume II: Phase I & II Screening Risk Evaluation**

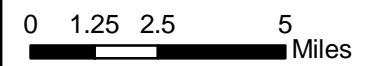
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 1-3



- Legend**
- U.S. Government-Related Facilities
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
- Residence Locations**
- Phase I
 - Phase II
 - Step-Outs
 - Pre-Lease

Notes:

- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Residence/Sampling Locations in Relation to Trash or Potential Hazardous Waste Sites
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 2-1

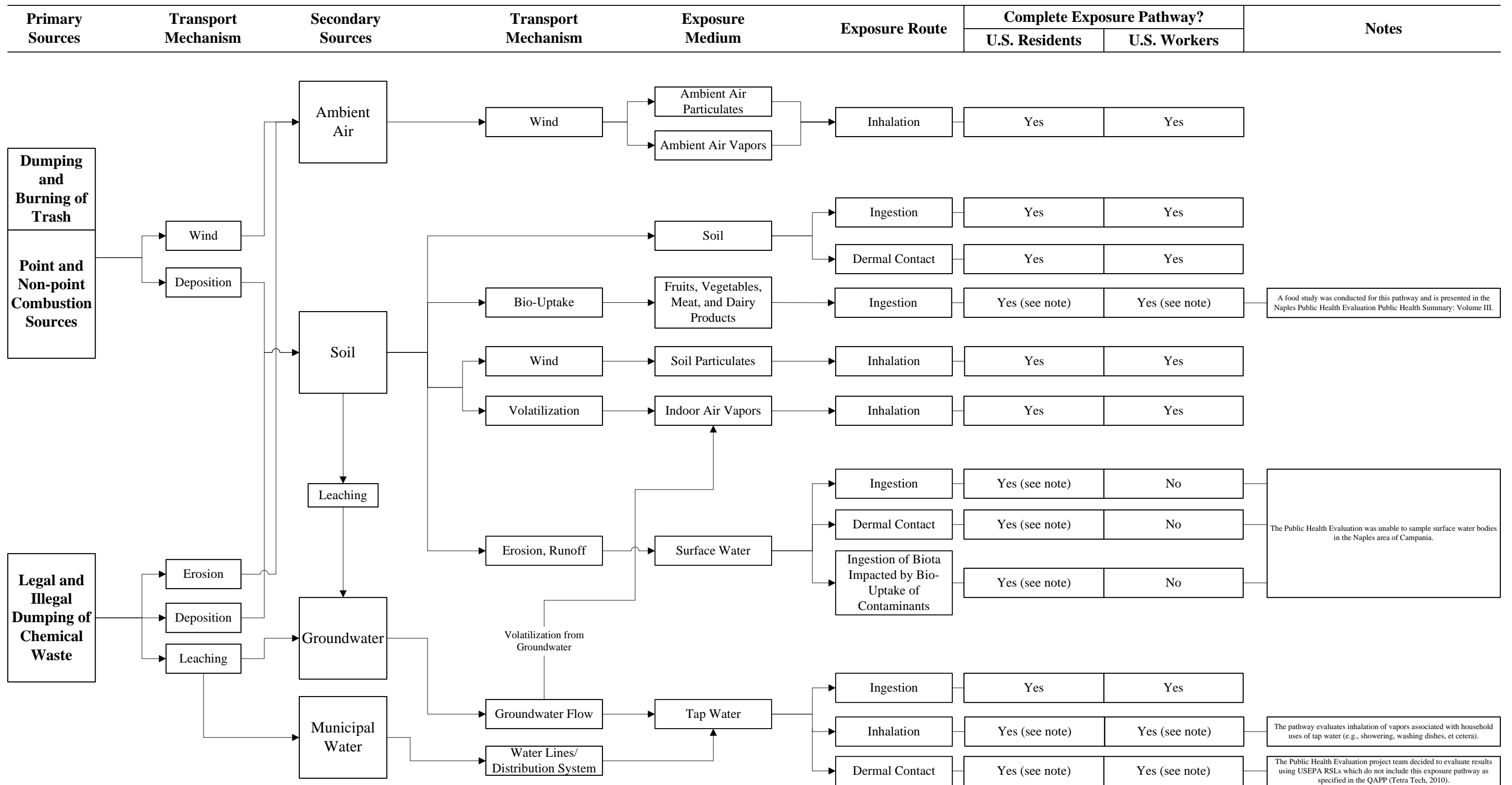

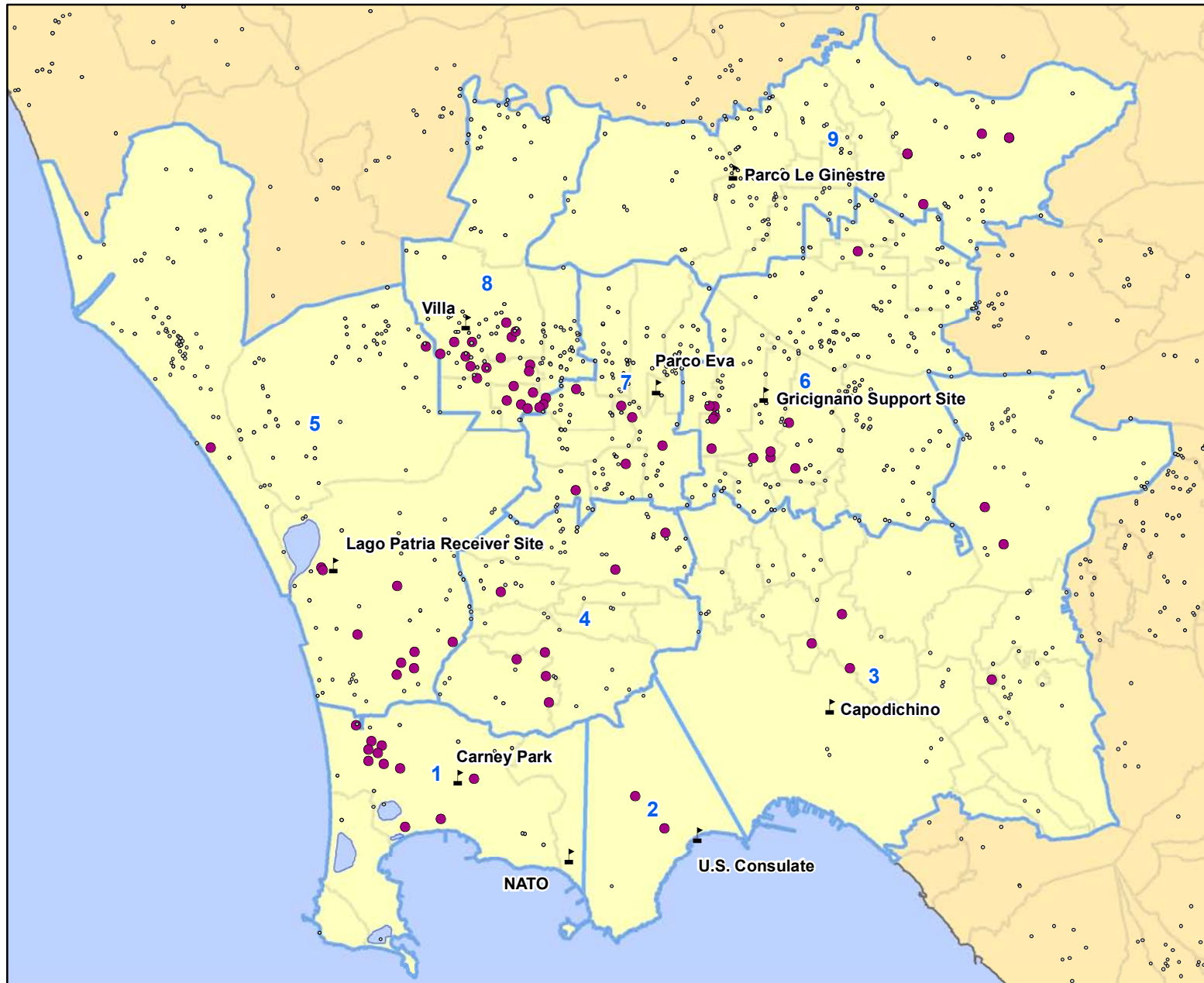


Figure 3-1
Conceptual Site Model
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Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil without Exceedances**
- CEF <= 1 and NCEF <= 1
- Nondetect

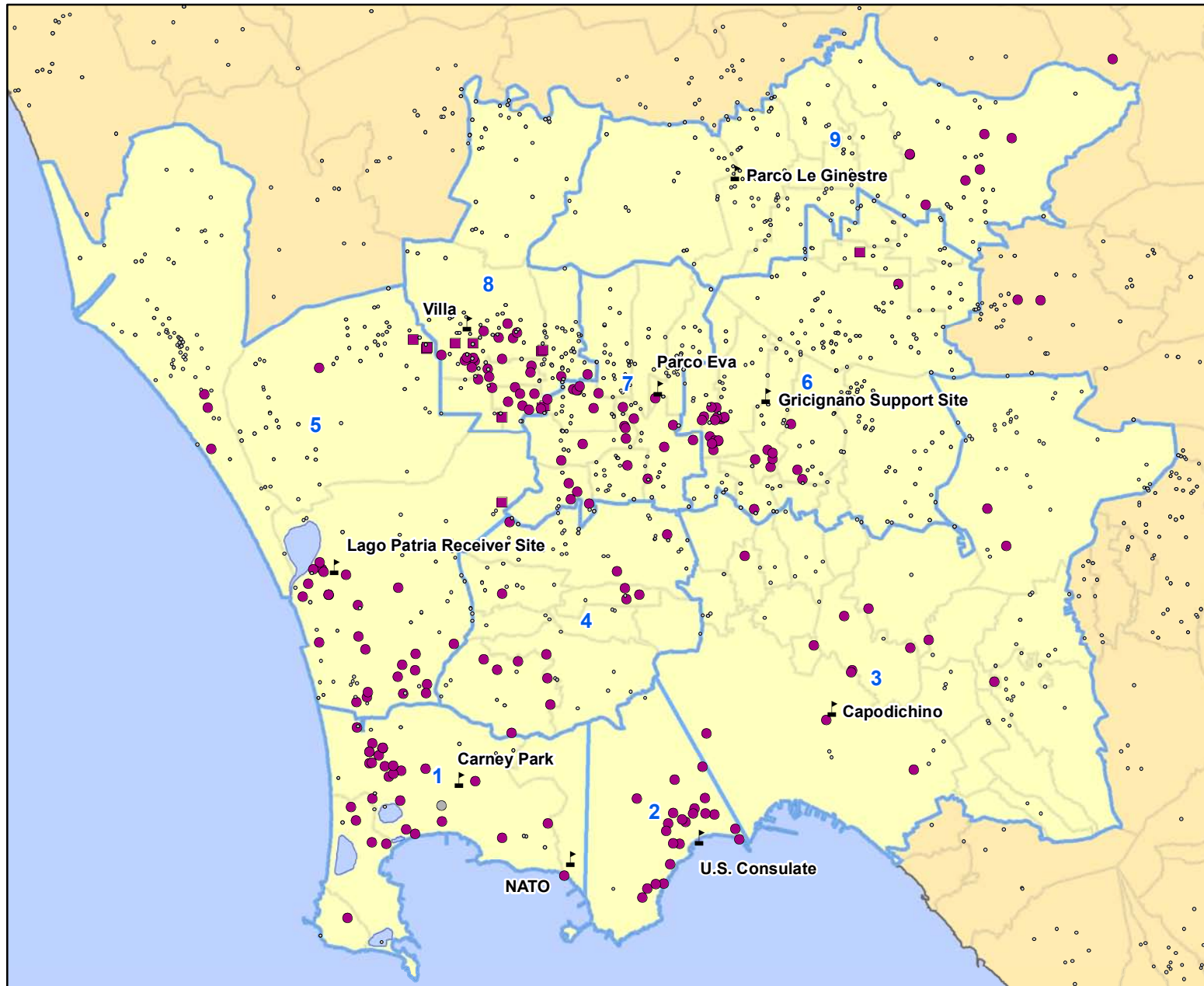
Notes:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = USEPA's Residential Regional Screening Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



**Soil Arsenic Risk Results
 Phase II Residences Only
 Naples, Italy – Public Health Evaluation
 Volume II: Phase I & II Screening Risk Evaluation**

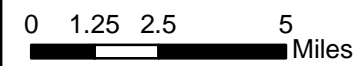
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-1



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Public Water with Exceedances**
 - CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
 - 1 < CEF <= 10
 - Public Water without Exceedances**
 - CEF and NCEF <= 1 and Concentration <= USMCL
 - Nondetect
 - Well Water with Exceedances**
 - CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
 - 1 < CEF <= 10
 - Well Water without Exceedances**
 - CEF and NCEF <= 1 and Concentration <= USMCL
 - Nondetect

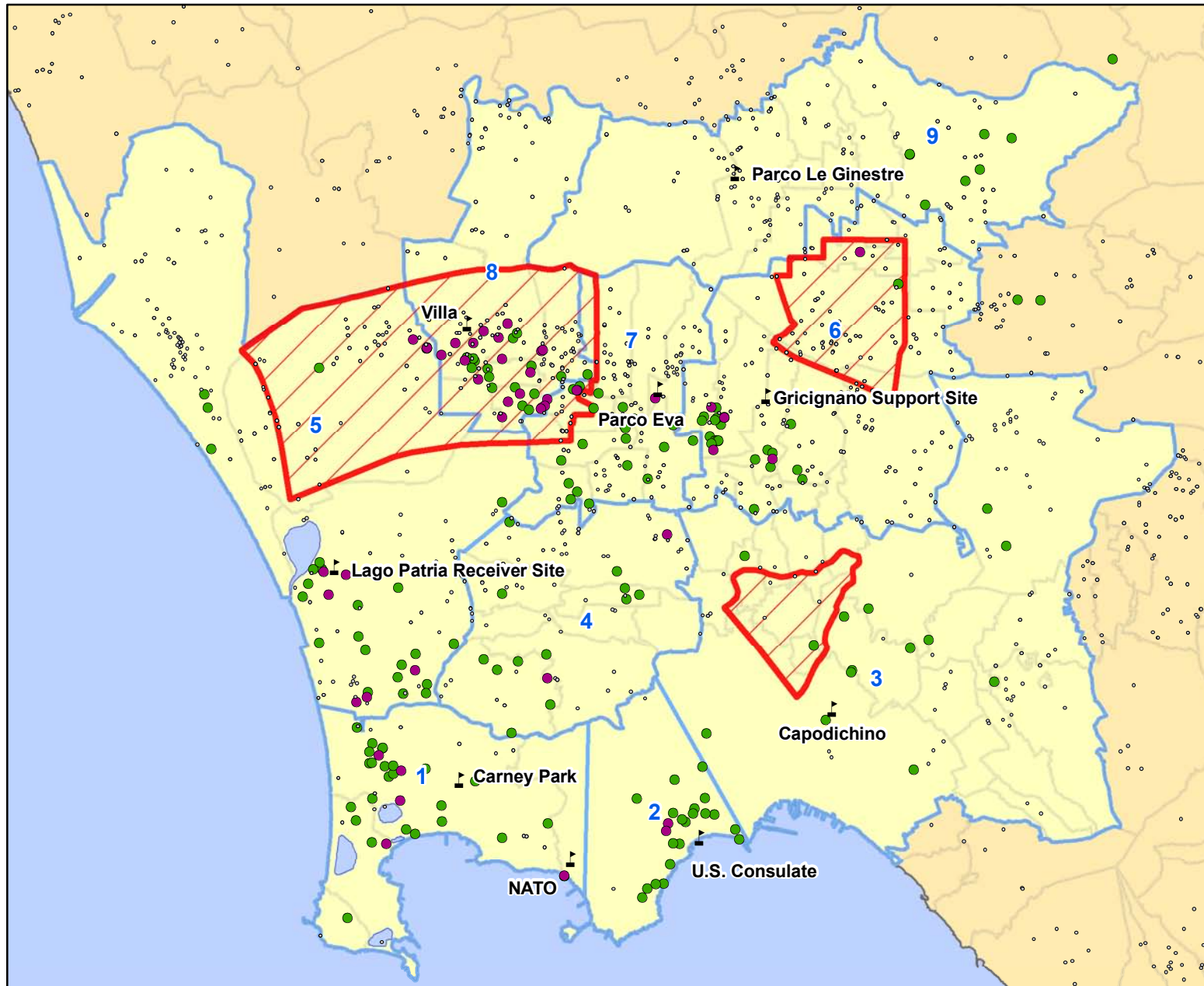
Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Ingestion and Inhalation Arsenic Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-2



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▨ Comune Borders (Campania)
- ▨ New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable**
- Total CCEF > 10 and/or Total CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable**
- Total CCEF <= 10 and Total CNCEF <= 1 and Concentration < USMCL

Notes:

- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- The total cumulative inhalation exceedance factors are calculated assuming exposure via tap water (inhalation only), soil, and soil gas for both public water and private well sources.
- USMCL = United States Maximum Contaminant Level
- USMCL exceedances only apply to fecal and total coliforms for the inhalation-only exposure scenario.
- Figure does not include ambient air exposure.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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**Total Inhalation Cumulative Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:

KR

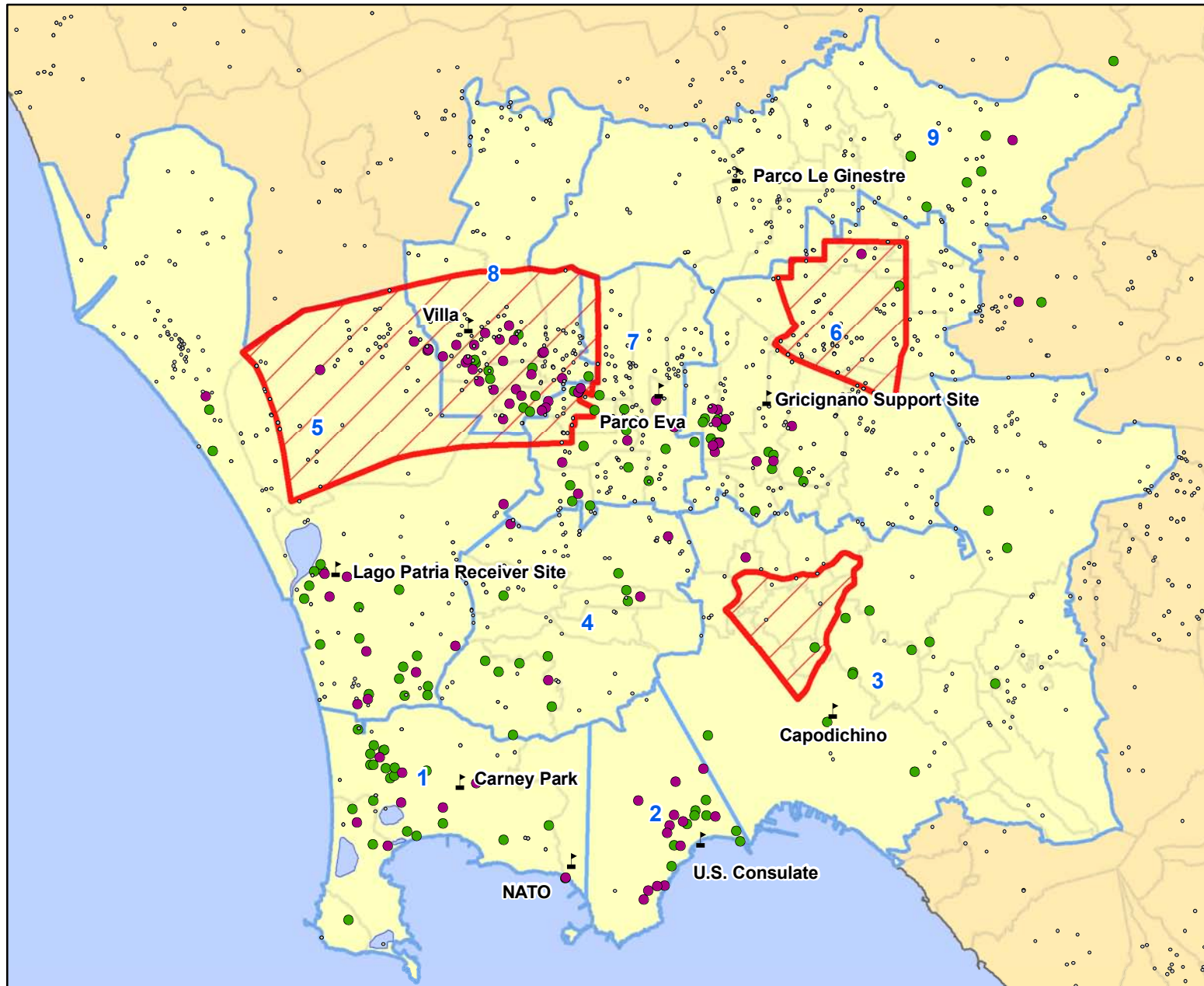
PROJECT:

DATE:

December 2010

FIGURE NO.:

4-3



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- ▨ New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable**
- Total CCEF > 10 and/or Total CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable**
- Total CCEF <=10 and Total CNCEF <= 1 and Concentration <= USMCL

Notes:

- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- The total cumulative ingestion and inhalation exceedance factors are calculated assuming exposure via tap water (ingestion and inhalation), soil, and soil gas for both public water and private well sources.
- USMCL = United States Maximum Contaminant Level
- USMCL exceedances apply to all chemicals for the ingestion and inhalation exposure scenario.
- Figure does not include ambient air exposure.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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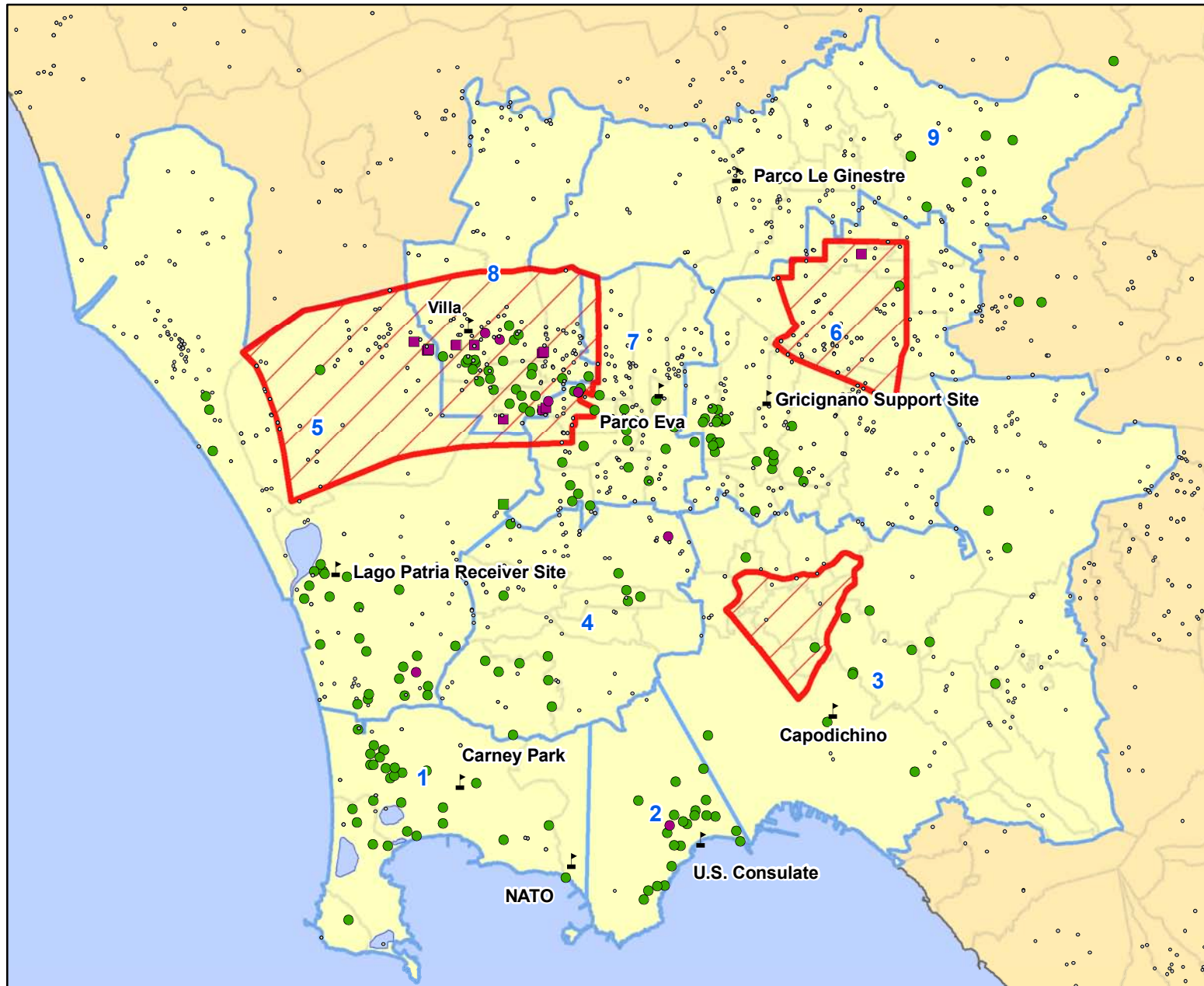
**Total Ingestion and Inhalation Cumulative Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

FIGURE NO.:
4-4



Legend

- Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable and on Public Water**
- CCEF > 10 and/or CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable and on Public Water**
- CCEF <= 10 and CNCEF <= 1 and Concentration <= USMCL
- Residence is Unacceptable and on Well Water**
- CCEF > 10 and/or CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable and on Well Water**
- CCEF <= 10 and CNCEF <= 1 and Concentration <= USMCL

Notes:

- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Cumulative exceedance factors are calculated assuming exposure via inhalation only.
- USMCL = United States Maximum Contaminant Level
- USMCL exceedances only apply to fecal and total coliforms for the inhalation-only exposure scenario.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

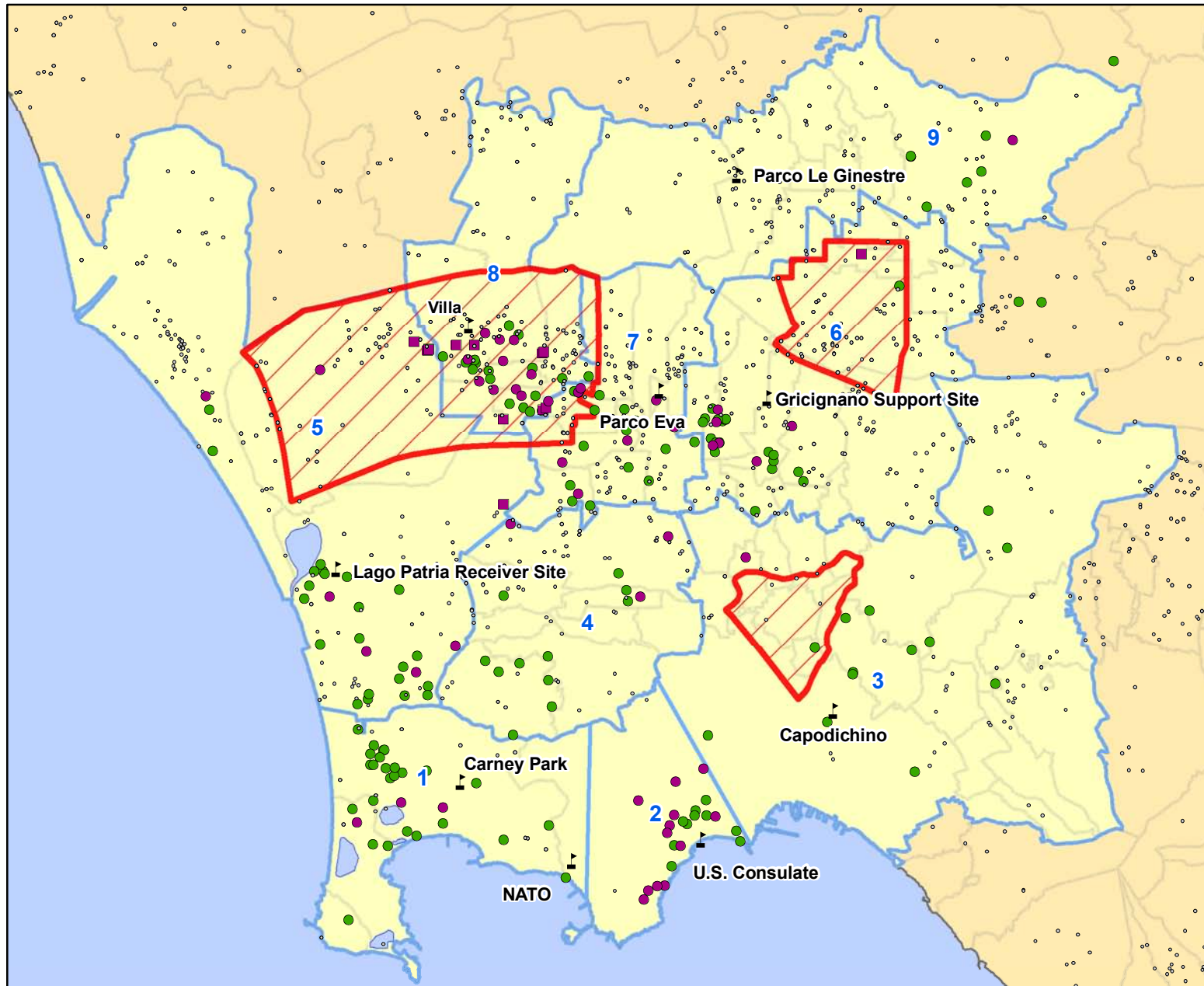
0 1.25 2.5 5 Miles



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**Tap Water Inhalation Cumulative Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-5



Legend

- Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable and on Public Water**
- CCEF > 10 and/or CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable and on Public Water**
- CCEF <= 10 and CNCEF <= 1 and Concentration < USMCL
- Residence is Unacceptable and on Well Water**
- CCEF > 10 and/or CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable and on Well Water**
- CCEF <= 10 and CNCEF <= 1 and Concentration < USMCL

Notes:

- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Cumulative exceedance factors are calculated assuming exposure via inhalation and ingestion.
- USMCL = United States Maximum Contaminant Level
- USMCL exceedances apply to all chemicals for the ingestion and inhalation exposure scenario.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

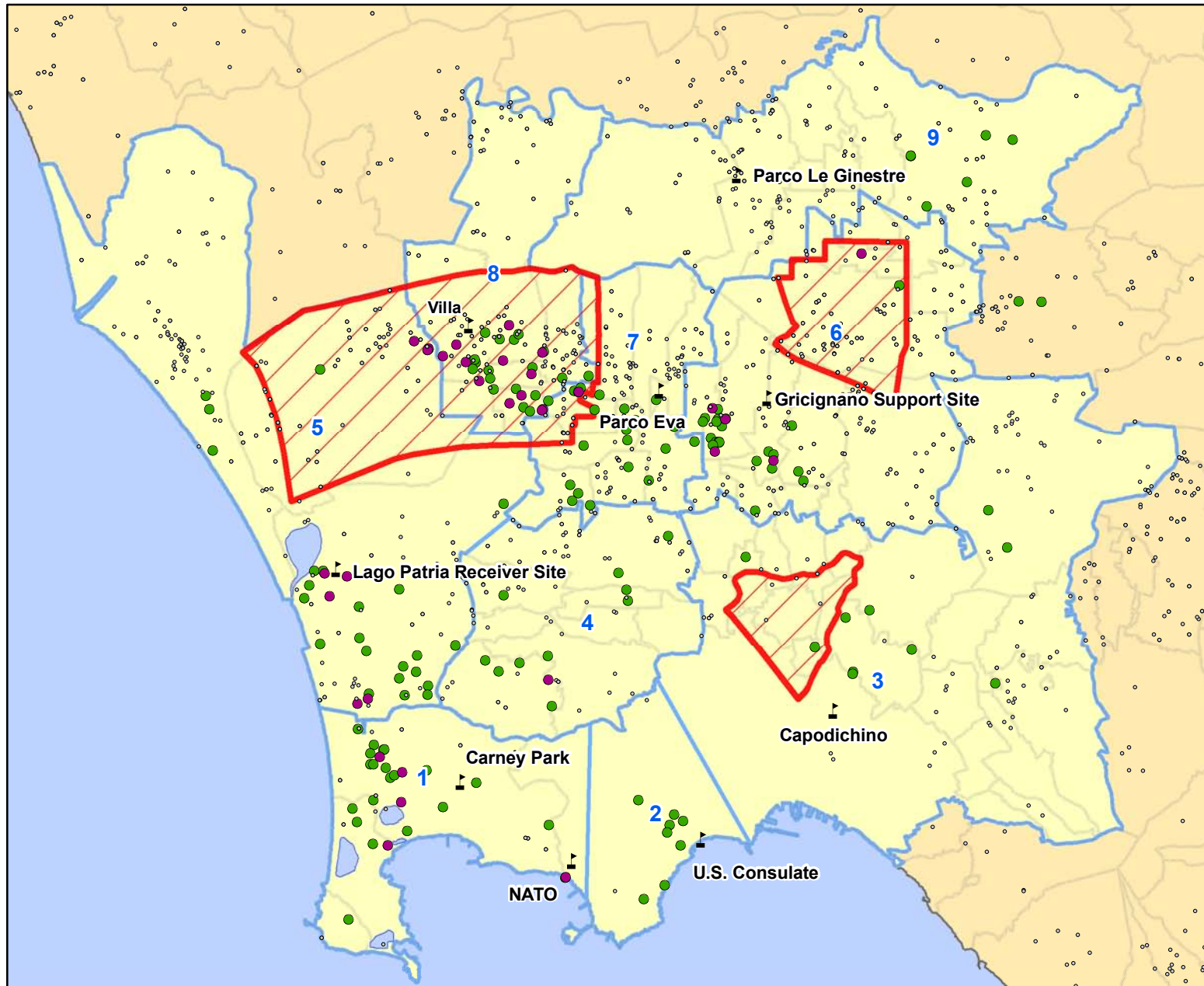
0 1.25 2.5 5 Miles



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**Tap Water Ingestion and Inhalation Cumulative Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-6



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- ▨ New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable**
- CCEF > 10 and/or CNCEF > 1
- Residence is Acceptable**
- CCEF <=10 and CNCEF <= 1

Notes:

- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

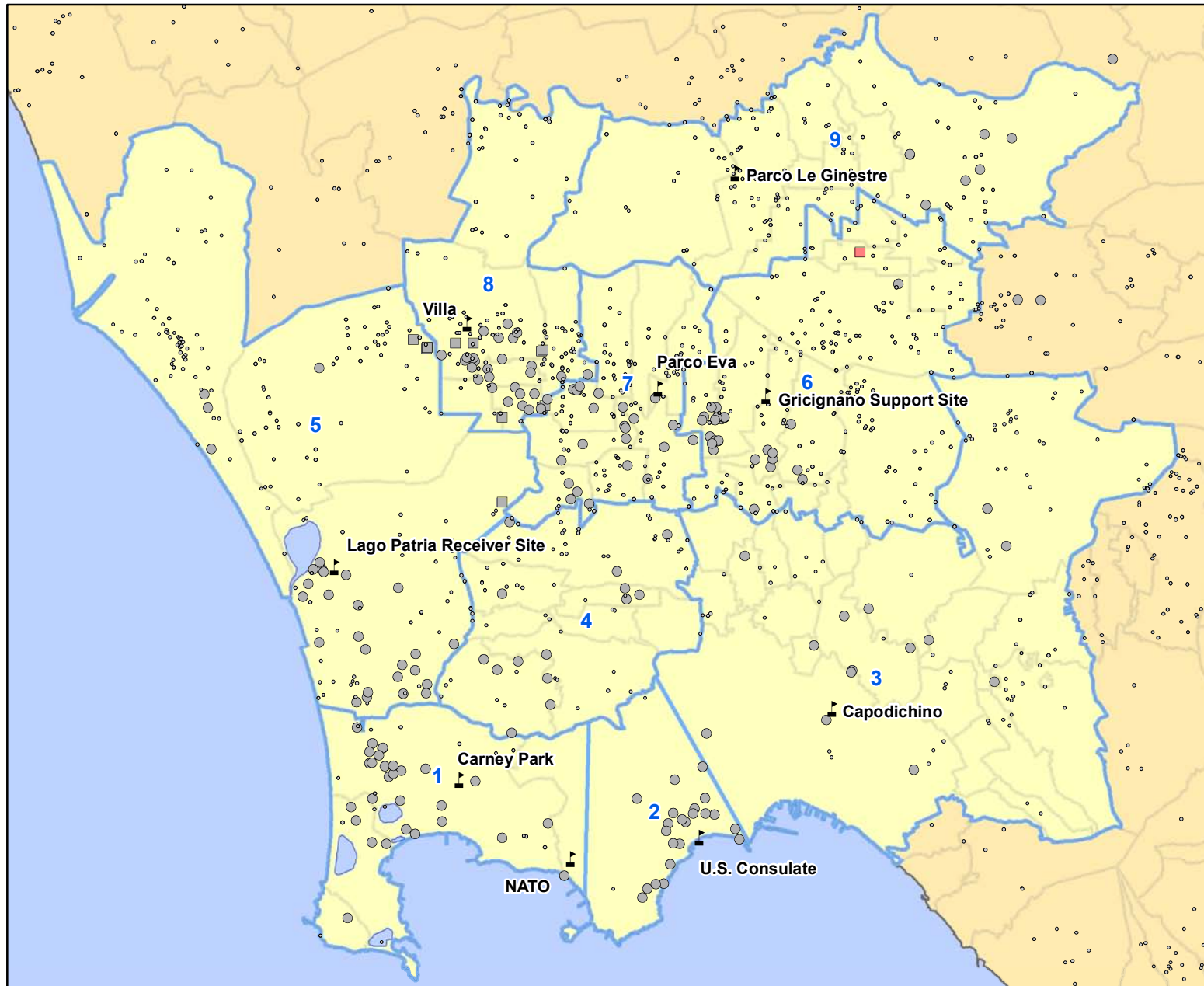
0 1.25 2.5 5 Miles



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**Soil Gas Cumulative Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-7

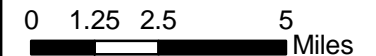


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF ≤ 10
- Public Water without Exceedances**
- CEF and NCEF ≤ 1
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF ≤ 10
- Well Water without Exceedances**
- CEF and NCEF ≤ 1
- Nondetect

Notes:

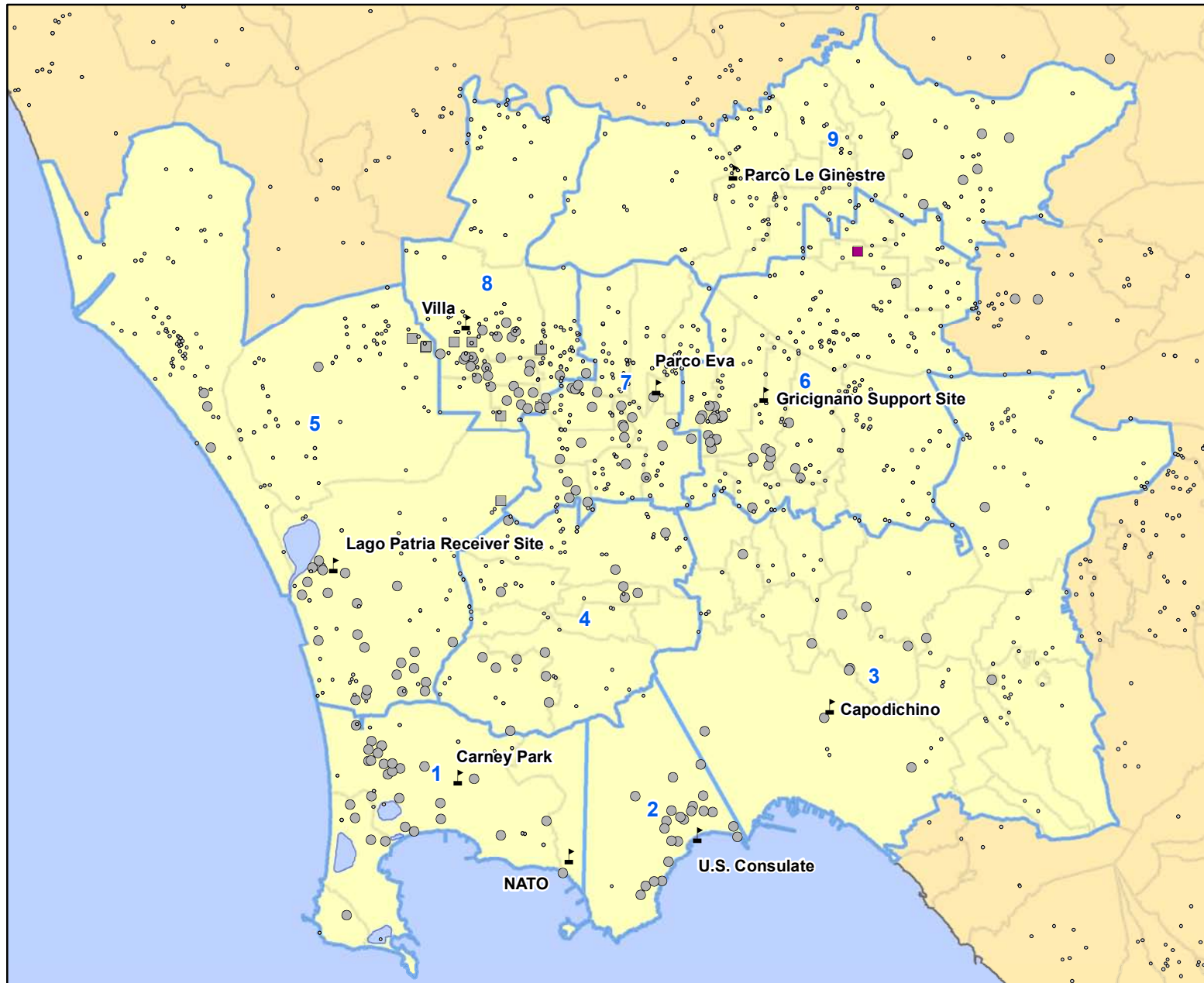
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Tap Water Inhalation Carbon Tetrachloride Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-8

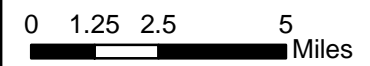


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Public Water without Exceedances**
- CEF and NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Well Water without Exceedances**
- CEF and NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect

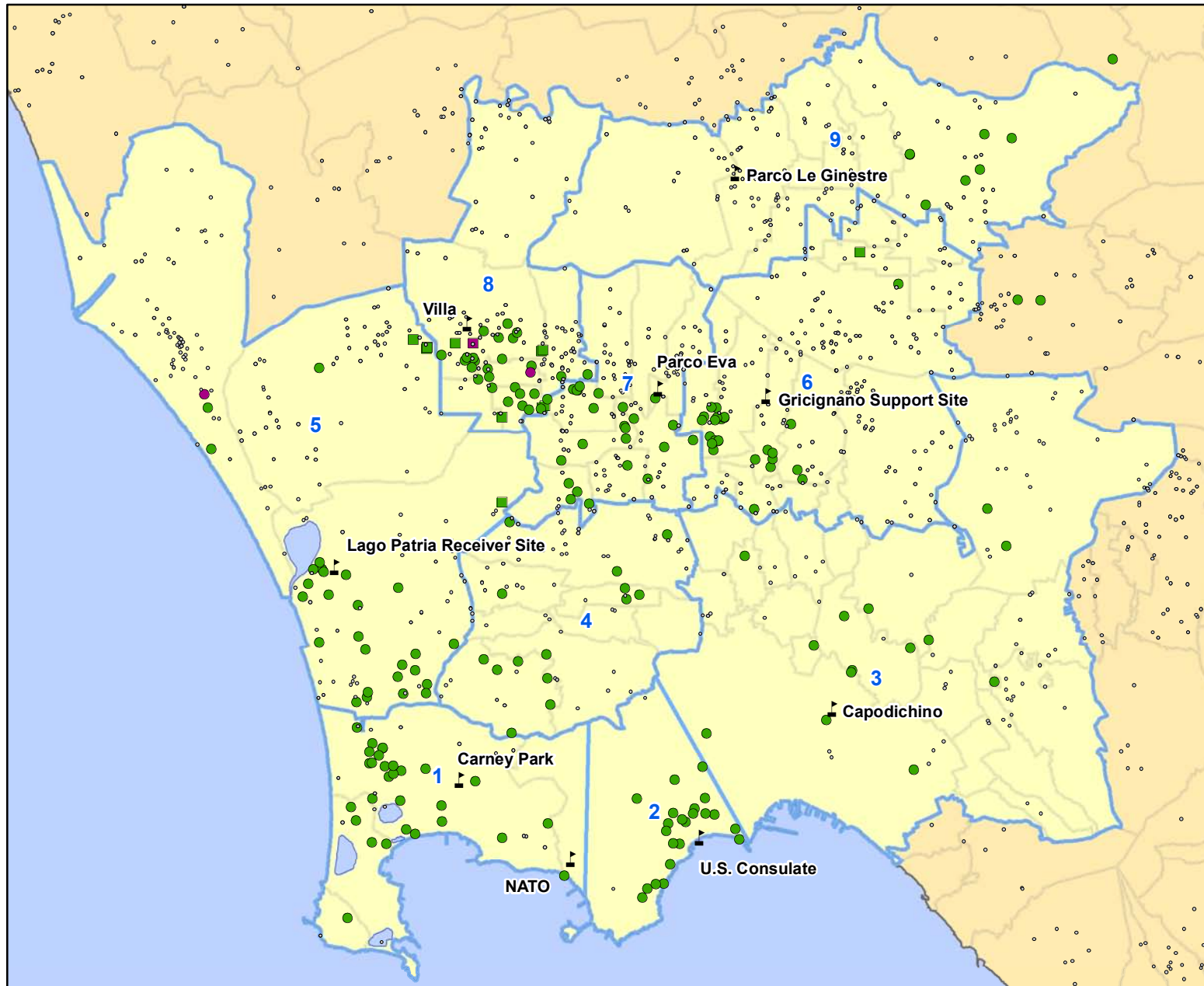
Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Ingestion and Inhalation Carbon Tetrachloride Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-9

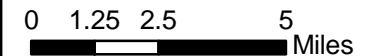


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- NCEF > 1
- NCEF ≤ 1
- Nondetect
- Well Water with Exceedances**
- NCEF > 1
- NCEF ≤ 1
- Nondetect

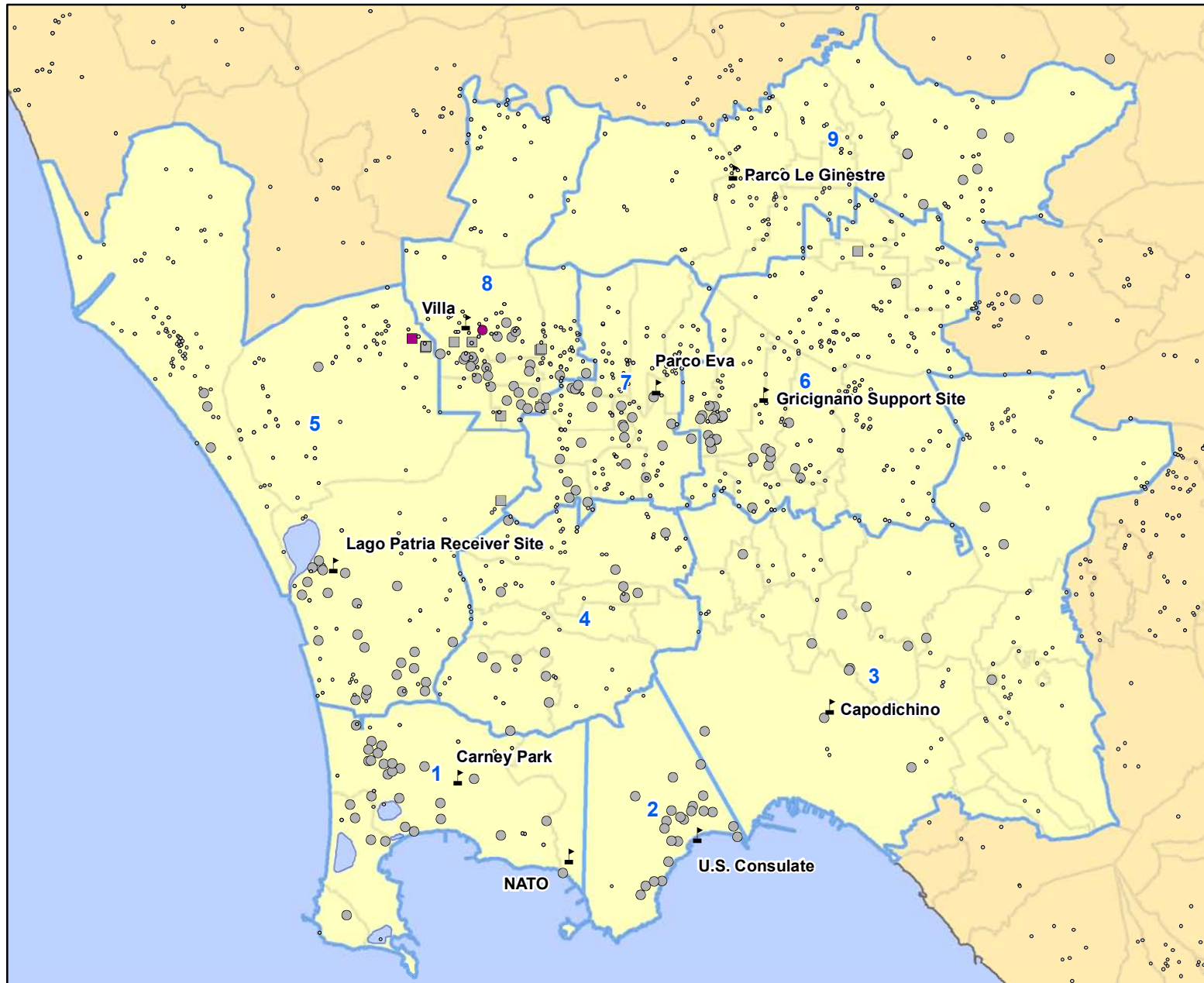
Notes:

- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Copper does not have a USMCL or cancer RSL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Tap Water Ingestion and Inhalation Copper Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

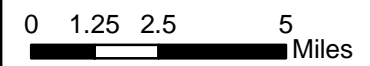
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-10



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Public Water with Exceedances**
 - Concentration > USMCL
 - Public Water without Exceedances**
 - Nondetect
 - Well Water with Exceedances**
 - Concentration > USMCL
 - Well Water without Exceedances**
 - Nondetect

Notes:

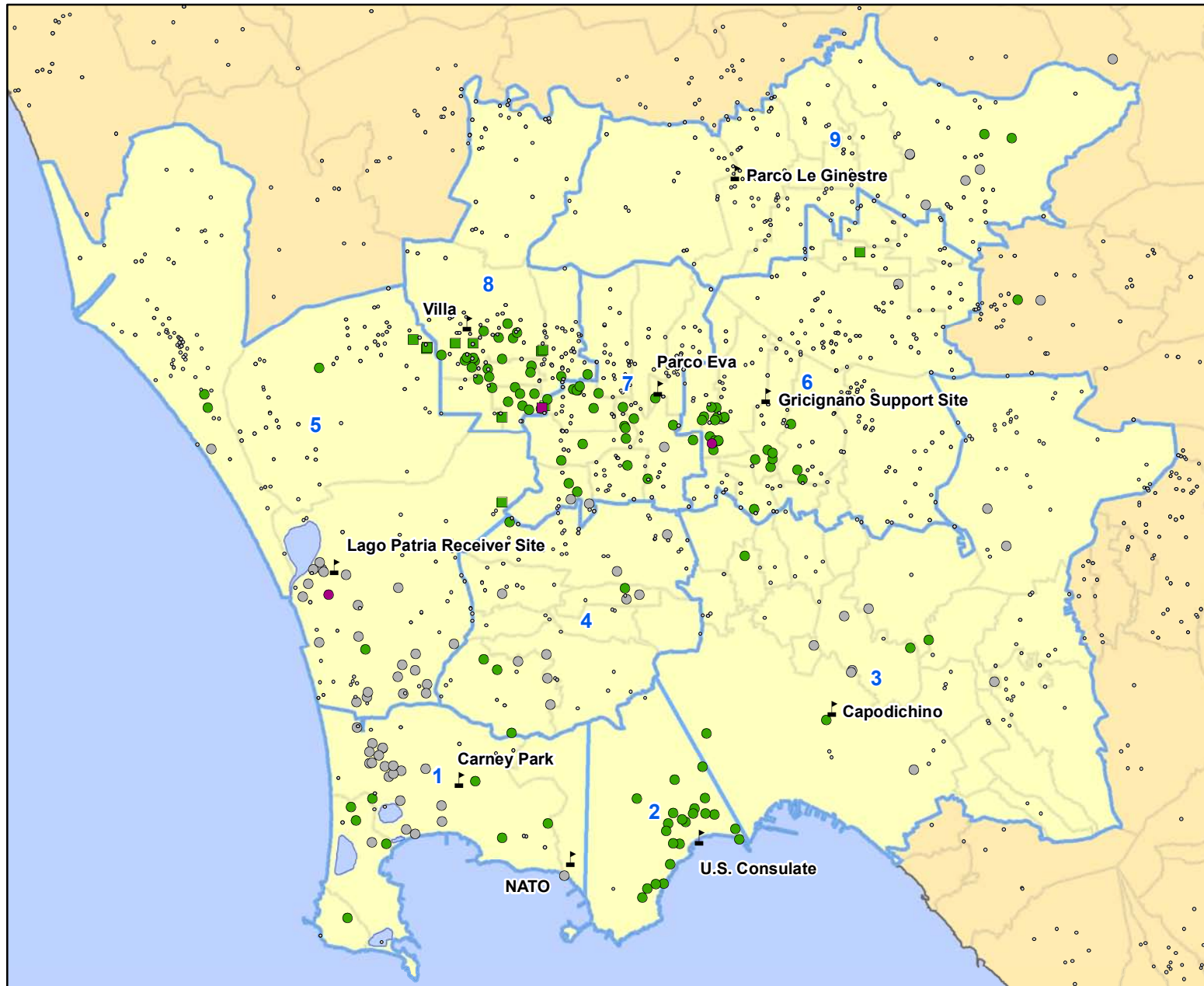
- USMCL = United States Maximum Contaminant Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Fecal Coliform Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-11



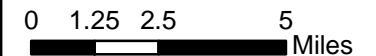


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Public Water without Exceedances**
- NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Well Water without Exceedances**
- NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect

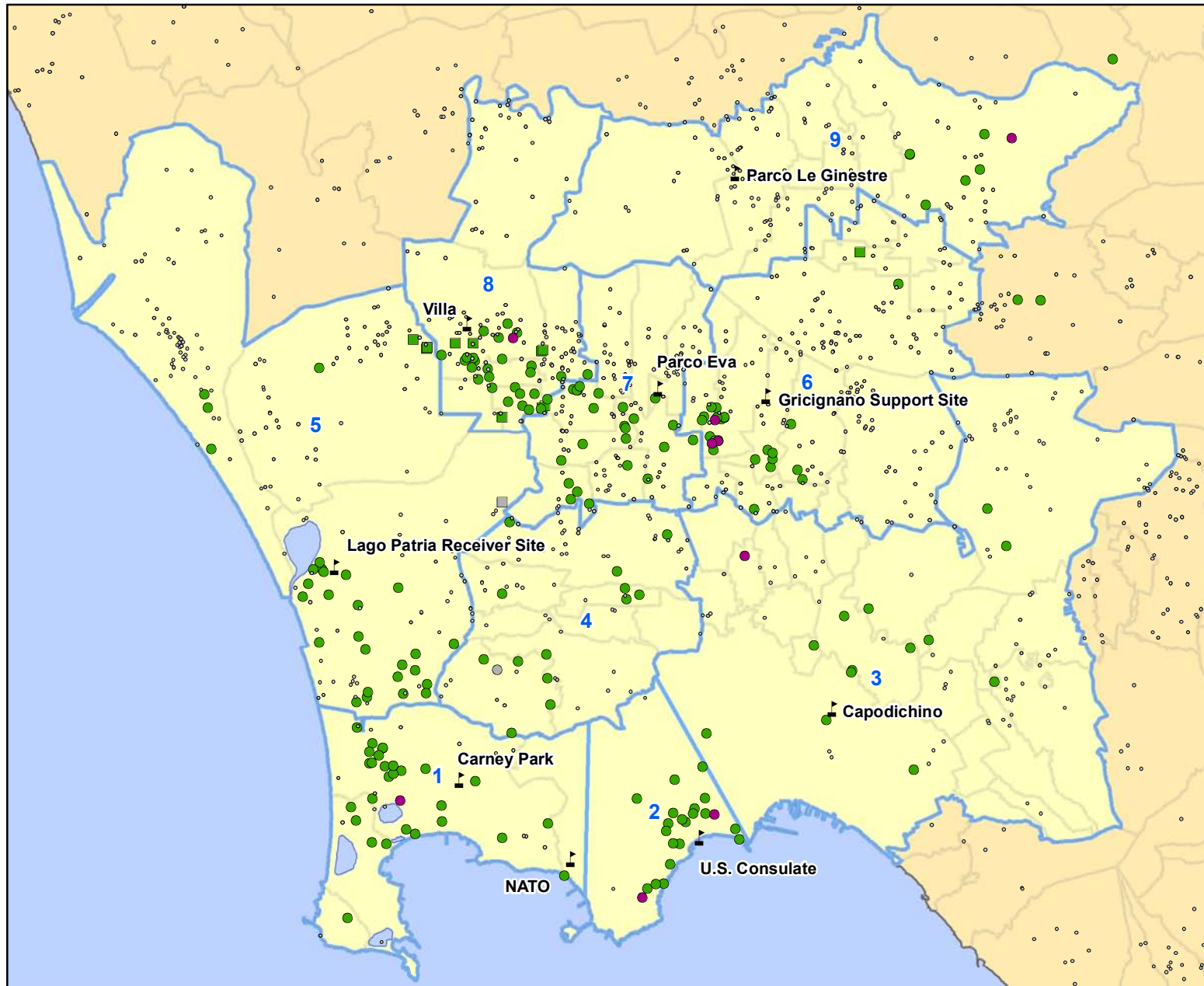
Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Fluoride does not have a cancer RSL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Tap Water Ingestion and Inhalation Fluoride Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

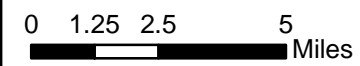
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-12



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Public Water with Exceedances**
 - NCEF > 1
 - Public Water without Exceedances**
 - NCEF <= 1
 - Nondetect
 - Well Water with Exceedances**
 - NCEF > 1
 - Well Water without Exceedances**
 - NCEF <= 1
 - Nondetect

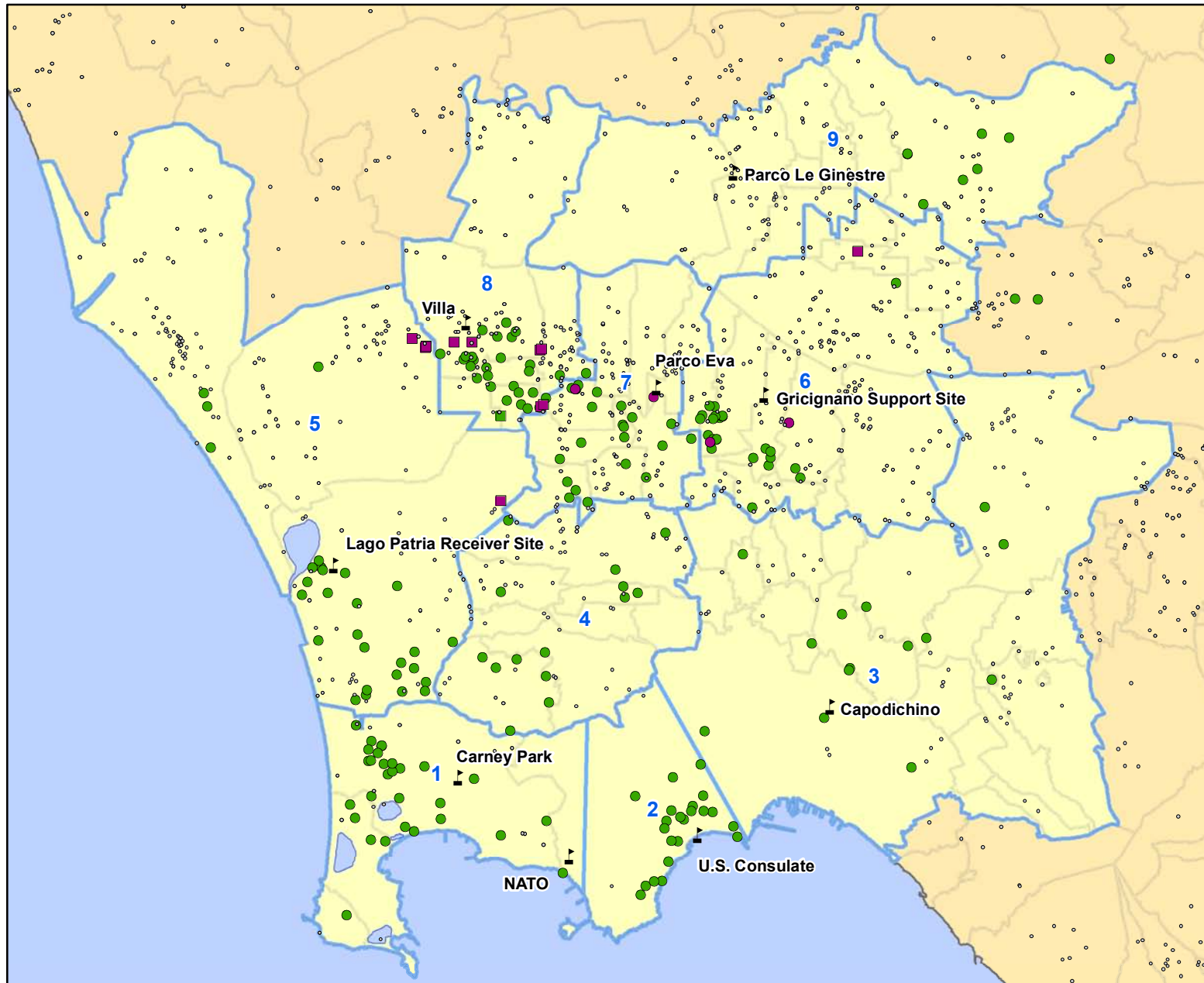
Notes:

- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Lead does not have a USMCL or cancer RSL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Ingestion and Inhalation Lead Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

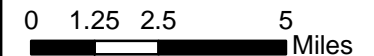
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-13



Legend

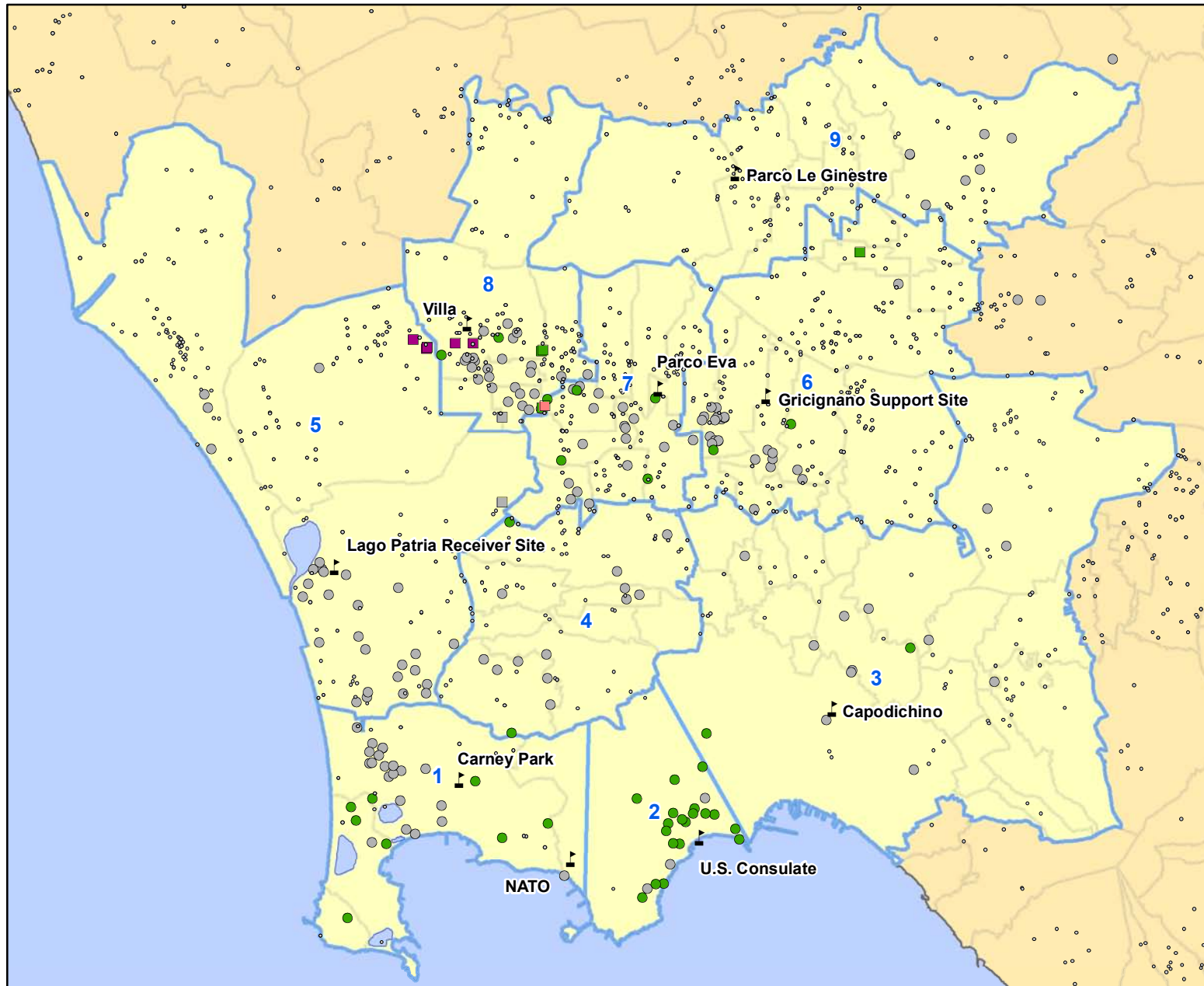
- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- NCEF and/or Concentration > USMCL
- Public Water without Exceedances**
- NCEF <= 1 and Concentration <= USMCL
- Nondetect
- Well Water with Exceedances**
- NCEF > 1 and/or Concentration > USMCL
- Well Water without Exceedances**
- NCEF <= 1 and Concentration <= USMCL
- Nondetect

Notes:
 -USMCL = United States Maximum Contaminant Level
 -Nitrate does not have a cancer RSL.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Tap Water Ingestion and Inhalation Nitrate Risk Results
 Phase II Residences Only
 Naples, Italy – Public Health Evaluation
 Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-14

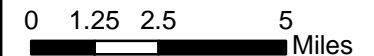


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF ≤ 10
- Public Water without Exceedances**
- CEF and NCEF ≤ 1
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF ≤ 10
- Well Water without Exceedances**
- CEF and NCEF ≤ 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

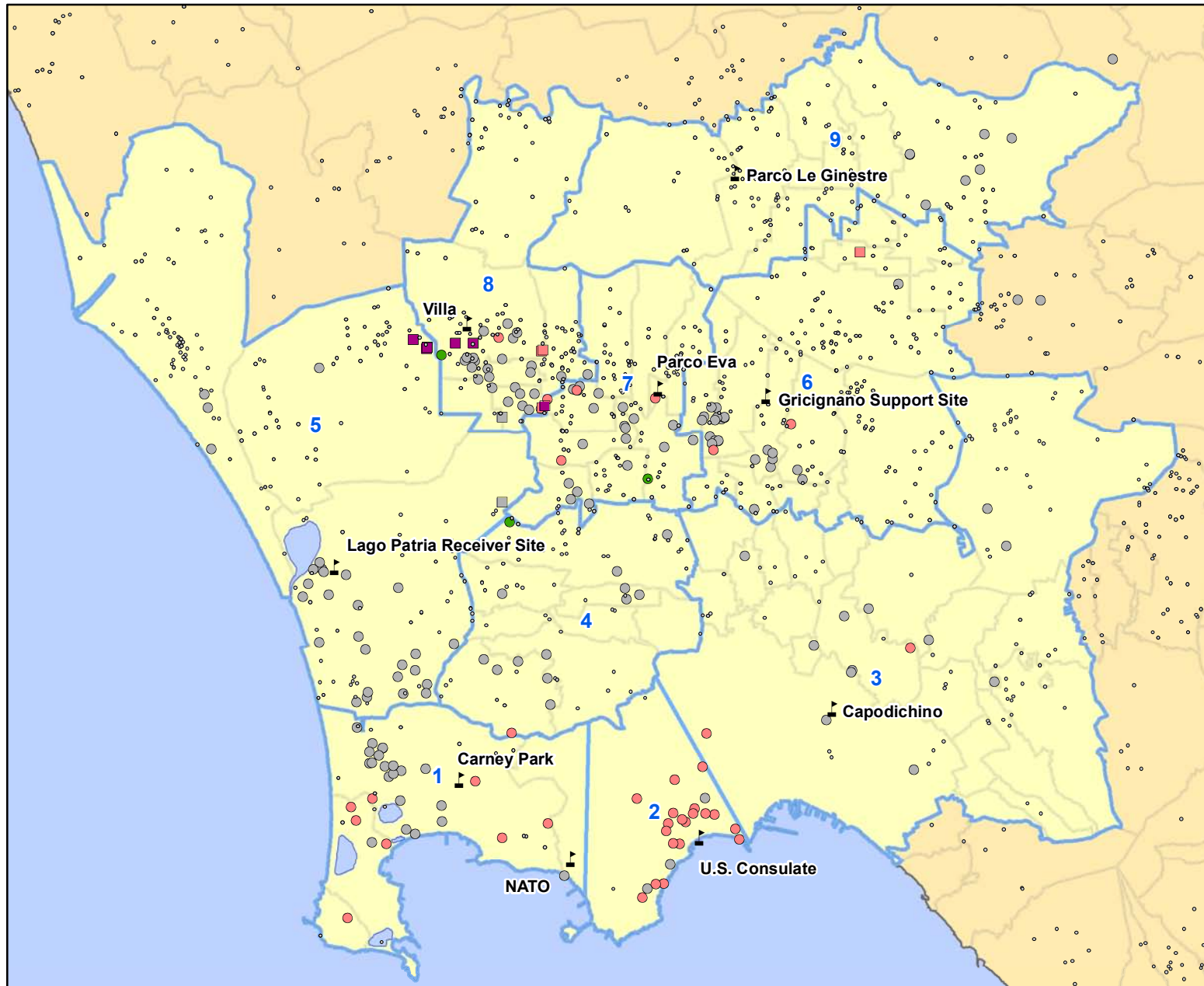


Tap Water Inhalation Tetrachloroethene Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-15



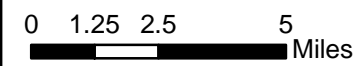
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- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Public Water with Exceedances**
 - CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
 - 1 < CEF ≤ 10
 - Public Water without Exceedances**
 - CEF and NCEF ≤ 1 and Concentration ≤ USMCL
 - Nondetect
 - Well Water with Exceedances**
 - CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
 - 1 < CEF ≤ 10
 - Well Water without Exceedances**
 - CEF and NCEF ≤ 1 and Concentration ≤ USMCL
 - Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Ingestion and Inhalation Tetrachloroethene Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-16

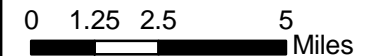


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or Concentration > USMCL
- 1 < CEF <= 10
- Public Water without Exceedances**
- CEF <= 1 and Concentration <= USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or Concentration > USMCL
- 1 < CEF <= 10
- Well Water without Exceedances**
- CEF <= 1 and Concentration <= USMCL
- Nondetect

Notes:

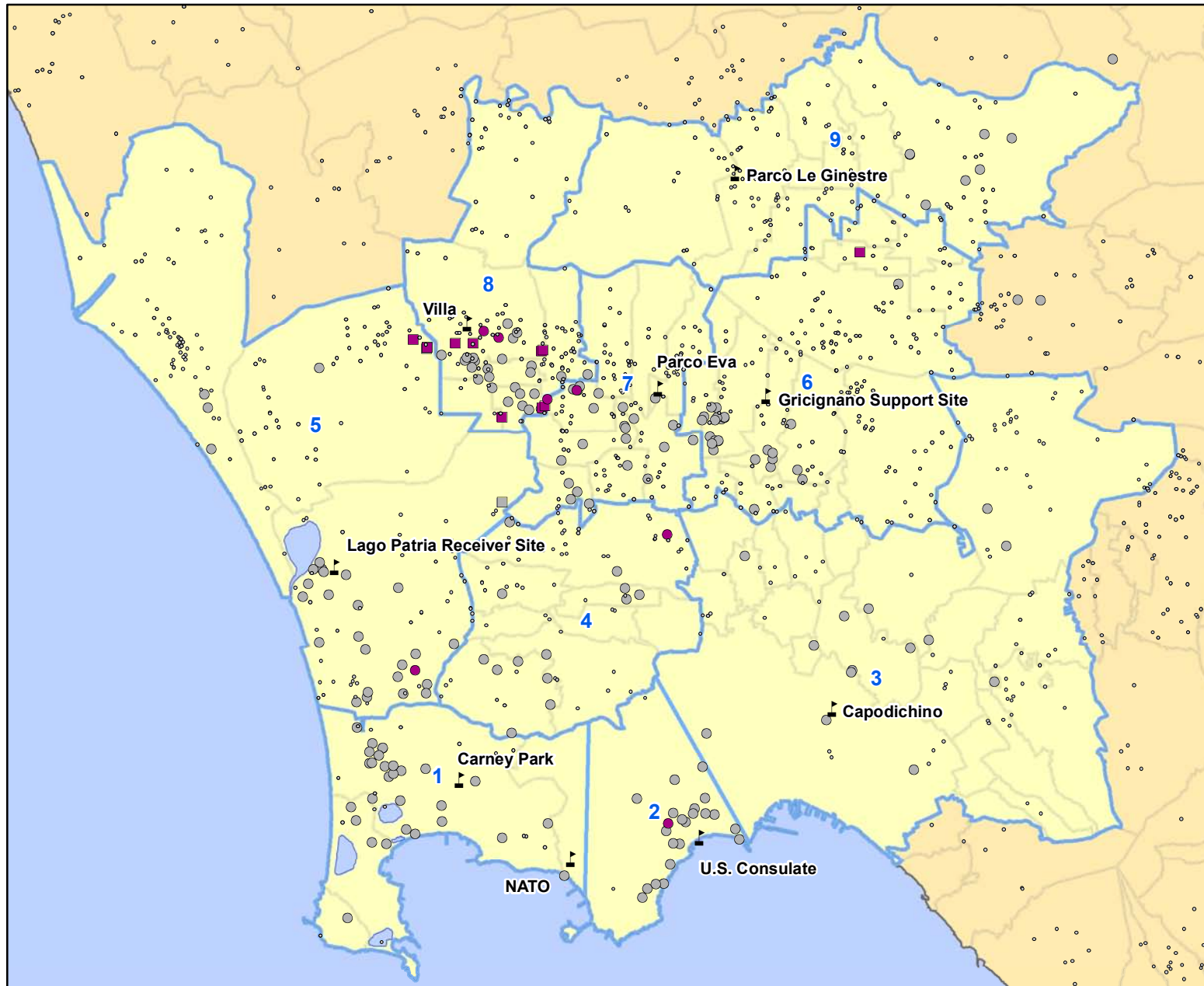
- BaP TEQ = Benzo(a)Pyrene Toxic Equivalents
- PAHs = Polycyclic Aromatic Hydrocarbons
- CEF = Cancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Total Carcinogenic PAHs does not have a noncancer RSL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Tap Water Ingestion and Inhalation Total Carcinogenic PAHs (BaP TEQs) Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

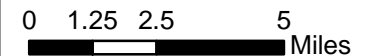
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-17



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- Concentration > USMCL
- Public Water without Exceedances**
- Nondetect
- Well Water with Exceedances**
- Concentration > USMCL
- Well Water without Exceedances**
- Nondetect

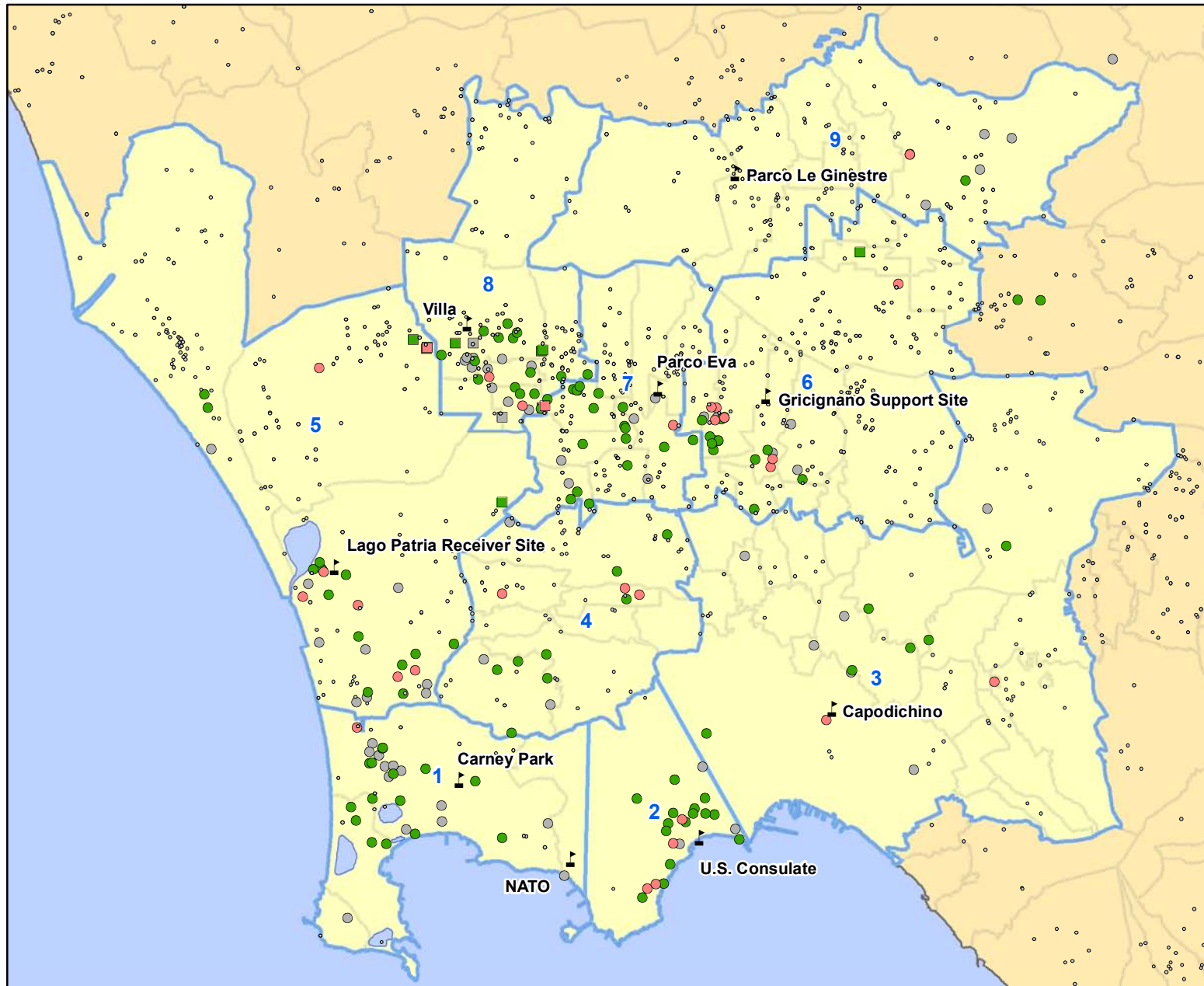
Notes:
 -USMCL = United States Maximum Contaminant Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Tap Water Total Coliforms Risk Results
 Phase II Residences Only
 Naples, Italy – Public Health Evaluation
 Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-18

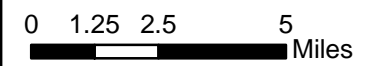


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF <= 10
- Public Water without Exceedances**
- CEF and NCEF <= 1 and Concentration <= USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF <= 10
- Well Water without Exceedances**
- CEF and NCEF <= 1 and Concentration <= USMCL
- Nondetect

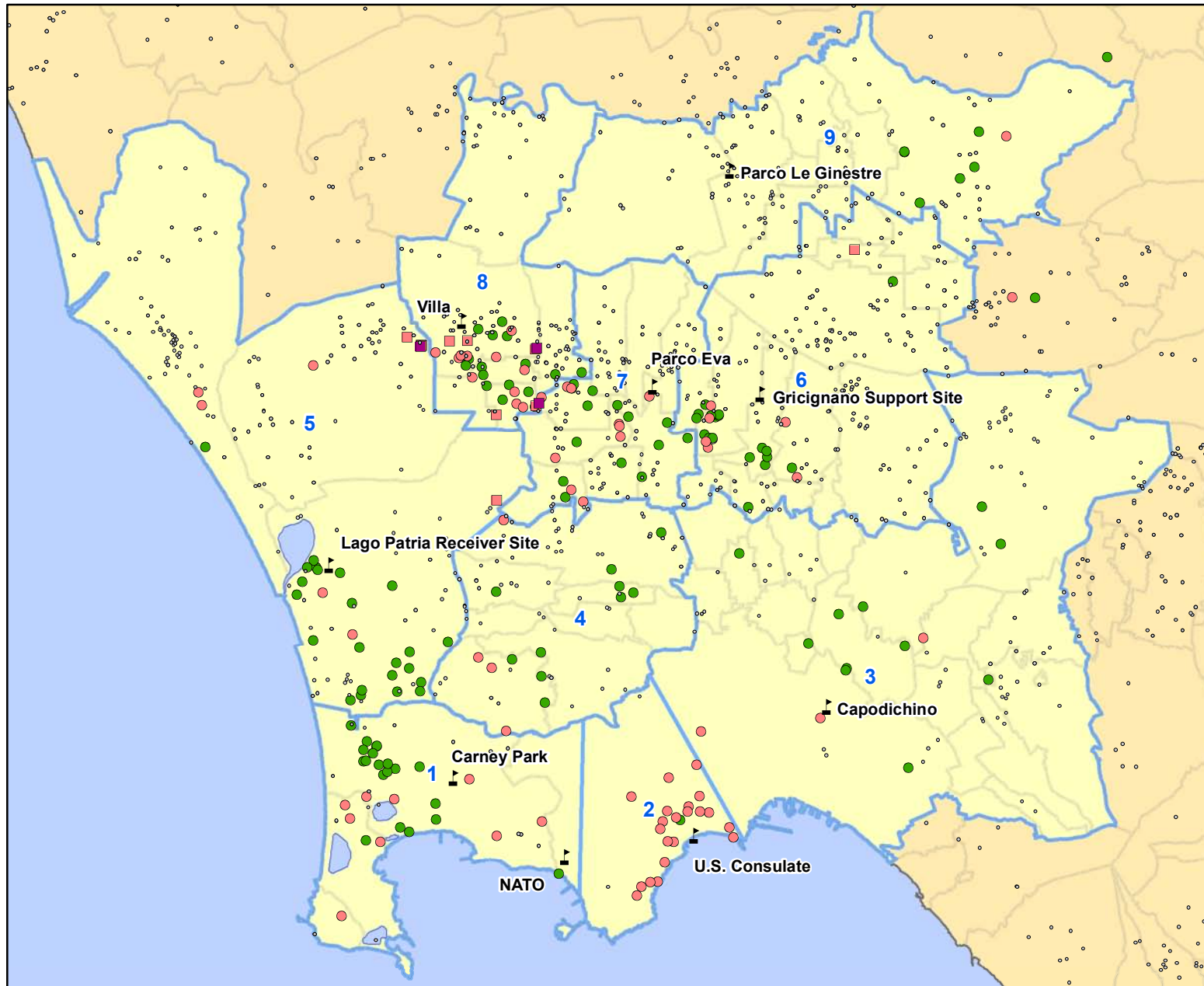
Notes:

- TCDD TEQs = Tetrachlorodibenzo-p-dioxin Toxic Equivalents
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Tap Water Ingestion and Inhalation Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-19

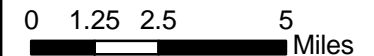


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Public Water without Exceedances**
- CEF and NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Well Water without Exceedances**
- CEF and NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect

Notes:

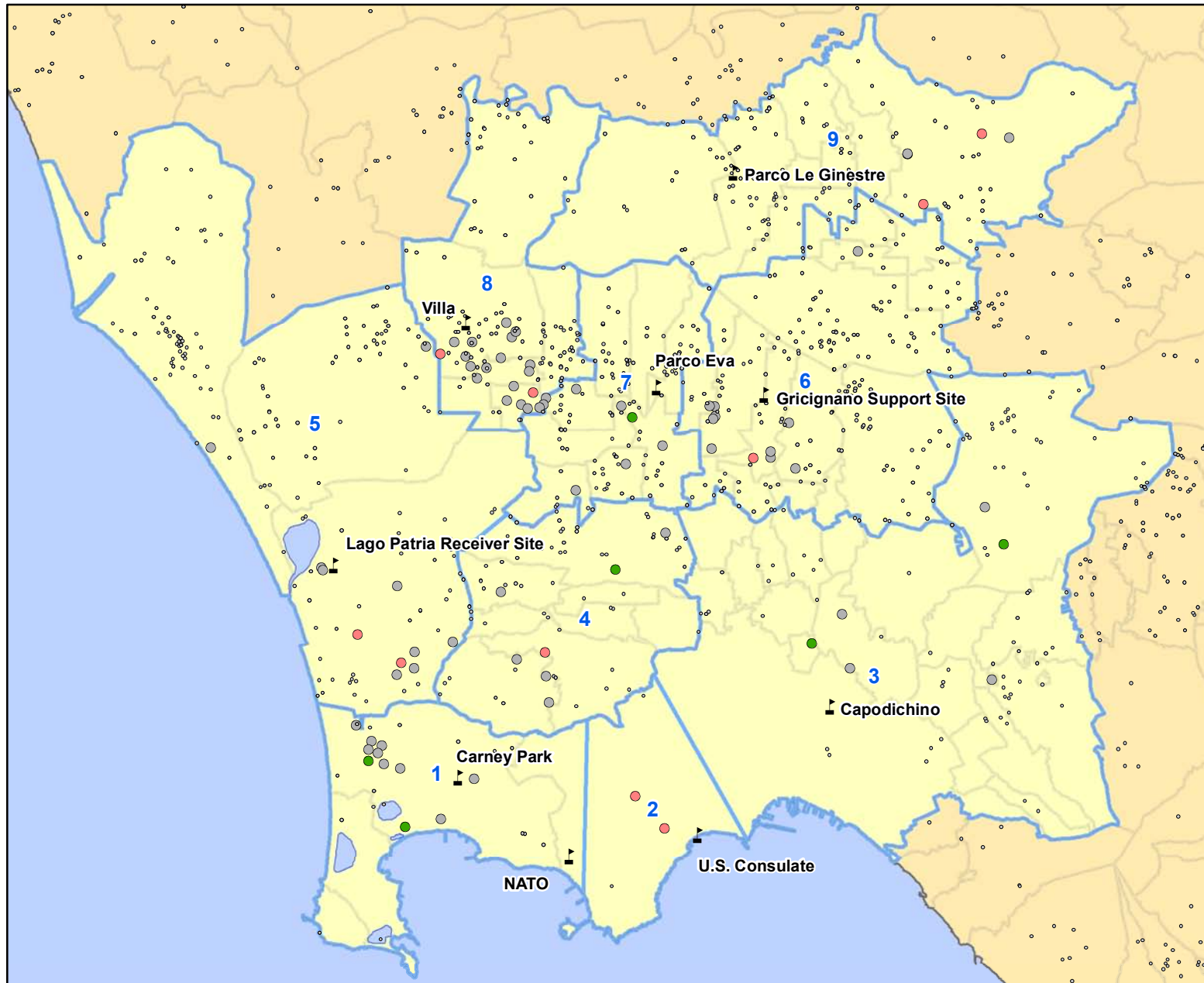
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Tap Water Ingestion and Inhalation Uranium Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-20

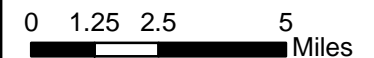


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil with Exceedances**
- CEF > 10
- 1 < CEF ≤ 10
- Soil without Exceedances**
- CEF ≤ 1
- Nondetect

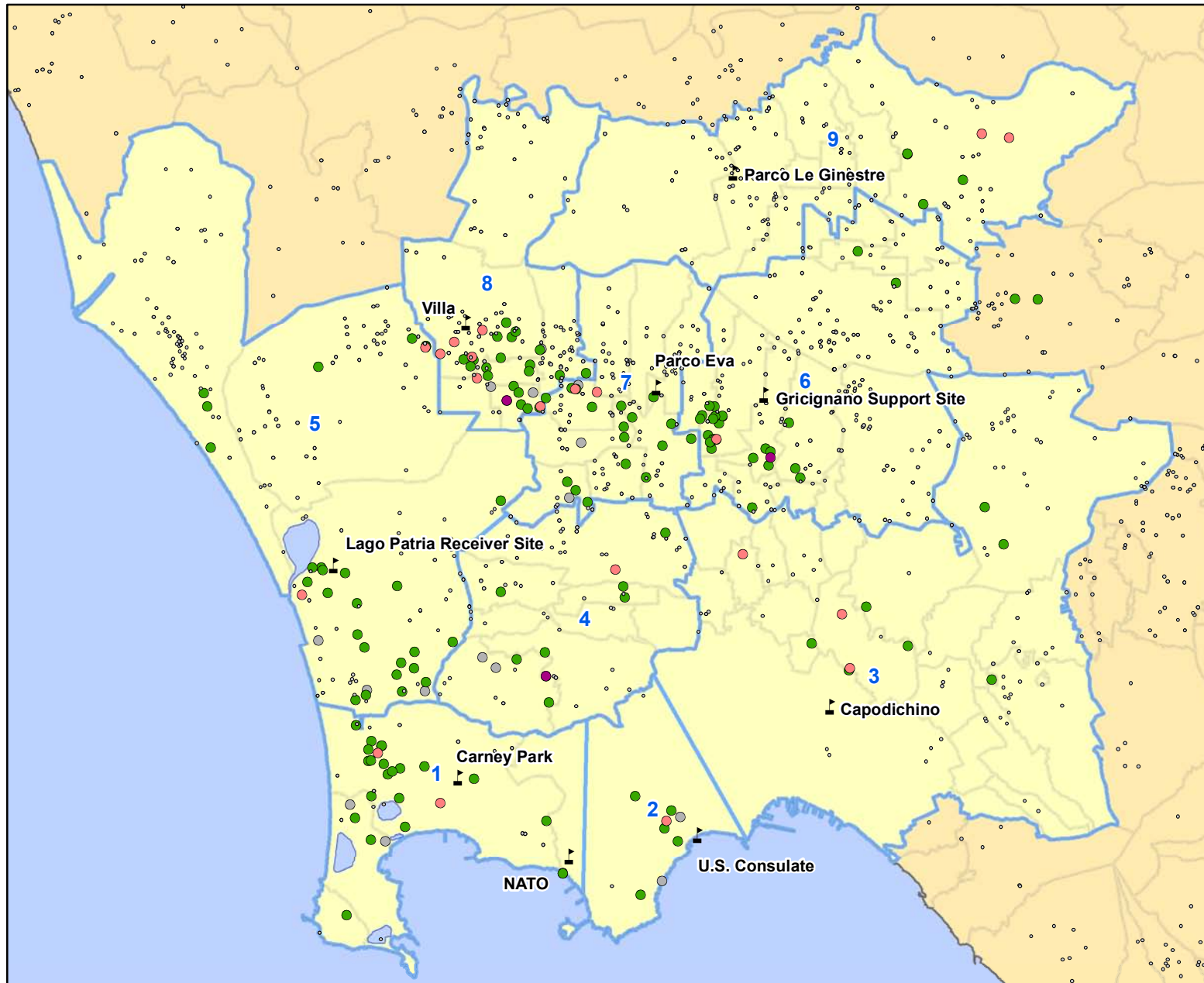
Notes:

- BaP TEQ = Benzo(a)Pyrene Toxic Equivalents
- PAHs = Polycyclic Aromatic Hydrocarbons
- CEF = Cancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Total Carcinogenic PAHs do not have a noncancer RSL.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Soil Total Carcinogenic PAHs (BaP TEQs) Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-21



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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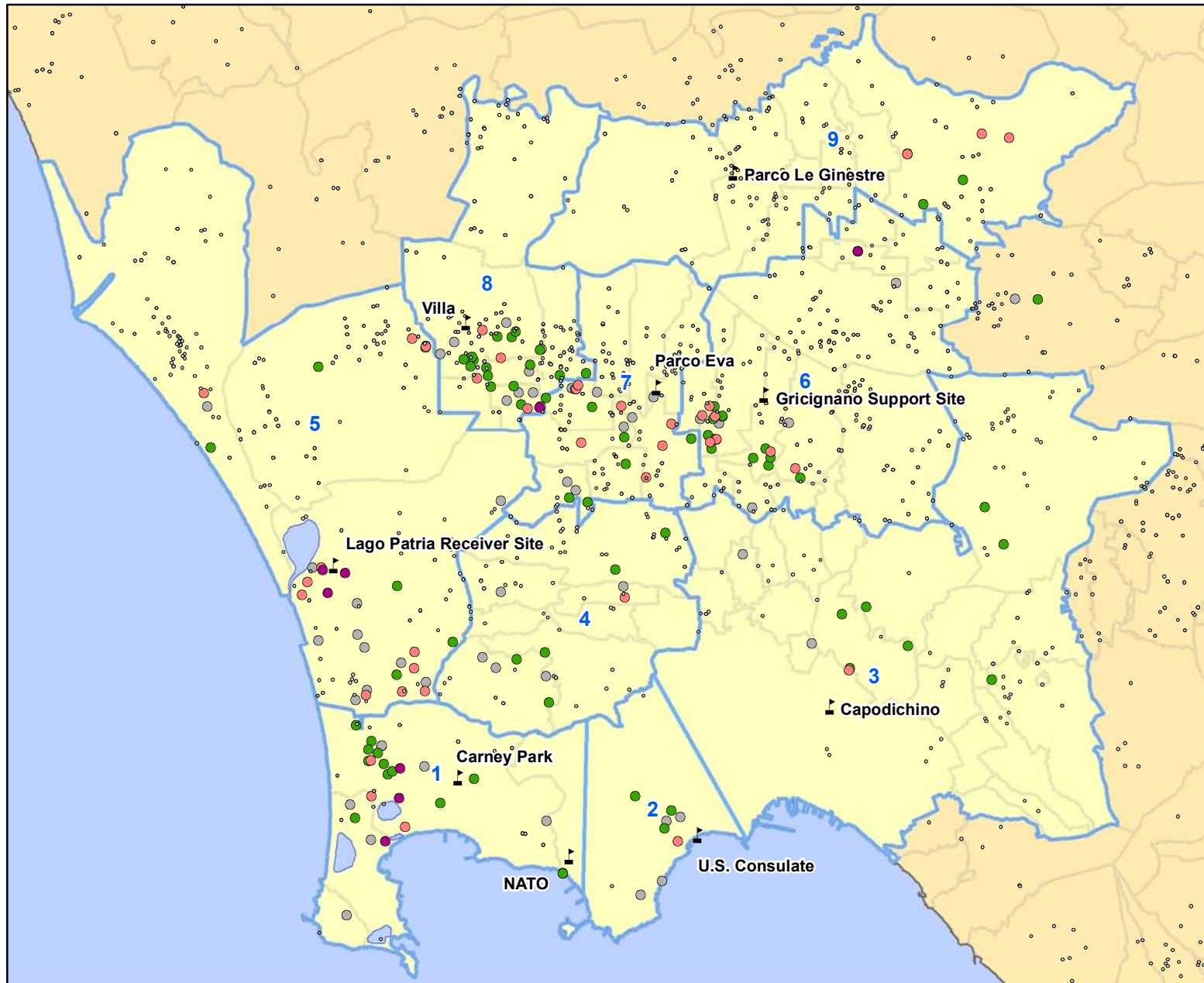
**Soil Gas Benzene Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

FIGURE NO.:
4-22



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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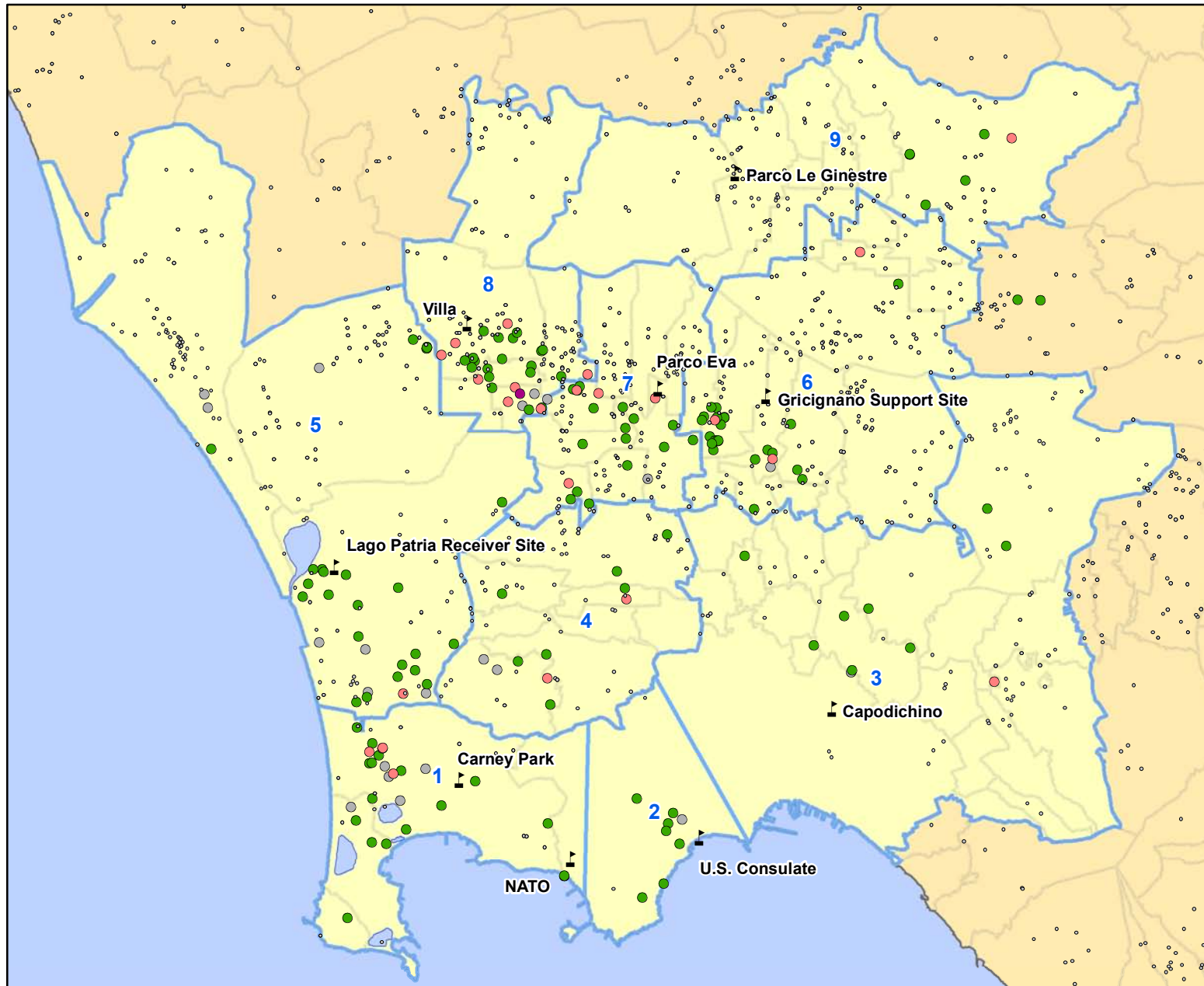
**Soil Gas Chloroform Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

FIGURE NO.:
4-23

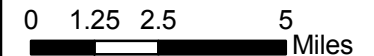


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

Notes:

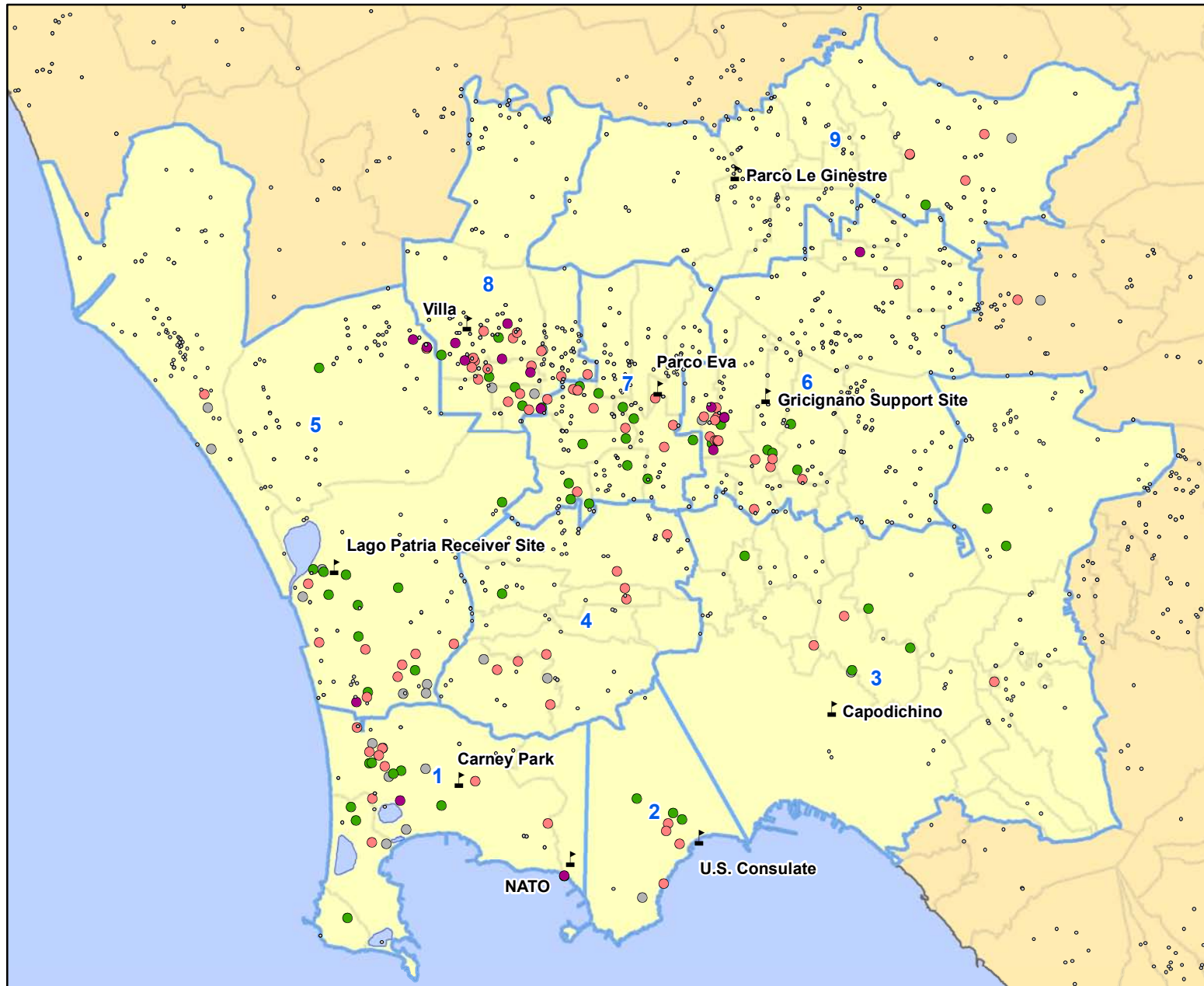
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Soil Gas Ethylbenzene Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-24

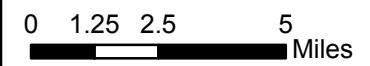


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

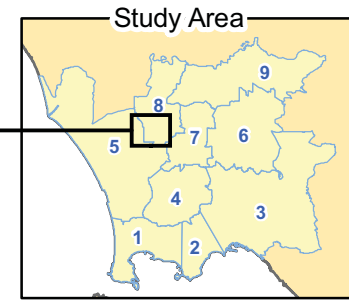
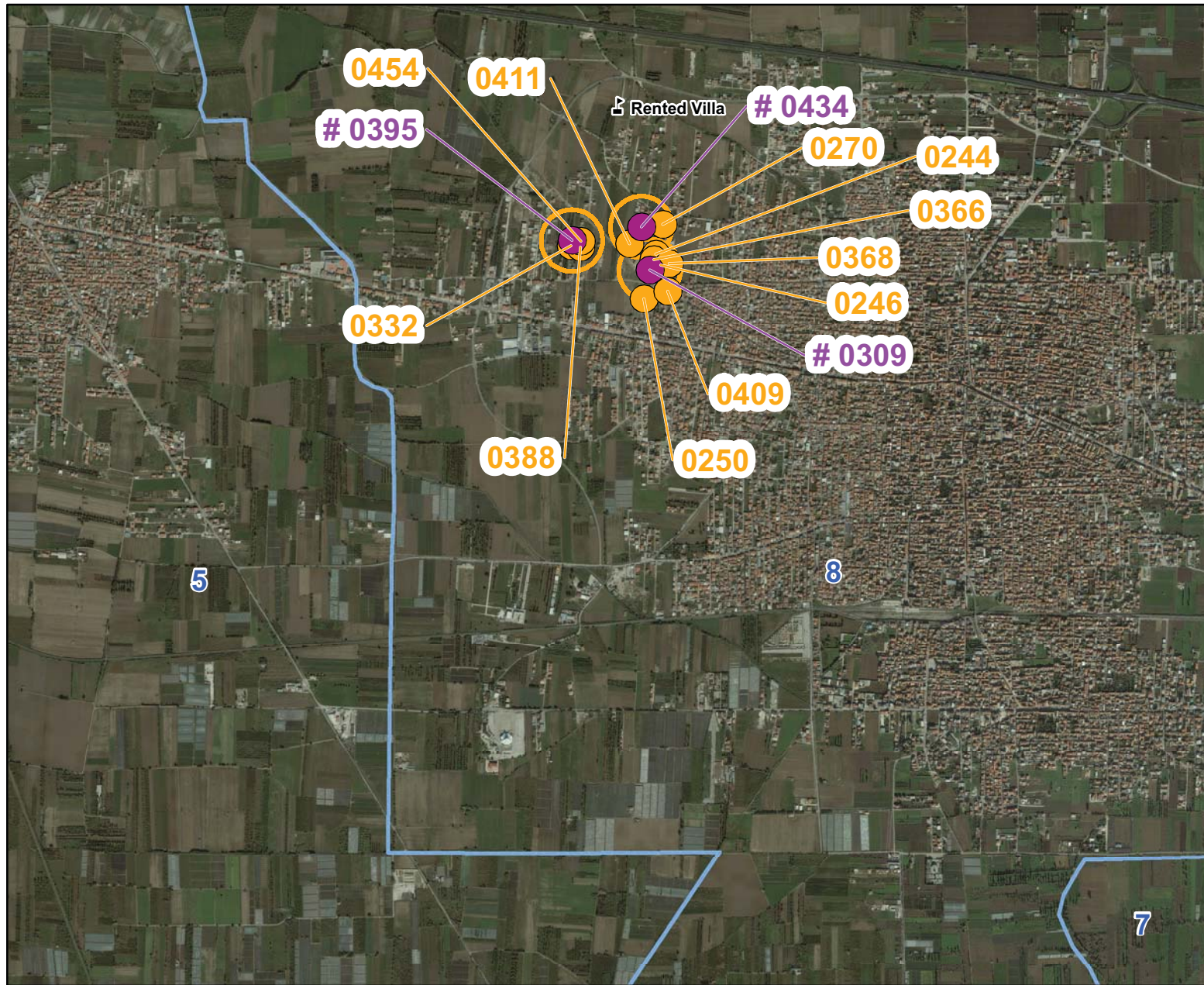
Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

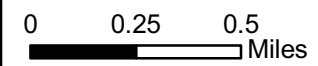


**Soil Gas Tetrachloroethene Risk Results
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-25

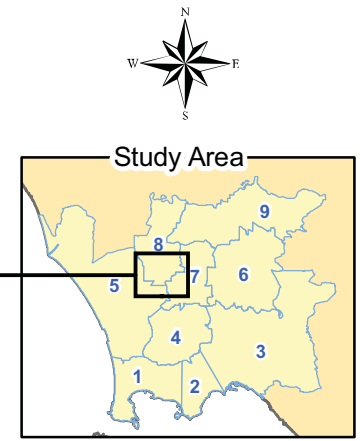
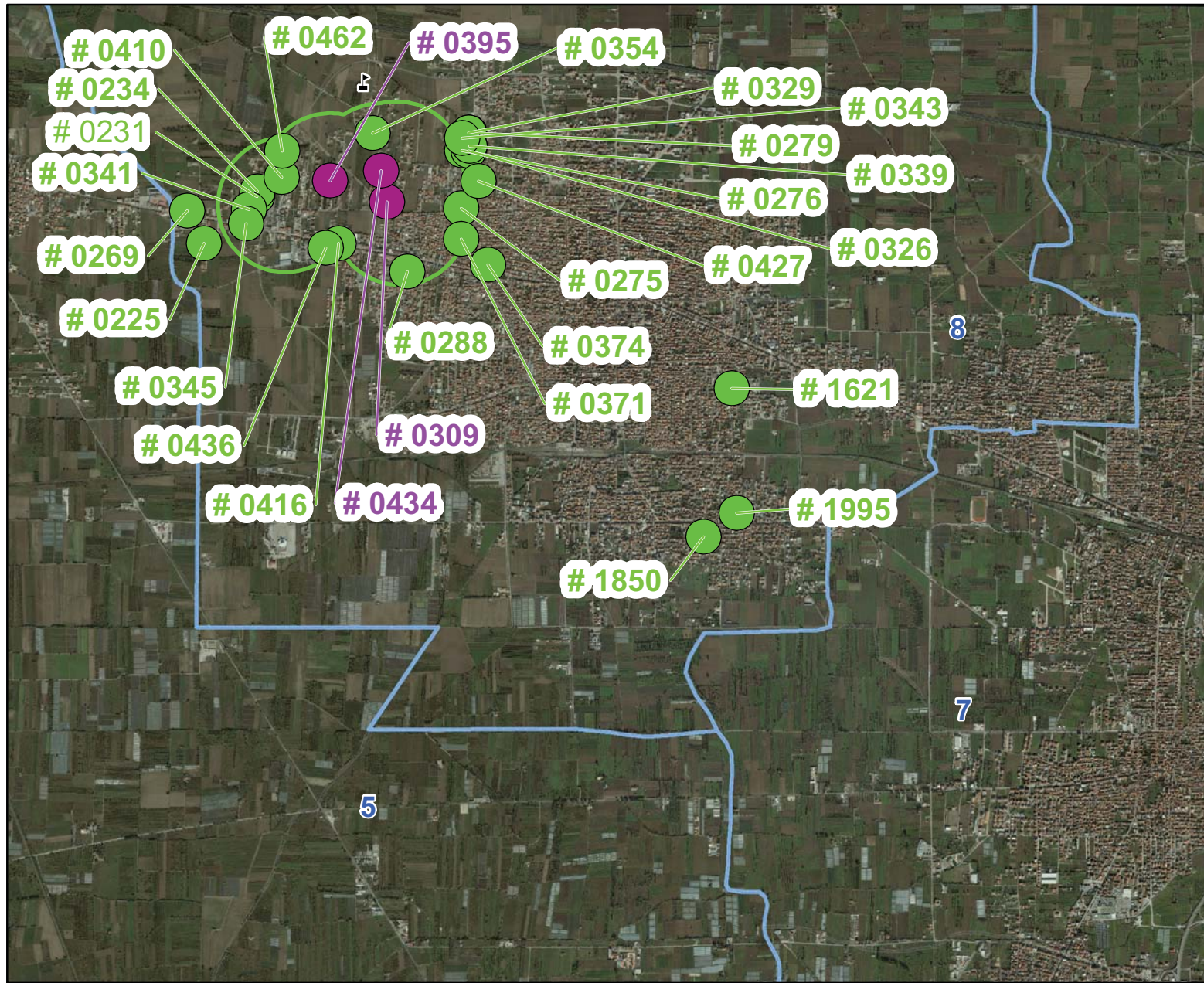


- Legend**
- U.S Government-Related Facilities
 - Study Area Boundary (1-9)
 - 500 Foot Step-Out Boundary
 - 500 Foot Step-Out Residence
 - Step-Out Trigger Residence

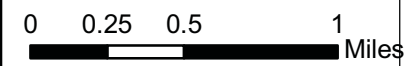


**500 Foot Step-Out Boundary and Step-Out Residences
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: SM	PROJECT:
DATE: December 2010	FIGURE NO.: 4-26

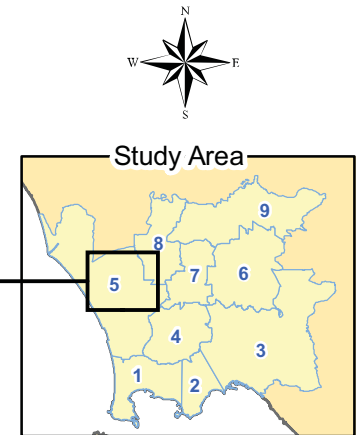
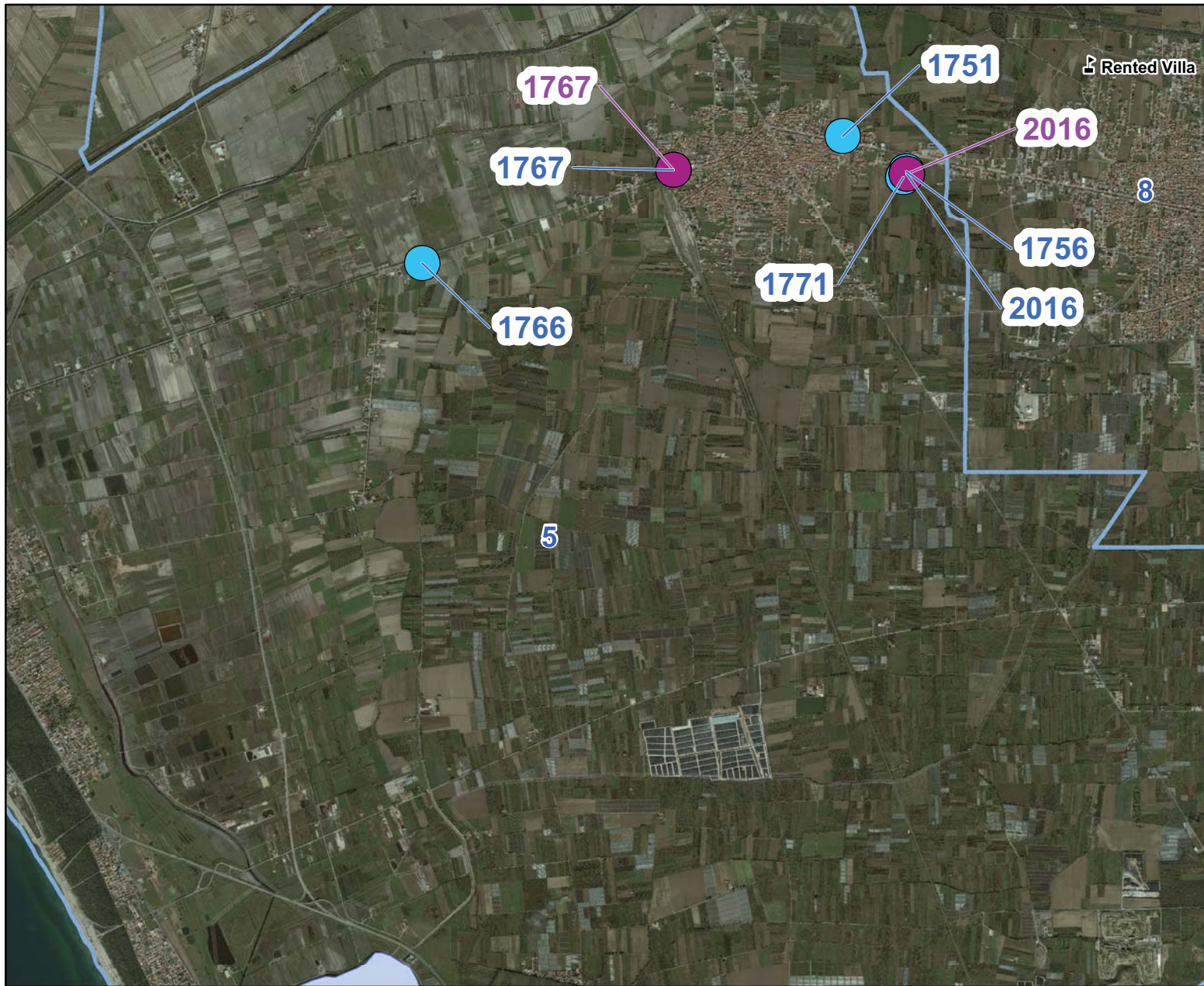


- Legend**
- U.S Government-Related Facilities
 - Study Area Boundary (1-9)
 - 1,500 Foot Step-Out Boundary
 - 1,500 Foot Step-Out Residence
 - Step-Out Trigger Residence



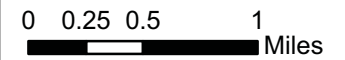
**1,500 Foot Step-Out Boundary and Step-Out Residences
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: SM	PROJECT:
DATE: December 2010	FIGURE NO.: 4-27



Legend

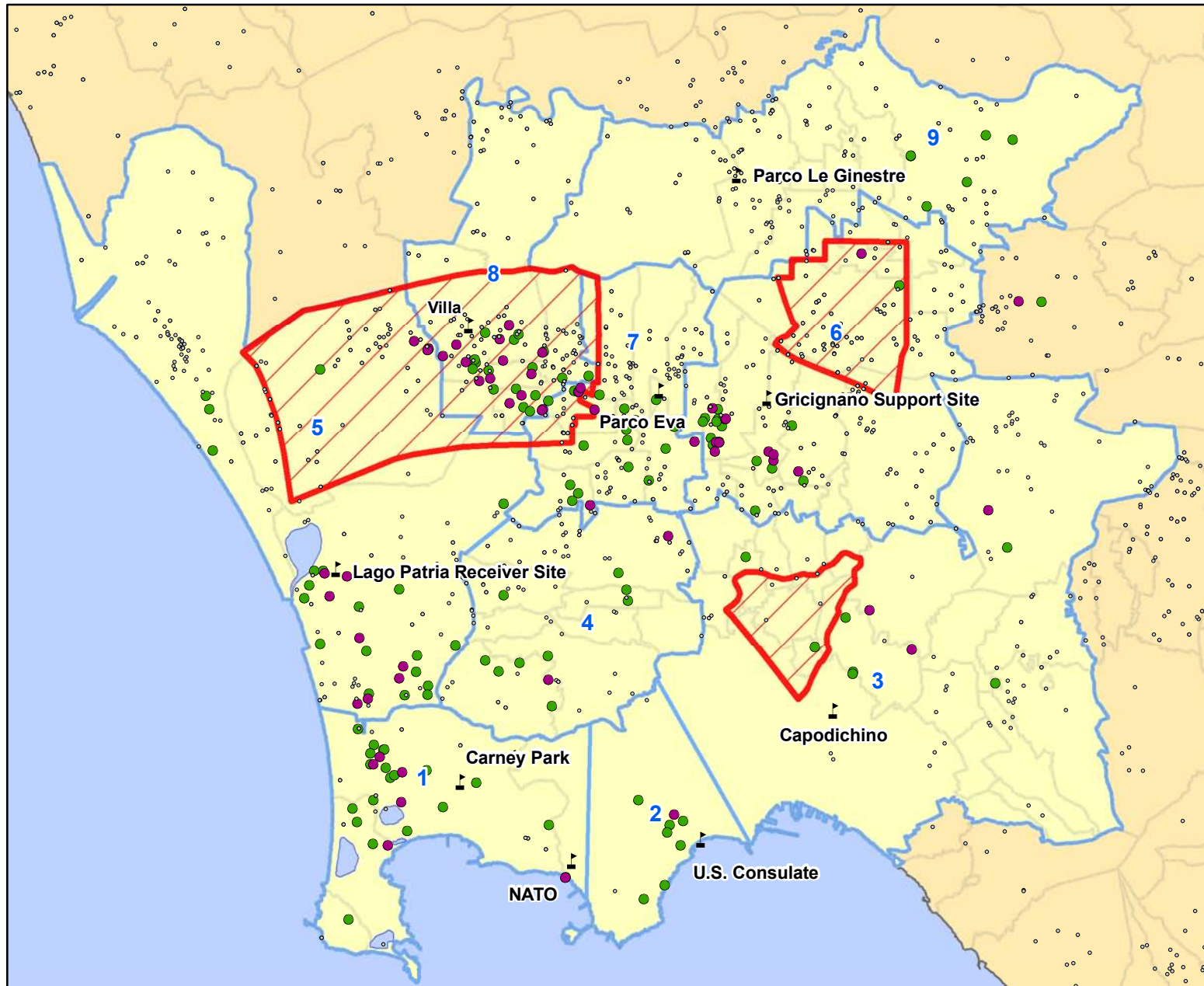
- Study Area Boundary (1-9)
- Villa Literno Residence
- Pilot Study and Phase II Residence



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**Villa Literno Sampling Event Residences
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: MF	PROJECT:
DATE: December 2010	FIGURE NO.: 4-28



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- ▨ New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable**
- CCEF > 10 and/or CNCEF > 1
- Residence is Acceptable**
- CCEF <= 10 and CNCEF <= 1

Notes:

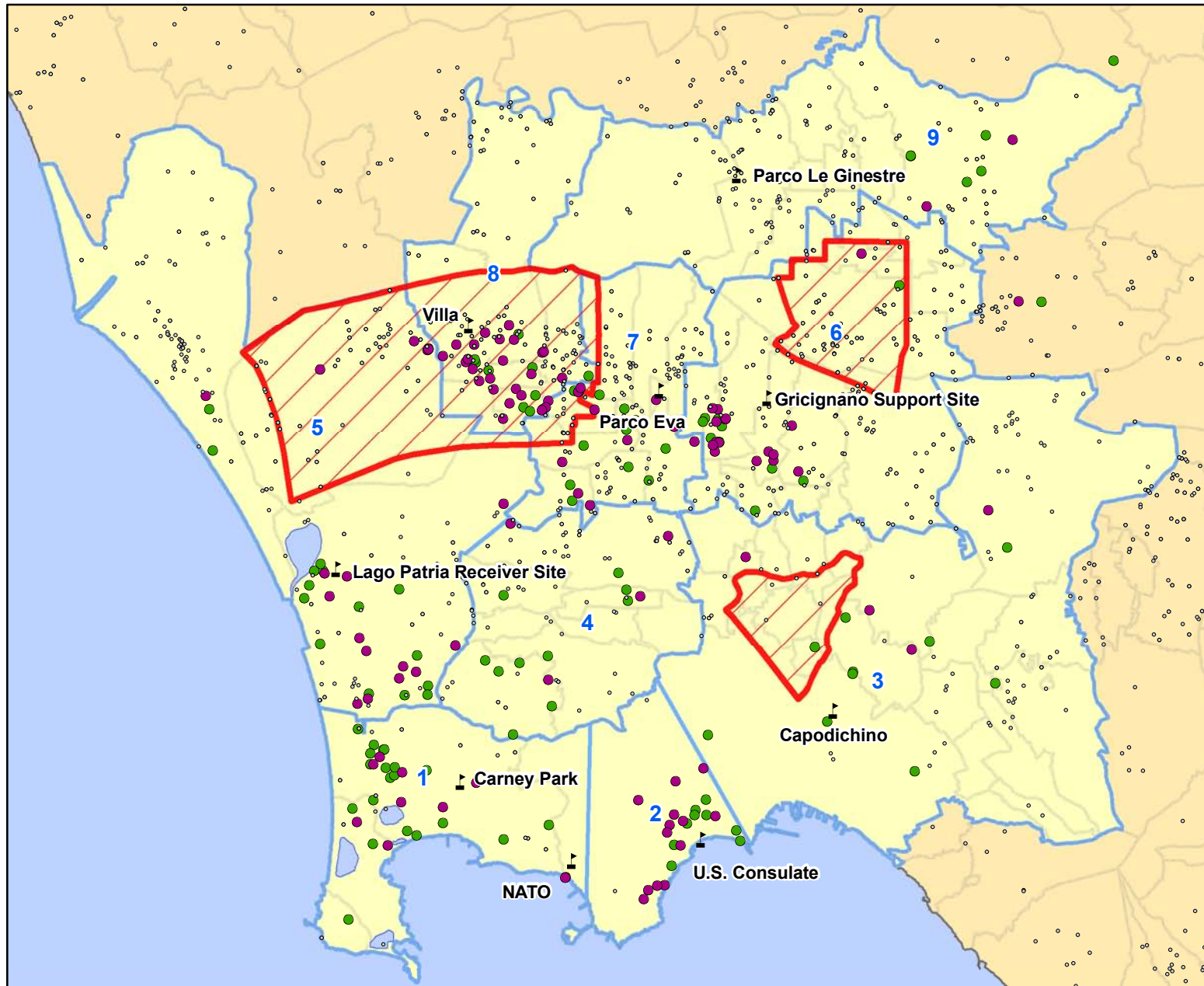
- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- VAF = Vapor Attenuation Factor
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



**Soil Gas Cumulative Risk Results without Multi-Story VAFs
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-29



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- ▨ New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable**
- Total CCEF > 10 and/or Total CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable**
- Total CCEF <= 10 and Total CNCEF <= 1 and Concentration <= USMCL

Notes:

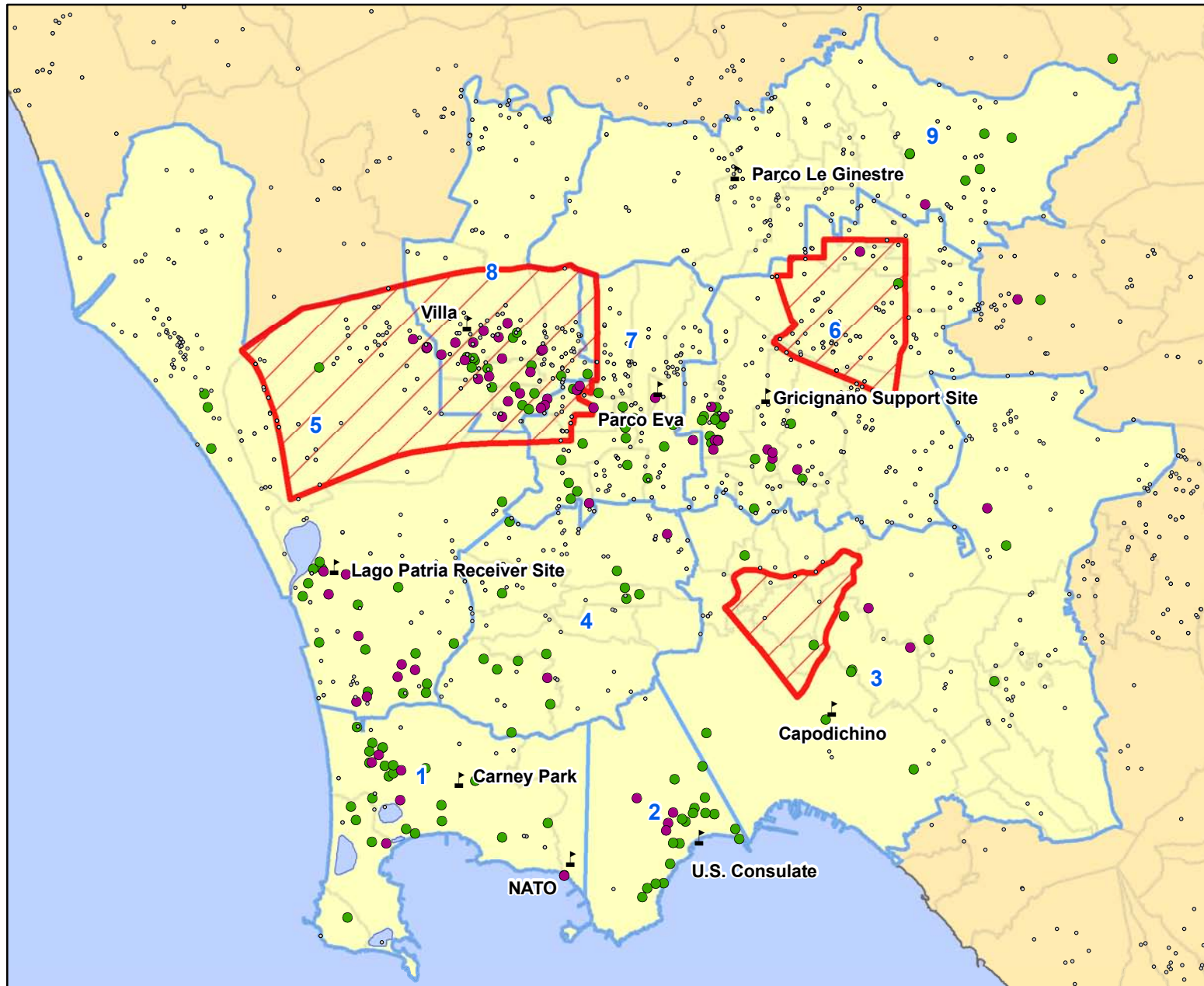
- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- VAF = Vapor Attenuation Factor
- The total cumulative ingestion and inhalation exceedance factors are calculated assuming exposure via tap water (ingestion and inhalation), soil, and soil gas for both public water and private well sources.
- USMCL = United States Maximum Contaminant Level
- USMCL exceedances apply to all chemicals for the ingestion and inhalation exposure scenario.
- Figure does not include ambient air exposure.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



**Total Ingestion and Inhalation Cumulative Risk Results without Multi-Story VAFs
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-30

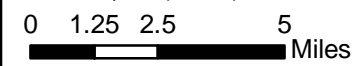


Legend

- Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable**
- Total CCEF > 10 and/or Total CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable**
- Total CCEF <= 10 and Total CNCEF <= 1 and Concentration < USMCL

Notes:

- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- VAF = Vapor Attenuation Factor
- The total cumulative inhalation exceedance factors are calculated assuming exposure via tap water (inhalation only), soil, and soil gas for both public water and private well sources.
- USMCL = United States Maximum Contaminant Level
- USMCL exceedances only apply to fecal and total coliforms for the inhalation-only exposure scenario.
- Figure does not include ambient air exposure.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Total Inhalation Cumulative Risk Results without Multi-Story VAFs
Phase II Residences Only
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: 4-31

Appendix A

Equations and Input Parameters Used to Develop USEPA Regional Screening Levels

Appendix A is comprised of 26 pages.



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DECEMBER 2010

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to allow for double-sided printing.**

TABLE OF CONTENTS

RISK-BASED SCREENING LEVELS	1
1.1 RSL OVERVIEW	1
REFERENCES	2

ATTACHMENTS

ATTACHMENT A-1 – USEPA REGIONAL SCREENING LEVELS USERS GUIDE

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RISK-BASED SCREENING LEVELS

1.1 RSL Overview

To determine whether or not the sampling results for soil, soil gas, and tap water are potentially of concern to human health, the sampling results were compared to United States Environmental Protection Agency (USEPA) risk-based regional screening levels (RSLs) (USEPA, 2009). The RSLs incorporate many conservative assumptions about exposure to be protective of human health. The detailed calculations are presented in the USEPA RSL User's Guide which is included in this appendix as Attachment A-1.

The USEPA RSLs are calculated based on carcinogenic (i.e., cancer) risks and noncarcinogenic (i.e., noncancer) health effects. Cancer risk is an estimate of how exposure to a chemical may increase the normal or expected rate of developing cancer in a population of people. The USEPA generally evaluates cancer risk as follows:

- **Acceptable Risk** – A cancer risk of 1×10^{-6} (i.e., one person out of 1,000,000 will develop cancer) or less is considered safe (i.e., acceptable). Note: The USEPA generally also considers the range between one in 10,000 (1×10^{-4}) and one in 1,000,000 (1×10^{-6}) people as a safe (i.e., acceptable) range, and actions to reduce the risk may or may not be required based on various site-specific factors. The USEPA typically considers additional actions to reduce cancer risks that are close to or greater than one in 10,000 (1×10^{-4}) people.
- **Unacceptable Risk** – USEPA considers an increase of “more than” one additional case of cancer (or greater) in 10,000 (1×10^{-4}) people to be of concern (i.e., unacceptable).

Noncancer health effects are expressed by a number known as the “hazard quotient” or “HQ.” The HQ compares the amount of a chemical that people may have been exposed to over a specified time period with the amount that is considered to have no effect (i.e., safe). If people are exposed to an amount greater than that considered safe for a particular chemical, then the ratio will be greater than one. Because people can be exposed to more than one chemical at a time, the HQs for different chemicals are added together to give an overall “hazard index” or “HI,” unless data is available to indicate that they should not be added together. USEPA policy considers chemical concentrations resulting in an HI above one to be of concern for developing potential noncancer health effects. Professional judgment must be used to evaluate the potential noncancer health effects related to the concentration of these chemicals to determine if actions to reduce the risk are needed.

REFERENCES

Source: USEPA. 2009. USEPA Regional Screening Levels:

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

ATTACHMENT A-1

USEPA REGIONAL SCREENING LEVELS USERS GUIDE

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Mid-Atlantic Risk Assessment

You are here: [EPA Home](#) | [Mid-Atlantic Risk Assessment](#) | Risk-Based Concentration Table

User's Guide

Disclaimer

Table of Contents

- User's Guide
- What's New
- FAQ
- Equations
- Calculator
- Generic Tables

This guidance sets forth a recommended, but not mandatory, approach based upon currently available information with respect to risk assessment for response actions at CERCLA sites. This document does not establish binding rules. Alternative approaches for risk assessment may be found to be more appropriate at specific sites (e.g., where site circumstances do not match the underlying assumptions, conditions and models of the guidance). The decision whether to use an alternative approach and a description of any such approach should be documented for such sites. Accordingly, when comments are received at individual CERCLA sites questioning the use of the approaches recommended in this guidance, the comments should be considered and an explanation provided for the selected approach.

It should also be noted that the screening levels (SLs) in these tables are based upon human health risk and do not address potential ecological risk. Some sites in sensitive ecological settings may also need to be evaluated for potential ecological risk. EPA's guidance "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessment" <http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm> contains an eight step process for using benchmarks for ecological effects in the remedy selection process.

1. Introduction

The purpose of this website is to provide default screening tables and a calculator to assist Remedial Project Managers (RPMs), On Scene Coordinators (OSC's), risk assessors and others involved in decision-making concerning CERCLA hazardous waste sites and to determine whether levels of contamination found at the site may warrant further investigation or site cleanup, or whether no further investigation or action may be required.

Users within and outside the CERCLA program should use the tables or calculator results at their own discretion and they should take care to understand the assumptions incorporated in these results and to apply the SLs appropriately.

The SLs presented in the Generic Tables are chemical-specific concentrations for individual contaminants in air, drinking water and soil that may warrant further investigation or site cleanup. The SLs generated from the calculator may be site-specific concentrations for individual chemicals in soil, air, water and fish. **It should be emphasized that SLs are not cleanup standards.** SLs should not be used as cleanup levels for a CERCLA site until the other remedy selections identified in the relevant portions of the National Contingency Plan (NCP), 40 CFR Part 300, have been evaluated and considered. PRGs is a term used to describe a project team's early and evolving identification of possible remedial goals. PRGs may be initially identified early in the Remedial Investigation/ Feasibility Study (RI/FS) process (e.g., at RI scoping) to select appropriate detection limits for RI sampling. Typically, it is necessary for PRGs to be more generic early in the process and to become more refined and site-specific as data collection and assessment progress. The SLs identified on this website are likely to serve as PRGs early in the process--e.g., at RI scoping and at screening of chemicals of potential concern (COPCs) for the baseline risk assessment. However, once the baseline risk assessment has been performed, PRGs can be derived from the calculator using site-specific risks, and the SLs in the Generic Tables are less likely to apply. PRGs developed in the FS will usually be based on site-specific risks and Applicable or Relevant and Appropriate Requirements (ARARs) and not on generic SLs.

2. Understanding the Screening Tables

2.1 General Considerations

Risk-based SLs are derived from equations combining exposure assumptions with chemical-specific toxicity values.

2.2 Exposure Assumptions

Generic SLs are based on default exposure parameters and factors that represent Reasonable Maximum Exposure (RME) conditions for long-term/chronic exposures and are based on the methods outlined in EPA's [Risk Assessment Guidance for Superfund, Part B Manual \(1991\)](#) and Soil Screening Guidance documents (1996 and 2002).

Site-specific information may warrant modifying the default parameters in the equations and calculating site-specific SLs, which may differ from the values in these tables. In completing such calculations, the user should answer some fundamental questions about the site. For example, information is needed on the contaminants detected at the site, the land use, impacted media and the likely pathways for human exposure.

Whether these generic SLs or site-specific screening levels are used, it is important to clearly demonstrate the equations and exposure parameters used in deriving SLs at a site. A discussion of the assumptions used in the SL calculations should be included in the documentation for a CERCLA site.

2.3 Toxicity Values

In 2003, EPA's Superfund program revised its hierarchy of human health toxicity values, providing three tiers of toxicity values (<http://www.epa.gov/oswer/riskassessment/pdf/hhmemo.pdf>). Three tier 3 sources were identified in that guidance, but it was acknowledged that additional tier 3 sources may exist. The 2003 guidance did not attempt to rank or put the identified tier 3 sources into a hierarchy of their own. However, when developing the screening tables and calculator presented on this website, EPA needed to establish a hierarchy among the tier 3 sources. The toxicity values used as "defaults" in these tables and calculator are consistent with the 2003 guidance. Toxicity values from the following sources in the order in which they are presented below are used as the defaults in these tables and calculator.

1. EPA's Integrated Risk Information System (IRIS)
2. The Provisional Peer Reviewed Toxicity Values (PPRTVs) derived by EPA's Superfund Health Risk Technical Support Center (STSC) for the EPA Superfund program. (Note that the PPRTV website is not open to users outside of EPA, but assessments can be obtained for use on Superfund sites by contacting Dave Crawford at Crawford.Dave@epa.gov).
3. The Agency for Toxic Substances and Disease Registry (ATSDR) minimal risk levels (MRLs)

- The California Environmental Protection Agency/Office of Environmental Health Hazard Assessment's toxicity values (<http://www.oehha.ca.gov/risk/ChemicalDB/index.asp>)
- The EPA Superfund program's Health Effects Assessment Summary. (Note that the [HEAST](#) website of toxicity values for chemical contaminants is not open to users outside of EPA, but values can be obtained for use on Superfund sites by contacting Dave Crawford at Crawford.Dave@epa.gov).

Users of these screening tables and calculator wishing to consider using other toxicity values, including toxicity values from additional sources, may find the discussions and seven preferences on selecting toxicity values in the attached Environmental Council of States paper useful for this purpose ([ECOS website](#), ECOS paper).

When using toxicity values, users are encouraged to carefully review the basis for the value and to document the basis of toxicity values used on a CERCLA site.

2.3.1 Reference Doses

The current, or recently completed, EPA toxicity assessments used in these screening tables (IRIS and PPRTVs) define a reference dose, or RfD, as an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from a NOAEL, LOAEL, or benchmark dose, or using categorical regression, with uncertainty factors generally applied to reflect limitations of the data used. RfDs are generally the toxicity value used most often in evaluating noncancer health effects at Superfund sites. Various types of RfDs are available depending on the critical effect (developmental or other) and the length of exposure being evaluated (chronic or subchronic). Some of the SLs in these tables also use Agency for Toxic Substances and Disease Registry (ATSDR) chronic oral minimal risk levels (MRLs) as an oral chronic RfD. The HEAST RfDs used in these SLs were based upon then current EPA toxicity methodologies, but did not use the more recent benchmark dose or categorical regression methodologies. Chronic oral reference doses and ATSDR chronic oral MRLs are expressed in units of (mg/kg-day).

Chronic oral RfDs are specifically developed to be protective for long-term exposure to a compound. As a guideline for Superfund program risk assessments, chronic oral RfDs generally should be used to evaluate the potential noncarcinogenic effects associated with exposure periods greater than 7 years (approximately 10 percent of a human lifetime). However, this is not a bright line. Note, that ATSDR defines chronic exposure as greater than 1 year for use of their values.

2.3.2 Reference Concentrations

The current, or recently completed, EPA toxicity assessments used in these screening tables (IRIS and PPRTV assessments) define a reference concentration (RfC) as an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from a NOAEL, LOAEL, or benchmark concentration, or using categorical regression with uncertainty factors generally applied to reflect limitations of the data used. Various types of RfCs are available depending on the critical effect (developmental or other) and the length of exposure being evaluated (chronic or subchronic). These screening tables also use ATSDR chronic inhalation MRLs as a chronic RfC, intermediate inhalation MRLs as a subchronic RfC and California Environmental Protection Agency (chronic) Reference Exposure Levels (RELs) as chronic RfCs. These screening tables may also use some RfCs from EPA's HEAST tables.

The chronic inhalation reference concentration is generally used for continuous or near continuous inhalation exposures that occur for 7 years or more. However, this is not a bright line, and ATSDR chronic MRLs are based on exposures longer than 1 year. EPA chronic inhalation reference concentrations are expressed in units of (mg/m³). Cal EPA RELs are presented in µg/m³ and have been converted to mg/m³ for use in these screening tables. Some ATSDR inhalation MRLs are derived in parts per million (ppm) and some in mg/m³. For use in this table all were converted into mg/m³.

2.3.3 Slope Factors

A slope factor and the accompanying weight-of-evidence determination are the toxicity data most commonly used to evaluate potential human carcinogenic risks. Generally, the slope factor is a plausible upper-bound estimate of the probability of a response per unit intake of a chemical over a lifetime. The slope factor is used in risk assessments to estimate an upper-bound lifetime probability of an individual developing cancer as a result of exposure to a particular level of a potential carcinogen. Slope factors should always be accompanied by the weight-of-evidence classification to indicate the strength of the evidence that the agent is a human carcinogen.

Oral slope factors are toxicity values for evaluating the probability of an individual developing cancer from oral exposure to contaminant levels over a lifetime. Oral slope factors are expressed in units of (mg/kg-day)⁻¹. When available, oral slope factors from EPA's IRIS or PPRTV assessments are used. The ATSDR does not derive cancer toxicity values (e.g. slope factors or inhalation unit risks). Some oral slope factors used in these screening tables were derived by the California Environmental Protection Agency, whose methodologies are quite similar to those used by EPA's IRIS and PPRTV assessments. When oral slope factors are not available in IRIS, PPRTV or Cal EPA assessments, values from HEAST are used.

2.3.4 Inhalation Unit Risk

The IUR is defined as the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 µg/m³ in air. Inhalation unit risk toxicity values are expressed in units of (mg/m³)⁻¹.

When available, inhalation unit risk values from EPA's IRIS or PPRTV assessments are used. The ATSDR does not derive cancer toxicity values (e.g. slope factors or inhalation unit risks). Some inhalation unit risk values used in these screening tables were derived by the California Environmental Protection Agency, whose methodologies are quite similar to those used by EPA's IRIS and PPRTV assessments. When inhalation unit risk values are not available in IRIS, PPRTV or Cal EPA assessments, values from HEAST are used.

2.3.5 Toxicity Equivalence Factors

Some chemicals are members of the same family and exhibit similar toxicological properties; however, they differ in the degree of toxicity. Therefore, a toxicity equivalence factor (TEF) must first be applied to adjust the measured concentrations to a toxicity equivalent concentration.

The following table contains the various dioxin-like toxicity equivalency factors for Dioxins, Furans and PCBs (Van den Berg et al. (2006)), which are the World Health Organization 2005 values.

Dioxin Toxicity Equivalence Factors

	Dioxins and Furans	TEF
Chlorinated dibenzo-p-dioxins		
	2,3,7,8-TCDD	1

	1,2,3,7,8-PeCDD	1	
	1,2,3,4,7,8-HxCDD	0.1	
	1,2,3,6,7,8-HxCDD	0.1	
	1,2,3,7,8,9-HxCDD	0.1	
	1,2,3,4,6,7,8-HpCDD	0.01	
	OCDD	0.0003	
Chlorinated dibenzofurans			
	2,3,7,8-TCDF	0.1	
	1,2,3,7,8-PeCDF	0.03	
	2,3,4,7,8-PeCDF	0.3	
	1,2,3,4,7,8-HxCDF	0.1	
	1,2,3,6,7,8-HxCDF	0.1	
	1,2,3,7,8,9-HxCDF	0.1	
	2,3,4,6,7,8-HxCDF	0.1	
	1,2,3,4,6,7,8-HpCDF	0.01	
	1,2,3,4,7,8,9-HpCDF	0.01	
	OCDF	0.0003	
PCBs			
	IUPAC No.	Structure	
Non-ortho	77	3,3',4,4'-TetraCB	0.0001
	81	3,4,4',5'-TetraCB	0.0003
	126	3,3',4,4',5'-PeCB	0.1
	169	3,3',4,4',5,5'-HxCB	0.03
Mono-ortho	105	2,3,3',4,4'-PeCB	0.00003
	114	2,3,4,4',5'-PeCB	0.00003
	118	2,3',4,4',5'-PeCB	0.00003
	123	2',3,4,4',5'-PeCB	0.00003
	156	2,3,3',4,4',5'-HxCB	0.00003
	157	2,3,3',4,4',5'-HxCB	0.00003
	167	2,3',4,4',5,5'-HxCB	0.00003
	189	2,3,3',4,4',5,5'-HpCB	0.00003
Di-ortho*	170	2,2',3,3',4,4',5'-HpCB	0.0001
	180	2,2',3,4,4',5,5'-HpCB	0.00001

* Di-ortho values come from Ahlborg, U.G., et al. (1994), which are the WHO 1994 values from Toxic equivalency factors for dioxin-like PCBs: Report on WHO-ECEH and IPCS consultation, December 1993 Chemosphere, Volume 28, Issue 6, March 1994, Pages 1049-1067.

Carcinogenic polycyclic aromatic hydrocarbons

Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons (EPA/600/R-93/089, July 1993), recommends that a toxicity equivalency factor (TEF) be used to convert concentrations of carcinogenic polycyclic aromatic hydrocarbons (cPAHs) to an equivalent concentration of benzo(a)pyrene when assessing the risks posed by these substances. These TEFs are based on the potency of each compound relative to that of benzo(a)pyrene. For the toxicity value database, these TEFs have been applied to the toxicity values. Although this is not in complete agreement with the direction in the aforementioned documents, this approach was used so that toxicity values could be generated for each cPAH. Additionally, it should be noted that computationally it makes little difference whether the TEFs are applied to the concentrations of cPAHs found in environmental samples or to the toxicity values as long as the TEFs are not applied to both. However, if the adjusted toxicity values are used, the user will need to sum the risks from all cPAHs as part of the risk assessment to derive a total risk from all cPAHs. A total risk from all cPAHs is what is derived when the TEFs are applied to the environmental concentrations of cPAHs and not to the toxicity values.

The following table presents the TEFs for cPAHs recommended in *Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons*.

Toxicity Equivalency Factors for Carcinogenic Polycyclic Aromatic Hydrocarbons

Compound	TEF
Benzo(a)pyrene	1.0
Benz(a)anthracene	0.1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.01
Chrysene	0.001
Dibenz(a,h)anthracene	1.0
Indeno(1,2,3-c,d)pyrene	0.1

2.4 Chemical-specific Parameters

Several chemical specific parameters are needed for development of the SLs. Different hierarchies are used for organic and inorganic compounds.

2.4.1 Organic Compounds

- Values were taken from <http://www.epa.gov/opptintr/exposure/pubs/episuite.htm>. These programs estimate various chemical-specific properties. The calculations for these SL tables use the experimental values for a property over the estimated values.
- EPA Soil Screening Level (SSL) Exhibit C-1.
- WATER8, which has been replaced with WATER9.
- Syracuse Research Corporation (SRC). 2005. CHEMFATE Database. SRC. Syracuse, NY. Accessed July 2005.

- Syracuse Research Corporation (SRC). 2005. PHYSPROP Database. SRC. Syracuse, NY. Accessed July 2005.

2.4.2 Inorganic Compounds

For unitless Henry's Law (ammonia, chlorine, cyanogen, cyanogen chloride, hydrogen cyanide only):

- Syracuse Research Corporation (SRC). 2005. PHYSPROP Database. SRC. Syracuse, NY. (<http://www.syrres.com/esc/physdemo.htm>).
- Yaws' Handbook of Thermodynamic and Physical Properties of Chemical Compounds. Knovel, 2003. (<http://www.knovel.com>).

For Kd (soil-water partition coefficient):

- EPA Soil Screening Level (SSL) Table C.4 (<http://www.epa.gov/superfund/health/conmedia/soil/index.htm>).
- Baes, C.F. 1984. Oak Ridge National Laboratory. A Review and Analysis of Parameters for Assessing Transport of Environmentally Released Radionuclides through Agriculture. <http://homer.ornl.gov/baes/documents/ornl5786.html>. Values are also found in Superfund Chemical Data Matrix (SCDM) (<http://www.epa.gov/superfund/sites/npl/hrsres/tools/scdm.htm>).

For molecular weights:

- EPI (<http://www.epa.gov/oppt/exposure/pubs/episuite.htm>)
- Syracuse Research Corporation (SRC). 2005. PHYSPROP Database. SRC. Syracuse, NY. (<http://www.syrres.com/esc/physdemo.htm>).

For Vapor Pressure:

- NIOSH Pocket Guide to Chemical Hazards (NPG), NIOSH Publication No. 97-140, February 2004. (<http://www.cdc.gov/niosh/npg/npg.html>).
- 2) Syracuse Research Corporation (SRC). 2005. CHEMFATE Database. SRC. Syracuse, NY. (<http://www.syrres.com/esc/chemfate.htm>).
- Syracuse Research Corporation (SRC). 2005. PHYSPROP Database. SRC. Syracuse, NY. (<http://www.syrres.com/esc/physdemo.htm>).

For diffusivity in air and water, if desired at all, for the gasses and mercuric compounds:

- WATER 9, (EPA 2001). See section 4.9.2.

3. Using the SL Tables

The "[Generic Tables](#)" page provides generic concentrations in the absence of site-specific exposure assessments. These concentrations can be used for:

- Prioritizing multiple sites or operable units or areas of concern within a facility or exposure units
- Setting risk-based detection limits for contaminants of potential concern (COPCs)
- Focusing future site investigation and risk assessment efforts (e.g., selecting COPCs for the baseline risk assessment)
- Identifying contamination which may warrant cleanup
- Identifying sites, or portions of sites, which warrant no further action or investigation
- Initial cleanup goals when site-specific data are lacking

Generic SLs are provided for multiple exposure pathways and for chemicals with both carcinogenic and noncarcinogenic effects. A Summary Table is provided that contains SLs corresponding to either a 10^{-6} risk level for carcinogens or a Hazard Quotient (HQ) of 1 for non-carcinogens. The summary table identifies whether the SL is based on cancer or noncancer effects by including a "c" or "n" after the SL. The Supporting Tables provide SLs corresponding to a 10^{-6} risk level for carcinogens and an HQ of 1 for noncarcinogens. Site specific SLs corresponding to an HQ of less than 1 may be appropriate for those sites where multiple chemicals are present that have RfDs or RfCs based on the same toxic endpoint. Site specific SLs based upon a cancer risk greater than 10^{-6} can be calculated and may be appropriate based upon site specific considerations. However, caution is recommended to ensure that cumulative cancer risk for all actual and potential carcinogenic contaminants found at the site does not have a residual (after site cleanup, or when it has been determined that no site cleanup is required) cancer risk exceeding 10^{-4} . Also, changing the target risk or HI may change the balance between the cancer and noncancer endpoints. At some concentrations, the cancer-risk concerns predominate; at other concentrations, noncancer-HI concerns predominate. The user must take care to consider both when adjusting target risks and hazards.

Tables are provided in either MS Excel or in PDF format. The following lists the tables provided and a description of what is contained in each:

- Summary Table - provides a list of contaminants, toxicity vales, MCLs and the lesser (more protective) of the cancer and noncancer SLs for resident soil, industrial soil, resident air, industrial air and tapwater.
- Residential Soil Supporting Table - provides a list of contaminants, toxicity vales and the cancer and noncancer SLs for resident soil.
- Industrial Soil Supporting Table - provides a list of contaminants, toxicity vales and the cancer and noncancer SLs for industrial soil.
- Residential Air Supporting Table - provides a list of contaminants, toxicity vales and the cancer and noncancer SLs for resident air.
- Industrial Air Supporting Table - provides a list of contaminants, toxicity vales and the cancer and noncancer SLs for industrial air.
- Residential Tapwater Supporting Table - provides a list of contaminants, toxicity vales, MCLs and the cancer and noncancer SLs for tapwater.

3.1 Developing a Conceptual Site Model

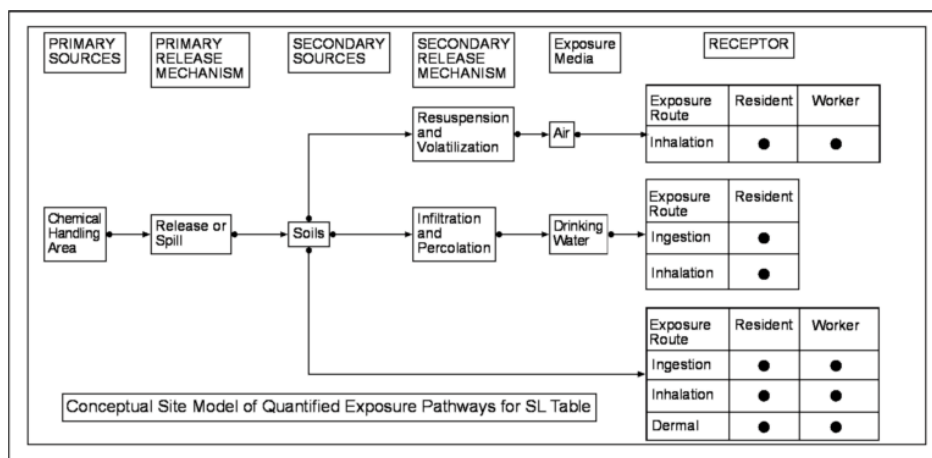
When using generic SLs at a site, the exposure pathways of concern and site conditions should match those used in developing the SLs presented here. (Note, however, that future uses may not match current uses. Future uses are potential site uses that may occur in the future. At Superfund sites, future uses should be considered as well as current uses. RAGS Part A, Chapter 6, provides guidance on selecting future-use receptors.) Thus, it is necessary to develop a conceptual site model (CSM) to identify likely contaminant source areas, exposure pathways, and potential receptors. This information can be used to determine the applicability of SLs at the site and the need for additional information. The final CSM diagram represents linkages among contaminant sources, release mechanisms, exposure pathways, and routes and receptors based on historical information. It summarizes the understanding of the contamination problem. A separate CSM for ecological receptors can be useful. Part 2 and Attachment A of the Soil Screening Guidance for Superfund: Users Guide (EPA 1996) contains the steps for developing a CSM.

As a final check, the CSM should address the following questions:

- Are there potential ecological concerns?
- Is there potential for land use other than those used in the SL calculations (i.e., residential and commercial/industrial)?
- Are there other likely human exposure pathways that were not considered in development of the SLs?
- Are there unusual site conditions (e.g. large areas of contamination, high fugitive dust levels, potential for indoor air contamination)?

The SLs and later PRGs may need to be adjusted to reflect the answers to these questions.

Below is a potential CSM of the quantified pathways addressed in the SL Tables.



3.2 Background

EPA may be concerned with two types of background at sites: naturally occurring and anthropogenic. Natural background is usually limited to metals whereas anthropogenic (i.e. human-made) "background" includes both organic and inorganic contaminants.

Please note that the SL tables, which are purely risk-based, may yield SLs lower than naturally occurring background concentrations of some chemicals in some areas. However, background considerations may be incorporated into the assessment and investigation of sites, as acknowledged in existing EPA guidance. Background levels should be addressed as they are for other contaminants at CERCLA sites. For further information see EPA's guidance [Role of Background in the CERCLA Cleanup Program \(PDF\)](#) (13 pp, 147K, [About PDF](#)), April 2002, (OSWER 9285.6-07P) and [Guidance for Comparing Background and Chemical Concentration in Soil for CERCLA Sites \(PDF\)](#) (89 pp, 126MB, [About PDF](#)), September 2002, (OSWER 9285.7-41).

Generally EPA does not clean up below natural background. In some cases, the predictive risk-based models generate SL concentrations that lie within or even below typical background concentrations for the same element or compound. Arsenic, aluminum, iron and manganese are common elements in soils that have background levels that may exceed risk-based SLs. This does not mean that these metals cannot be site-related, or that these metals should automatically be attributed to background. Attribution of chemicals to background is a site-specific decision; consult your regional risk assessor.

Where anthropogenic "background" levels exceed SLs and EPA has determined that a response action is necessary and feasible, EPA's goal will be to develop a comprehensive response to the widespread contamination. This will often require coordination with different authorities that have jurisdiction over the sources of contamination in the area.

3.3 Potential Problems

As with any risk based screening table or tool, the potential exists for misapplication. In most cases, this results from not understanding the intended use of the SLs or PRGs. In order to prevent misuse of the SLs, the following should be avoided:

- Applying SLs to a site without adequately developing a conceptual site model that identifies relevant exposure pathways and exposure scenarios.
- Not considering the effects from the presence of multiple contaminants, where appropriate.
- Use of the SLs as cleanup levels without adequate consideration of the other NCP remedy selection criteria on CERCLA sites.
- Use of SL as cleanup levels without verifying numbers with a toxicologist or regional risk assessor.
- Use of outdated SLs when tables have been superseded by more recent values.
- Not considering the effects of additivity when screening multiple chemicals.

- Applying inappropriate target risks or changing a cancer target risk without considering its effect on noncancer, or vice versa.
- Not performing additional screening for pathways not included in these SLs (e.g., vapor intrusion, fish consumption).
- Adjusting SLs upward by factors of 10 or 100 without consulting a toxicologist or regional risk assessor.

4. Technical Support Documentation

The SLs consider human exposure to individual contaminants in air, drinking water and soil. The equations and technical discussion are aimed at developing risk-based SLs or PRGs. The following text presents the land use equations and their exposure routes. Table 1 presents the definitions of the variables and their default values. Any alternative values or assumptions used in developing SLs on a site should be presented with supporting rationale in the decision document on CERCLA sites.

4.1 Residential Soil

4.1.1 Noncancer

The residential soil land use equation, presented here, contains the following exposure routes:

- incidental ingestion of soil,

$$SL_{res-sol-nc-ing} \text{ (mg/kg)} = \frac{THQ \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times ED_c \text{ (6 years)} \right) \times BW_c \text{ (15 Kg)}}{EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times ED_c \text{ (6 year)} \times \frac{1}{RfD_o \left(\frac{\text{mg}}{\text{Kg-day}} \right)} \times IRS_c \left(\frac{200 \text{ mg}}{\text{day}} \right) \times \frac{10^{-6} \text{ Kg}}{1 \text{ mg}}}$$

- inhalation of particulates emitted from soil,

$$SL_{res-sol-nc-inh} \text{ (mg/kg)} = \frac{THQ \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times ED_c \text{ (6 years)} \right)}{EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times ED_c \text{ (6 year)} \times ET_{rs} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \frac{1}{RfC \left(\frac{\text{mg}}{\text{m}^3} \right)} \times \left(\frac{1}{Vf_s \left(\frac{\text{m}^3}{\text{Kg}} \right)} + \frac{1}{PEF_w \left(\frac{\text{m}^3}{\text{Kg}} \right)} \right)}$$

- dermal contact with soil,

$$SL_{res-sol-nc-der} \text{ (mg/kg)} = \frac{THQ \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times ED_c \text{ (6 years)} \right) \times BW_c \text{ (15 Kg)}}{EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times ED_c \text{ (6 year)} \times \frac{1}{\left(RfD_o \left(\frac{\text{mg}}{\text{Kg-day}} \right) \times GIABS \right)} \times SA_c \left(\frac{2800 \text{ cm}^2}{\text{day}} \right) \times AF_c \left(\frac{0.2 \text{ mg}}{\text{cm}^2} \right) \times ABS_d \times \frac{10^{-6} \text{ Kg}}{1 \text{ mg}}}$$

- Total.

$$SL_{res-sol-nc-tot} \text{ (mg/kg)} = \frac{1}{\frac{1}{SL_{res-sol-nc-ing}} + \frac{1}{SL_{res-sol-nc-der}} + \frac{1}{SL_{res-sol-nc-inh}}}$$

4.1.1 Carcinogenic

The residential soil land use equation, presented here, contains the following exposure routes:

- incidental ingestion of soil,

$$SL_{res-sol-ca-ing} \text{ (mg/kg)} = \frac{TR \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right)}{CSF_o \left(\frac{\text{mg}}{\text{Kg-day}} \right)^{-1} \times EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times IFS_{adj} \left(\frac{114 \text{ mg-Year}}{\text{Kg-day}} \right) \times \left(\frac{10^{-6} \text{ Kg}}{\text{mg}} \right)}$$

where:

$$IFS_{adj} \left(\frac{114 \text{ mg-Year}}{\text{Kg-day}} \right) = \frac{ED_c \text{ (6 years)} \times IRS_c \left(\frac{200 \text{ mg}}{\text{day}} \right)}{BW_c \text{ (15 Kg)}} + \frac{ED_r - ED_c \text{ (24 years)} \times IRS_a \left(\frac{100 \text{ mg}}{\text{day}} \right)}{BW_a \text{ (70 Kg)}}$$

- inhalation of particulates emitted from soil,

$$SL_{res-sol-ca-inh} \text{ (mg/kg)} = \frac{TR \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right)}{IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right) \times EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \left(\frac{1}{Vf_s \left(\frac{\text{m}^3}{\text{Kg}} \right)} + \frac{1}{PEF_w \left(\frac{\text{m}^3}{\text{Kg}} \right)} \right) \times ED_r \text{ (30 years)} \times ET_{rs} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right)}$$

- dermal contact with soil,

$$SL_{res-sol-ca-der} \text{ (mg/kg)} = \frac{TR \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right)}{\left(\frac{CSF_o \left(\frac{\text{mg}}{\text{Kg-day}} \right)^{-1}}{GIABS} \right) \times EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times DFS_{adj} \left(\frac{361 \text{ mg-Year}}{\text{Kg-day}} \right) \times ABS_d \times \left(\frac{10^{-6} \text{ Kg}}{\text{mg}} \right)}$$

where:

$$DFS_{adj} \left(\frac{361 \text{ mg-Year}}{\text{Kg-day}} \right) = \frac{ED_c \text{ (6 years)} \times SA_c \left(\frac{2800 \text{ cm}^2}{\text{day}} \right) \times AF_c \left(\frac{0.2 \text{ mg}}{\text{cm}^2} \right)}{BW_c \text{ (15 Kg)}} + \frac{ED_r-ED_c \text{ (24 years)} \times SA_a \left(\frac{5700 \text{ cm}^2}{\text{day}} \right) \times AF_a \left(\frac{0.07 \text{ mg}}{\text{cm}^2} \right)}{BW_a \text{ (70 Kg)}}$$

- Total.

$$SL_{res-sol-ca-tot} \text{ (mg/kg)} = \frac{1}{\frac{1}{SL_{res-sol-ca-ing}} + \frac{1}{SL_{res-sol-ca-der}} + \frac{1}{SL_{res-sol-ca-inh}}}$$

4.2.3 Mutagenic

The residential soil land use equation, presented here, contains the following exposure routes:

- incidental ingestion of soil,

$$SL_{res-sol-mu-ing} \text{ (mg/kg)} = \frac{TR \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right)}{CSF_o \left(\frac{\text{mg}}{\text{Kg-day}} \right)^{-1} \times EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times IFSM_{adj} \left(\frac{489.5 \text{ mg-Year}}{\text{Kg-day}} \right) \times \left(\frac{10^{-6} \text{ Kg}}{\text{mg}} \right)}$$

where:

$$IFSM_{adj} \left(\frac{489.5 \text{ mg-Year}}{\text{Kg-day}} \right) = \frac{ED_{0-2} \text{ (yr)} \times IRS_c \left(\frac{200 \text{ mg}}{\text{day}} \right) \times 10}{BW_c \text{ (15 Kg)}} + \frac{ED_{2-6} \text{ (yr)} \times IRS_c \left(\frac{200 \text{ mg}}{\text{day}} \right) \times 3}{BW_c \text{ (15 Kg)}} + \frac{ED_{6-16} \text{ (yr)} \times IRS_a \left(\frac{100 \text{ mg}}{\text{day}} \right) \times 3}{BW_a \text{ (70 Kg)}} + \frac{ED_{16-30} \text{ (yr)} \times IRS_a \left(\frac{100 \text{ mg}}{\text{day}} \right) \times 1}{BW_a \text{ (70 Kg)}}$$

- inhalation of particulates emitted from soil,

$$SL_{res-sol-mu-inh} \text{ (mg/kg)} = \frac{TR \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right)}{EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times ET_{rs} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right) \times \left(\frac{ED_{0-2} \text{ (yrs)} \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times 10 + ED_{2-6} \text{ (yrs)} \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times 3}{ED_{6-16} \text{ (yrs)} \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times 3 + ED_{16-30} \text{ (yrs)} \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times 1} \right) \times \left(\frac{1}{VF_s \left(\frac{\text{m}^3}{\text{Kg}} \right)} + \frac{1}{PEF_w \left(\frac{\text{m}^3}{\text{Kg}} \right)} \right)}$$

- dermal contact with soil,

$$SL_{res-sol-mu-der} \text{ (mg/kg)} = \frac{TR \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right)}{\left(\frac{CSF_o \left(\frac{\text{mg}}{\text{Kg-day}} \right)^{-1}}{GIABS} \right) \times EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times DFSM_{adj} \left(\frac{1445 \text{ mg-Year}}{\text{Kg-day}} \right) \times ABS_d \times \left(\frac{10^{-6} \text{ Kg}}{\text{mg}} \right)}$$

where:

$$DFSM_{adj} \left(\frac{1445 \text{ mg-Year}}{\text{Kg-day}} \right) = \frac{ED_{0-2} \text{ (yr)} \times AF_c \left(\frac{0.2 \text{ mg}}{\text{cm}^2} \right) \times SA_c \left(\frac{2800 \text{ cm}^2}{\text{day}} \right) \times 10}{BW_c \text{ (15 Kg)}} + \frac{ED_{2-6} \text{ (yr)} \times AF_c \left(\frac{0.2 \text{ mg}}{\text{cm}^2} \right) \times SA_c \left(\frac{2800 \text{ cm}^2}{\text{day}} \right) \times 3}{BW_c \text{ (15 Kg)}} + \frac{ED_{6-16} \text{ (yr)} \times AF_a \left(\frac{0.07 \text{ mg}}{\text{cm}^2} \right) \times SA_a \left(\frac{5700 \text{ cm}^2}{\text{day}} \right) \times 3}{BW_a \text{ (70 Kg)}} + \frac{ED_{16-30} \text{ (yr)} \times AF_a \left(\frac{0.07 \text{ mg}}{\text{cm}^2} \right) \times SA_a \left(\frac{5700 \text{ cm}^2}{\text{day}} \right) \times 1}{BW_a \text{ (70 Kg)}}$$

- Total.

$$SL_{res-sol-mu-tot} \text{ (mg/kg)} = \frac{1}{\frac{1}{SL_{res-sol-mu-ing}} + \frac{1}{SL_{res-sol-mu-der}} + \frac{1}{SL_{res-sol-mu-inh}}}$$

4.1.3 Vinyl Chloride - Carcinogenic

The residential soil land use equations, presented here, contain the following exposure routes:

- incidental ingestion of soil,

$$SL_{res-soil-ca-vc-ing} (mg/kg) = \frac{TR}{\left[\frac{CSF_o \left(\frac{mg}{kg \cdot day} \right)^{-1} \times EF_r \left(\frac{350 \text{ days}}{year} \right) \times IF5_{adj} \left(\frac{114 \text{ mg-yr}}{kg \cdot d} \right) \times \frac{10^{-6} \text{ Kg}}{1 \text{ mg}}}{AT \left(\frac{365 \text{ days}}{year} \right) \times LT (70 \text{ years})} \right] + \left[\frac{CSF_o \left(\frac{mg}{kg \cdot day} \right)^{-1} \times IRS_c \left(\frac{200 \text{ mg}}{day} \right) \times \frac{10^{-6} \text{ Kg}}{1 \text{ mg}}}{BW_e (15 \text{ kg})} \right]}$$

- inhalation of particulates emitted from soil,

$$SL_{res-soil-ca-vc-inh} (mg/kg) = \frac{TR}{\left[\frac{IUR \left(\frac{\mu g}{m^3} \right)^{-1} \times EF \left(\frac{350 \text{ days}}{year} \right) \times ED (30 \text{ years}) \times ET_{rs} \left(\frac{24 \text{ hours}}{day} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \left(\frac{1000 \mu g}{mg} \right)}{AT \left(\frac{365 \text{ days}}{year} \right) \times LT (70 \text{ years}) \times VF \left(\frac{m^3}{kg} \right)} \right] + \left[\frac{IUR \left(\frac{\mu g}{m^3} \right)^{-1}}{VF \left(\frac{m^3}{kg} \right)} \times \left(\frac{1000 \mu g}{mg} \right)} \right]}$$

- dermal contact with soil,

$$SL_{res-soil-ca-vc-der} (mg/kg) = \frac{TR}{\left[\frac{CSF_o \left(\frac{mg}{kg \cdot day} \right)^{-1} \times EF_r \left(\frac{350 \text{ days}}{year} \right) \times DF5_{adj} \left(\frac{361 \text{ mg-yr}}{kg \cdot day} \right) \times ABS_d \times \frac{10^{-6} \text{ Kg}}{1 \text{ mg}}}{AT_r \left(\frac{365 \text{ days}}{year} \right) \times LT (70 \text{ years})} \right] + \left[\frac{CSF_o \left(\frac{mg}{kg \cdot day} \right)^{-1}}{GIABS} \times SA_c \left(\frac{2800 \text{ cm}^2}{day} \right) \times AF_c \left(\frac{0.2 \text{ mg}}{\text{cm}^2} \right) \times ABS \times \frac{10^{-6} \text{ Kg}}{1 \text{ mg}}}{BW_e (15 \text{ kg})} \right]}$$

- Total.

$$SL_{res-soil-ca-vc-tot} (mg/kg) = \frac{1}{\frac{1}{SL_{res-soil-ca-vc-ing}} + \frac{1}{SL_{res-soil-ca-vc-der}} + \frac{1}{SL_{res-soil-ca-vc-inh}}}$$

A number of studies have shown that inadvertent ingestion of soil is common among children 6 years old and younger (Calabrese et al. 1989, Davis et al. 1990, Van Wijnen et al. 1990). Therefore, the dose method uses an age-adjusted soil ingestion factor that takes into account the difference in daily soil ingestion rates, body weights, and exposure duration for children from 1 to 6 years old and others from 7 to 30 years old. The equation is presented below. This health-protective approach is chosen to take into account the higher daily rates of soil ingestion in children as well as the longer duration of exposure that is anticipated for a long-term resident. For more on this method, see [RAGS Part B](#).

4.2 Composite Worker Soil

This landuse is for developing default screening levels.

4.2.1 Noncancer

The composite worker soil land use equation, presented here, contains the following exposure routes:

- incidental ingestion of soil,

$$SL_{w-sol-ca-ing} (mg/kg) = \frac{TR \times AT_{ow} \left(\frac{365 \text{ days}}{year} \times LT (70 \text{ years}) \right) \times BW_{ow} (70 \text{ Kg})}{EF_{iw} \left(\frac{250 \text{ days}}{year} \right) \times ED_{ow} (25 \text{ years}) \times CSF_o \left(\frac{mg}{kg \cdot day} \right)^{-1} \times IR_{ow} \left(\frac{100 \text{ mg}}{day} \right) \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- inhalation of particulates emitted from soil,

$$SL_{w-sol-ca-inh} (mg/kg) = \frac{TR \times AT_{ow} \left(\frac{365 \text{ days}}{year} \times LT (70 \text{ years}) \right)}{EF_{iw} \left(\frac{250 \text{ days}}{year} \right) \times ED_{ow} (25 \text{ years}) \times ET_{ws} \left(\frac{8 \text{ hours}}{day} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times IUR \left(\frac{\mu g}{m^3} \right)^{-1} \times \left(\frac{1000 \mu g}{mg} \right) \times \left[\frac{1}{VF_s \left(\frac{m^3}{kg} \right)} + \frac{1}{PEF_w \left(\frac{m^3}{kg} \right)} \right]}$$

- dermal exposure,

$$SL_{w-sol-ca-der} (mg/kg) = \frac{TR \times AT_{ow} \left(\frac{365 \text{ days}}{year} \times LT (70 \text{ years}) \right) \times BW_{ow} (70 \text{ Kg})}{EF_{iw} \left(\frac{250 \text{ days}}{year} \right) \times ED_{ow} (25 \text{ years}) \times \left[\frac{CSF_o \left(\frac{mg}{kg \cdot day} \right)^{-1}}{GIABS} \right] \times SA_{ow} \left(\frac{3300 \text{ cm}^2}{day} \right) \times AF_{ow} \left(\frac{0.2 \text{ mg}}{\text{cm}^2} \right) \times ABS_d \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- Total.

$$SL_{w-sol-ca-tot} (mg/kg) = \frac{1}{\frac{1}{SL_{w-sol-ca-ing}} + \frac{1}{SL_{w-sol-ca-der}} + \frac{1}{SL_{w-sol-ca-inh}}}$$

4.2.2 Carcinogenic

The composite worker soil land use equation, presented here, contains the following exposure routes:

- incidental ingestion of soil,

$$SL_{w-sol-nc-ing} \text{ (mg/kg)} = \frac{THQ \times AT_{ow} \left(\frac{365 \text{ days}}{\text{year}} \times ED_{ow} \text{ (25 years)} \right) \times BW_{ow} \text{ (70 Kg)}}{EF_{iw} \left(250 \frac{\text{days}}{\text{year}} \right) \times ED_{ow} \text{ (25 years)} \times \frac{1}{RfD_o \left(\frac{\text{mg}}{\text{kg-day}} \right)} \times IR_{ow} \left(\frac{100 \text{ mg}}{\text{day}} \right) \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- inhalation of particulates emitted from soil,

$$SL_{w-sol-nc-inh} \text{ (mg/kg)} = \frac{THQ \times AT_{ow} \left(\frac{365 \text{ days}}{\text{year}} \times ED_{ow} \text{ (25 years)} \right)}{EF_{iw} \left(250 \frac{\text{days}}{\text{year}} \right) \times ED_{ow} \text{ (25 years)} \times ET_{ws} \left(\frac{8 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \frac{1}{RfC \left(\frac{\text{mg}}{\text{m}^3} \right)} \times \left(\frac{1}{VF_s \left(\frac{\text{m}^3}{\text{kg}} \right)} + \frac{1}{PEF_w \left(\frac{\text{m}^3}{\text{kg}} \right)} \right)}$$

- dermal exposure,

$$SL_{w-sol-nc-der} \text{ (mg/kg)} = \frac{THQ \times AT_{ow} \left(\frac{365 \text{ days}}{\text{year}} \times ED_{ow} \text{ (25 years)} \right) \times BW_{ow} \text{ (70 Kg)}}{EF_{iw} \left(250 \frac{\text{days}}{\text{year}} \right) \times ED_{ow} \text{ (25 years)} \times \frac{1}{RfD_o \left(\frac{\text{mg}}{\text{kg-day}} \right)} \times GI_{ABS} \times SA_{ow} \left(\frac{3300 \text{ cm}^2}{\text{day}} \right) \times AF_{ow} \left(\frac{0.2 \text{ mg}}{\text{cm}^2} \right) \times ABS_d \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- Total.

$$SL_{w-sol-nc-tot} \text{ (mg/kg)} = \frac{1}{\frac{1}{SL_{w-sol-nc-ing}} + \frac{1}{SL_{w-sol-nc-der}} + \frac{1}{SL_{w-sol-nc-inh}}}$$

4.3 Indoor Worker Soil

The indoor worker soil land use is not provided in the Generic Tables but SLs can be created by using the Calculator to modify the exposure parameters for the composite worker to match the equations that follow.

4.3.1 Noncancer

The indoor worker soil land use equation, presented here, contains the following exposure routes:

- incidental ingestion of soil,

$$SL_{iw-nc-ing} \text{ (mg/kg)} = \frac{THQ \times AT_{iw} \left(\frac{365 \text{ days}}{\text{year}} \times ED_{iw} \text{ (25 years)} \right) \times BW_{iw} \text{ (70 Kg)}}{EF_{iw} \left(250 \frac{\text{days}}{\text{year}} \right) \times ED_{iw} \text{ (25 years)} \times \frac{1}{RfD_o \left(\frac{\text{mg}}{\text{kg-day}} \right)} \times IR_{iw} \left(\frac{50 \text{ mg}}{\text{day}} \right) \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- inhalation of particulates emitted from soil,

$$SL_{iw-nc-inh} \text{ (mg/kg)} = \frac{THQ \times AT_{iw} \left(\frac{365 \text{ days}}{\text{year}} \times ED_{iw} \text{ (25 years)} \right)}{EF_{iw} \left(250 \frac{\text{days}}{\text{year}} \right) \times ED_{iw} \text{ (25 years)} \times ET_{ws} \left(\frac{8 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \frac{1}{RfC \left(\frac{\text{mg}}{\text{m}^3} \right)} \times \left(\frac{1}{VF_s \left(\frac{\text{m}^3}{\text{kg}} \right)} + \frac{1}{PEF_w \left(\frac{\text{m}^3}{\text{kg}} \right)} \right)}$$

- Total.

$$SL_{iw-nc-tot} \text{ (mg/kg)} = \frac{1}{\frac{1}{SL_{iw-nc-ing}} + \frac{1}{SL_{iw-nc-inh}}}$$

4.3.2 Carcinogenic

The indoor worker soil land use equation, presented here, contains the following exposure routes:

- incidental ingestion of soil,

$$SL_{iw-ca-ing} \text{ (mg/kg)} = \frac{TR \times AT_{iw} \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right) \times BW_{iw} \text{ (70 Kg)}}{EF_{iw} \left(250 \frac{\text{days}}{\text{year}} \right) \times ED_{iw} \text{ (25 years)} \times CSF_o \left(\frac{\text{mg}}{\text{kg-day}} \right)^{-1} \times IR_{iw} \left(\frac{50 \text{ mg}}{\text{day}} \right) \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- inhalation of particulates emitted from soil,

$$SL_{iw-ca-inh} \text{ (mg/kg)} = \frac{TR \times AT_{iw} \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right)}{EF_{iw} \left(250 \frac{\text{days}}{\text{year}} \right) \times ED_{iw} \text{ (25 years)} \times ET_{ws} \left(\frac{8 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right) \times \left(\frac{1}{VF_s \left(\frac{\text{m}^3}{\text{kg}} \right)} + \frac{1}{PEF_w \left(\frac{\text{m}^3}{\text{kg}} \right)} \right)}$$

- Total.

$$SL_{iw-ca-tot} \text{ (mg/kg)} = \frac{1}{\frac{1}{SL_{iw-ca-ing}} + \frac{1}{SL_{iw-ca-inh}}}$$

4.4 Outdoor Worker Soil

The outdoor worker soil land use is not provided in the Generic Tables but SLs can be created by using the Calculator to modify the exposure parameters for the composite worker to match the equations that follow.

4.4.1 Noncancer

The outdoor worker soil land use equation, presented here, contains the following exposure routes:

- incidental ingestion of soil,

$$SL_{ow-sol-ca-ing} \text{ (mg/kg)} = \frac{TR \times AT_{ow} \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right) \times BW_{ow} \text{ (70 Kg)}}{EF_{ow} \left(225 \frac{\text{days}}{\text{year}} \right) \times ED_{ow} \text{ (25 years)} \times CSF_o \left(\frac{\text{mg}}{\text{kg-day}} \right)^{-1} \times IR_{ow} \left(100 \frac{\text{mg}}{\text{day}} \right) \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- inhalation of particulates emitted from soil,

$$SL_{ow-sol-ca-inh} \text{ (mg/kg)} = \frac{TR \times AT_{ow} \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right)}{EF_{ow} \left(225 \frac{\text{days}}{\text{year}} \right) \times ED_{ow} \text{ (25 years)} \times ET_{ws} \left(\frac{8 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right) \times \left(\frac{1}{VF_s \left(\frac{\text{m}^3}{\text{kg}} \right)} + \frac{1}{PEF_w \left(\frac{\text{m}^3}{\text{kg}} \right)} \right)}$$

- dermal exposure,

$$SL_{ow-sol-ca-der} \text{ (mg/kg)} = \frac{TR \times AT_{ow} \left(\frac{365 \text{ days}}{\text{year}} \times LT \text{ (70 years)} \right) \times BW_{ow} \text{ (70 Kg)}}{EF_{ow} \left(225 \frac{\text{days}}{\text{year}} \right) \times ED_{ow} \text{ (25 years)} \times \left(\frac{CSF_o \left(\frac{\text{mg}}{\text{kg-day}} \right)^{-1}}{GIABS} \right) \times SA_{ow} \left(\frac{3300 \text{ cm}^2}{\text{day}} \right) \times AF_{ow} \left(\frac{0.2 \text{ mg}}{\text{cm}^2} \right) \times ABS_d \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- Total.

$$SL_{ow-sol-ca-tot} \text{ (mg/kg)} = \frac{1}{\frac{1}{SL_{ow-sol-ca-ing}} + \frac{1}{SL_{ow-sol-ca-der}} + \frac{1}{SL_{ow-sol-ca-inh}}}$$

4.4.2 Carcinogenic

The outdoor worker soil land use equation, presented here, contains the following exposure routes:

- incidental ingestion of soil,

$$SL_{ow-sol-nc-ing} \text{ (mg/kg)} = \frac{THQ \times AT_{ow} \left(\frac{365 \text{ days}}{\text{year}} \times ED_{ow} \text{ (25 years)} \right) \times BW_{ow} \text{ (70 Kg)}}{EF_{ow} \left(225 \frac{\text{days}}{\text{year}} \right) \times ED_{ow} \text{ (25 years)} \times \frac{1}{RfD_o \left(\frac{\text{mg}}{\text{kg-day}} \right)} \times IR_{ow} \left(100 \frac{\text{mg}}{\text{day}} \right) \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- inhalation of particulates emitted from soil,

$$SL_{ow-sol-nc-inh} \text{ (mg/kg)} = \frac{THQ \times AT_{ow} \left(\frac{365 \text{ days}}{\text{year}} \times ED_{ow} \text{ (25 years)} \right)}{EF_{ow} \left(225 \frac{\text{days}}{\text{year}} \right) \times ED_{ow} \text{ (25 years)} \times ET_{ws} \left(\frac{8 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \frac{1}{RfC \left(\frac{\text{mg}}{\text{m}^3} \right)} \times \left(\frac{1}{VF_s \left(\frac{\text{m}^3}{\text{kg}} \right)} + \frac{1}{PEF_w \left(\frac{\text{m}^3}{\text{kg}} \right)} \right)}$$

- dermal exposure,

$$SL_{ow-sol-nc-der} \text{ (mg/kg)} = \frac{THQ \times AT_{ow} \left(\frac{365 \text{ days}}{\text{year}} \times ED_{ow} \text{ (25 years)} \right) \times BW_{ow} \text{ (70 Kg)}}{EF_{ow} \left(225 \frac{\text{days}}{\text{year}} \right) \times ED_{ow} \text{ (25 years)} \times \left(\frac{1}{RfD_o \left(\frac{\text{mg}}{\text{kg-day}} \right) \times GIABS} \right) \times SA_{ow} \left(\frac{3300 \text{ cm}^2}{\text{day}} \right) \times AF_{ow} \left(\frac{0.2 \text{ mg}}{\text{cm}^2} \right) \times ABS_d \times \left(\frac{10^{-6} \text{ Kg}}{1 \text{ mg}} \right)}$$

- Total.

$$SL_{\text{ow-sol-nc-tot}} (\text{mg/kg}) = \frac{1}{\frac{1}{SL_{\text{ow-sol-nc-ing}}} + \frac{1}{SL_{\text{ow-sol-nc-der}}} + \frac{1}{SL_{\text{ow-sol-nc-inh}}}}$$

4.5 Tapwater

The Tapwater calculations do not include the dermal exposure route. It was determined that too many analytes were outside of the EPA Superfund Dermal Risk Assessment Guidance (RAGS Part E)'s Effective Predictive Domain (EPD) to include a dermal permeability constant (K_p). Some of these were significant analytes, such as persistent chlorinated organics, including PCBs. K_p can be determined from the molecular weight and the logKow for organic compounds. Compounds with very high log Kows are outside of the EPD. Section 3.1.2 of [RAGS Part E](#) provides more detail.

4.5.1 Noncarcinogenic

The tapwater land use equation, presented here, contains the following exposure routes:

- ingestion of water,

$$SL_{\text{water-nc-ing}} (\mu\text{g/L}) = \frac{\text{THQ} \times \text{AT}_r \left(\frac{365 \text{ days}}{\text{year}} \times \text{ED}_r (30 \text{ years}) \right) \times \text{BW}_a (70 \text{ Kg}) \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right)}{\text{EF}_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \text{ED}_r (30 \text{ years}) \times \frac{1}{\text{RfD}_o \left(\frac{\text{mg}}{\text{kg-d}} \right)} \times \text{IRW}_a \left(\frac{2 \text{ L}}{\text{day}} \right)}$$

- inhalation of volatiles,

$$SL_{\text{water-nc-inh}} (\mu\text{g/L}) = \frac{\text{THQ} \times \text{AT}_r \left(\frac{365 \text{ days}}{\text{year}} \times \text{ED}_r (30 \text{ years}) \right) \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right)}{\text{EF}_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \text{ED}_r (30 \text{ years}) \times \text{ET}_{\text{rw}} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \frac{1}{\text{RFC} \left(\frac{\text{mg}}{\text{m}^3} \right)} \times \text{K} \left(\frac{0.5 \text{ L}}{\text{m}^3} \right)}$$

- Total.

$$SL_{\text{water-nc-tot}} (\mu\text{g/L}) = \frac{1}{\frac{1}{SL_{\text{water-nc-ing}}} + \frac{1}{SL_{\text{water-nc-inh}}}}$$

4.5.2 Carcinogenic

The tapwater land use equation, presented here, contains the following exposure routes:

- ingestion of water,

$$SL_{\text{water-ca-ing}} (\mu\text{g/L}) = \frac{\text{TR} \times \text{AT}_r \left(\frac{365 \text{ days}}{\text{year}} \times \text{LT} (70 \text{ years}) \right) \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right)}{\text{EF}_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \text{CSF}_o \left(\frac{\text{mg}}{\text{kg-day}} \right)^{-1} \times \left(\text{IFW}_{\text{adj}} \left(\frac{1.086 \text{ L-Year}}{\text{Kg-day}} \right) \right)}$$

where:

$$\text{IFW}_{\text{adj}} \left(\frac{1.086 \text{ L-Year}}{\text{Kg-day}} \right) = \frac{\text{ED}_c (6 \text{ years}) \times \text{IRW}_c \left(\frac{1 \text{ L}}{\text{day}} \right)}{\text{BW}_c (15 \text{ Kg})} + \frac{\text{ED}_r - \text{ED}_c (24 \text{ years}) \times \text{IRW}_a \left(\frac{2 \text{ L}}{\text{day}} \right)}{\text{BW}_a (70 \text{ Kg})}$$

- inhalation of volatiles,

$$SL_{\text{water-ca-inh}} (\mu\text{g/L}) = \frac{\text{TR} \times \text{AT}_r \left(\frac{365 \text{ days}}{\text{year}} \times \text{LT} (70 \text{ years}) \right)}{\text{EF}_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \text{ED}_r (30 \text{ years}) \times \text{ET}_{\text{rw}} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \text{IUR} \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times \text{K} \left(\frac{0.5 \text{ L}}{\text{m}^3} \right)}$$

- Total.

$$SL_{\text{water-ca-tot}} (\mu\text{g/L}) = \frac{1}{\frac{1}{SL_{\text{water-ca-ing}}} + \frac{1}{SL_{\text{water-ca-inh}}}}$$

4.5.3 Mutagenic

The tapwater land use equation, presented here, contains the following exposure routes:

- ingestion of water,

$$SL_{\text{water-mu-ing}} (\mu\text{g/L}) = \frac{\text{TR} \times \text{AT}_r \left(\frac{365 \text{ days}}{\text{year}} \times \text{LT} (70 \text{ years}) \right) \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right)}{\text{CSF}_o \left(\frac{\text{mg}}{\text{Kg-day}} \right)^{-1} \times \text{EF}_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \text{IFWM}_{\text{adj}} \left(\frac{3.39 \text{ L-Year}}{\text{Kg-day}} \right)}$$

where:

$$\text{IFWM}_{\text{adj}} \left(\frac{3.39 \text{ L-Year}}{\text{Kg-day}} \right) = \frac{\text{ED}_{0-2} (\text{yr}) \times \text{IRW}_c \left(\frac{1 \text{ L}}{\text{day}} \right) \times 10}{\text{BW}_c (15 \text{ Kg})} + \frac{\text{ED}_{2-6} (\text{yr}) \times \text{IRW}_c \left(\frac{1 \text{ L}}{\text{day}} \right) \times 3}{\text{BW}_c (15 \text{ Kg})} + \frac{\text{ED}_{6-16} (\text{yr}) \times \text{IRW}_a \left(\frac{2 \text{ L}}{\text{day}} \right) \times 3}{\text{BW}_a (70 \text{ Kg})} + \frac{\text{ED}_{16-30} (\text{yr}) \times \text{IRW}_a \left(\frac{2 \text{ L}}{\text{day}} \right) \times 1}{\text{BW}_a (70 \text{ Kg})}$$

- inhalation of volatiles,

$$SL_{\text{water-mu-inh}} (\mu\text{g/L}) = \frac{TR \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times LT (70 \text{ years}) \right)}{EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times K \left(\frac{0.5 \text{ L}}{\text{m}^3} \right) \times ET_{\text{rw}} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \left(\left(ED_{0-2} (\text{yrs}) \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times 10 \right) + \left(ED_{2-6} (\text{yrs}) \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times 3 \right) + \left(ED_{6-16} (\text{yrs}) \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times 3 \right) + \left(ED_{16-30} (\text{yrs}) \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times 1 \right) \right)}$$

- Total.

$$SL_{\text{water-mu-tot}} (\mu\text{g/L}) = \frac{1}{\frac{1}{SL_{\text{water-mu-ing}}} + \frac{1}{SL_{\text{water-mu-inh}}}}$$

4.5.4 Vinyl Chloride - Carcinogenic

The tapwater land use equation, presented here, contains the following exposure routes:

- ingestion of water,

$$SL_{\text{res-water-ca-vc-ing}} (\mu\text{g/L}) = \frac{TR}{\left(\frac{CSF_o \left(\frac{\text{mg}}{\text{kg-day}} \right)^{-1} \times EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times IFW_{\text{adj}} \left(\frac{1.086 \text{ L-yr}}{\text{kg-day}} \right) \times \left(\frac{\text{mg}}{1000 \mu\text{g}} \right)}{AT \left(\frac{365 \text{ days}}{\text{year}} \right) \times LT (70 \text{ years})} \right) + \left(\frac{CSF_o \left(\frac{\text{mg}}{\text{kg-day}} \right)^{-1} \times IRW_c \left(\frac{1 \text{ L}}{\text{day}} \right) \times \left(\frac{\text{mg}}{1000 \mu\text{g}} \right)}{BW_c (15 \text{ kg})} \right)}$$

- inhalation of volatiles,

$$SL_{\text{res-water-ca-vc-inh}} (\mu\text{g/L}) = \frac{TR}{\left(\frac{IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times ED (30 \text{ years}) \times ET_{\text{rw}} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times K \left(\frac{0.5 \text{ L}}{\text{m}^3} \right)}{AT \left(\frac{365 \text{ days}}{\text{year}} \right) \times LT (70 \text{ years})} \right) + \left(IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1} \times K \left(\frac{0.5 \text{ L}}{\text{m}^3} \right) \right)}$$

- Total.

$$SL_{\text{res-water-ca-vc-tot}} (\mu\text{g/L}) = \frac{1}{\frac{1}{SL_{\text{res-water-ca-vc-ing}}} + \frac{1}{SL_{\text{res-water-ca-vc-inh}}}}$$

4.6 Resident Ambient Air

4.6.1 Noncarcinogenic

The Ambient air land use equation, presented here, contains the following exposure routes:

- inhalation of volatiles

$$SL_{\text{res-air-nc}} (\mu\text{g}/\text{m}^3) = \frac{THQ \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times ED_r (30 \text{ years}) \right) \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right)}{EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times ED_r (30 \text{ years}) \times ET_{\text{ra}} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \frac{1}{RFC \left(\frac{\text{mg}}{\text{m}^3} \right)}}$$

4.6.2 Carcinogenic

The Ambient air land use equation, presented here, contains the following exposure routes:

- inhalation of volatiles

$$SL_{\text{res-air-ca}} (\mu\text{g}/\text{m}^3) = \frac{TR \times AT_r \left(\frac{365 \text{ days}}{\text{year}} \times LT (70 \text{ years}) \right)}{EF_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times ED_r (30 \text{ years}) \times ET_{\text{ra}} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times IUR \left(\frac{\mu\text{g}}{\text{m}^3} \right)^{-1}}$$

4.6.3 Vinyl Chloride - Carcinogenic

The Ambient air land use equation, presented here, contains the following exposure routes:

- inhalation of volatiles

$$SL_{\text{res-air-ca-vinyl chloride}} (\mu\text{g}/\text{m}^3) = \frac{\text{TR}}{\text{IUR} (\mu\text{g}/\text{m}^3)^{-1} + \left(\frac{\text{TR} \times \text{AT}_r \left(\frac{365 \text{ days}}{\text{year}} \times \text{LT} (70 \text{ years}) \right)}{\text{EF}_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \text{ET}_{\text{ra}} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right)} \right)}$$

4.6.4 Mutagenic

The Ambient air land use equation, presented here, contains the following exposure routes:

- inhalation of volatiles

$$SL_{\text{res-air-mu}} (\mu\text{g}/\text{m}^3) = \frac{\text{TR} \times \text{AT}_r \left(\frac{365 \text{ days}}{\text{year}} \times \text{LT} (70 \text{ years}) \right)}{\text{EF}_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \text{ET}_{\text{ra}} \left(\frac{24 \text{ hours}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{24 \text{ hours}} \right) \times \left(\text{ED}_{0-2} (\text{yrs}) \times \text{IUR} (\mu\text{g}/\text{m}^3)^{-1} \times 10 + \left(\text{ED}_{2-6} (\text{yrs}) \times \text{IUR} (\mu\text{g}/\text{m}^3)^{-1} \times 3 \right) + \left(\text{ED}_{6-16} (\text{yrs}) \times \text{IUR} (\mu\text{g}/\text{m}^3)^{-1} \times 3 \right) + \left(\text{ED}_{16-30} (\text{yrs}) \times \text{IUR} (\mu\text{g}/\text{m}^3)^{-1} \times 1 \right) \right)}$$

4.7 Worker Ambient Air

4.7.1 Noncarcinogenic

The Ambient air land use equation, presented here, contains the following exposure routes:

- Inhalation of volatiles

$$SL_{\text{w-air-nc}} (\mu\text{g}/\text{m}^3) = \frac{\text{THQ} \times \text{AT}_w \left(\frac{365 \text{ days}}{\text{year}} \times \text{ED}_r (25 \text{ years}) \right) \times \left(\frac{1000 \mu\text{g}}{\text{mg}} \right)}{\text{EF}_w \left(\frac{250 \text{ days}}{\text{year}} \right) \times \text{ED}_w (25 \text{ years}) \times \text{ET}_w \left(\frac{8 \text{ hr}}{24 \text{ hr}} \right) \times \frac{1}{\text{Rfc} (\text{mg}/\text{m}^3)}}$$

4.7.2 Carcinogenic

The Ambient air land use equation, presented here, contains the following exposure routes:

- Inhalation of volatiles

$$SL_{\text{w-air-ca}} (\mu\text{g}/\text{m}^3) = \frac{\text{TR} \times \text{AT}_w \left(\frac{365 \text{ days}}{\text{year}} \times \text{LT} (70 \text{ years}) \right)}{\text{EF}_w \left(\frac{250 \text{ days}}{\text{year}} \right) \times \text{ED}_w (25 \text{ years}) \times \text{ET}_w \left(\frac{8 \text{ hr}}{24 \text{ hr}} \right) \times \text{IUR} (\mu\text{g}/\text{m}^3)^{-1}}$$

4.8 Ingestion of Fish

The ingestion of fish exposure route is not provided in the Generic Tables but SLs can be created by using the Calculator and the equations that follow:

4.8.1 Noncarcinogenic

The ingestion of fish equation, presented here, contains the following exposure route:

- consumption of fish.

$$SL_{\text{res-fsh-nc-ing}} (\text{mg}/\text{kg}) = \frac{\text{THQ} \times \text{AT}_r \left(\frac{365 \text{ days}}{\text{year}} \times \text{ED}_c (30 \text{ years}) \right) \times \text{BW}_a (70 \text{ Kg})}{\text{EF}_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \text{ED}_c (30 \text{ year}) \times \frac{1}{\text{RFD}_o \left(\frac{\text{mg}}{\text{Kg-day}} \right)} \times \text{IRF}_a \left(\frac{5.4 \times 10^4 \text{ mg}}{\text{day}} \right) \times \frac{10^{-6} \text{ Kg}}{1 \text{ mg}}}$$

4.8.2 Carcinogenic

The ingestion of fish equation, presented here, contains the following exposure route:

- consumption of fish.

$$SL_{\text{res-fsh-ca-ing}} (\text{mg}/\text{kg}) = \frac{\text{TR} \times \text{AT}_r \left(\frac{365 \text{ days}}{\text{year}} \times \text{LT} (70 \text{ years}) \right) \times \text{BW}_a (70 \text{ Kg})}{\text{EF}_r \left(\frac{350 \text{ days}}{\text{year}} \right) \times \text{ED}_c (30 \text{ year}) \times \text{CSF}_o \left(\frac{\text{mg}}{\text{Kg-day}} \right)^{-1} \times \text{IRF}_a \left(\frac{5.4 \times 10^4 \text{ mg}}{\text{day}} \right) \times \frac{10^{-6} \text{ Kg}}{1 \text{ mg}}}$$

Note: the consumption rate for fish is not age adjusted for this land use. Also the SL calculated for fish is not for soil, like for the agricultural land uses, but is for fish tissue.

4.9 Soil to Groundwater

These equations are used to calculate screening levels in soil (SSLs) that are protective of groundwater. SSLs are either back-calculated from protective risk-based ground water concentrations or based on MCLs. The SSLs were designed for use during the early stages of a site evaluation when information about subsurface conditions may be limited. Because of this constraint, the equations used are based on conservative, simplifying assumptions about the release and transport of contaminants in the subsurface. Migration of contaminants from soil to groundwater can be envisioned as a two-stage process: (1) release of contaminant in soil leachate and (2) transport of the contaminant through the underlying soil and aquifer to a receptor well. The SSL methodology considers both of these fate and transport mechanisms.

SSLs are provided for metals in the Generic Tables based on Kds from the [Soil Screening Guidance Exhibit C-4](#). According to Appendix C,

"Exhibit C-4 provides pH-specific soil-water partition coefficients (Kd) for metals. Site-specific soil pH measurements can be used to select appropriate Kd values for these metals. Where site-specific soil pH values are not available, values corresponding to a pH of 6.8 should be used."

Because Kds vary greatly by soil type, it is highly recommended that site-specific Kds be determined and used to develop SSLs.

The more protective of the carcinogenic and noncarcinogenic SLs is selected to calculate the SSL.

4.9.1 Noncarcinogenic Tapwater Equations for SSLs

The tapwater equations, presented in Section 4.4.1, are used to calculate the noncarcinogenic SSLs for volatiles and nonvolatiles. If the contaminant is a volatile, both ingestion and inhalation exposure routes are considered. If the contaminant is not a volatile, only ingestion is considered.

4.9.2 Carcinogenic Tapwater Equations for SSLs

The tapwater equations, presented in Section 4.4.2, are used to calculate the carcinogenic SSLs for volatiles and nonvolatiles. Sections 4.4.3 and 4.4.4 present the mutagenic and vinyl chloride equations, respectively. If the contaminant is a volatile, both ingestion and inhalation exposure routes are considered. If the contaminant is not a volatile, only ingestion is considered.

4.9.3 Method 1 for SSL Determination

Method 1 employs a partitioning equation for migration to groundwater and defaults are provided. This method is used to generate the download default tables.

- method 1.

$$SSL \left(\frac{mg}{kg} \right) = C_w \left(\frac{mg}{L} \right) \times \left[K_d \left(\frac{L}{kg} \right) + \frac{\left(\theta_w \left(\frac{L_{water}}{L_{soil}} \right) + \theta_a \left(\frac{L_{air}}{L_{soil}} \right) \times H' \right)}{\rho_b \left(\frac{1.5 \text{ kg}}{L} \right)} \right]$$

where:

$$\theta_a \left(\frac{L_{air}}{L_{soil}} \right) = n \left(\frac{L_{water}}{L_{soil}} \right) - \theta_w \left(\frac{0.3 L_{water}}{L_{soil}} \right);$$

$$n \left(\frac{L_{pore}}{L_{soil}} \right) = 1 - \left(\frac{\rho_b \left(\frac{1.5 \text{ kg}}{L} \right)}{\rho_s \left(\frac{2.65 \text{ kg}}{L} \right)} \right) \text{ and}$$

$$K_d \left(\frac{L}{kg} \right) = K_{oc} \left(\frac{L}{kg} \right) \times f_{oc} \text{ (0.002 unitless)}$$

4.9.4 Method 2 for SSL Determination

Method 2 employs a mass-limit equation for migration to groundwater and site-specific information is required. This method can be used in the calculator portion of this website.

- method 2.

$$SSL \left(\frac{mg}{kg} \right) = \frac{C_w \left(\frac{mg}{L} \right) \times I \left(\frac{0.18 \text{ m}}{\text{year}} \right) \times ED \text{ (70 years)}}{\rho_b \left(\frac{1.5 \text{ kg}}{L} \right) \times d_s \text{ (m)}}$$

4.9.5 Determination of the Dilution Factor

The SSL values in the download tables are based on a dilution factor of 1. The dilution factor default for the calculator is 20 for 0.5 acre source. If all of the parameters needed to calculate a site-specific dilution factor are known, they may be entered.

- dilution factor.

$$\text{Dilution Attenuation Factor} = 1 + \frac{K \left(\frac{m}{\text{year}} \right) \times i \left(\frac{m}{m} \right) \times d \text{ (m)}}{I \left(\frac{0.18 \text{ m}}{\text{year}} \right) \times L \text{ (m)}}$$

where:

$$d \text{ (m)} = \left(0.0112 \times L^2 \text{ (m)} \right)^{0.5} + d_a \times \left[1 - \exp \left(\frac{-L \text{ (m)} \times I \left(\frac{m}{\text{year}} \right)}{K \left(\frac{m}{\text{year}} \right) \times i \left(\frac{m}{m} \right) \times d_a \text{ (m)}} \right) \right]$$

4.10 Supporting Equations and Parameter Discussion

There are two parts of the above land use equations that require further explanation. They are the inhalation variables: the particulate emission factor (PEF) and the volatilization factor (VF).

4.10.1 Particulate Emission Factor (PEF)

Inhalation of contaminants adsorbed to respirable particles (PM10) was assessed using a default PEF equal to 1.36×10^9 m³/kg. This equation relates the contaminant concentration in soil with the concentration of respirable particles in the air due to fugitive dust emissions from contaminated soils. The generic PEF was derived using default values that correspond to a receptor point concentration of approximately 0.76 ug/m³. The relationship is derived by Cowherd (1985) for a rapid assessment procedure applicable to a typical hazardous waste site, where the surface contamination provides a relatively continuous and constant potential for emission over an extended period of time (e.g., years). This represents an annual average emission rate based on wind erosion that should be compared with chronic health criteria; it is not appropriate for evaluating the potential for more acute exposures. Definitions of the input variables are in [Table 1](#).

With the exception of specific heavy metals, the PEF does not appear to significantly affect most soil screening levels. The equation forms the basis for deriving a generic PEF for the inhalation pathway. For more details regarding specific parameters used in the PEF model, refer to [Soil Screening Guidance: Technical Background Document](#). The use of alternate values on a specific site should be justified and presented in an Administrative Record if considered in CERCLA remedy selection.

$$PEF_w = \frac{Q}{C_w} \times \frac{3,600}{0.036 \times (1-V) \times (U_m/U_t)^3 \times F(x)}$$

where

$$\frac{Q}{C_w} = A \times \exp\left[\frac{(\ln A_s - B)^2}{C}\right]$$

Note: the generic PEF evaluates wind-borne emissions and does not consider dust emissions from traffic or other forms of mechanical disturbance that could lead to greater emissions than assumed here.

4.10.2 Volatilization Factor (VF)

The soil-to-air VF is used to define the relationship between the concentration of the contaminant in soil and the flux of the volatilized contaminant to air. VF is calculated from the equation below using chemical-specific properties and either site-measured or default values for soil moisture, dry bulk density, and fraction of organic carbon in soil. The [Soil Screening Guidance: User's Guide](#) describes how to develop site measured values for these parameters.

VF is only calculated for volatile organic compounds (VOCs). VOCs, for the purpose of this guidance, are chemicals with a Henry's Law constant of 1×10^{-5} atm-m³/mole or greater and with a molecular weight of less than 200 g/mole.

$$VF = \frac{\frac{Q}{C_w} \times (3.14 \times D_A \times T)^{\frac{1}{2}} \times 10^{-4} \left(\frac{m^2}{cm^2}\right)}{2 \times \rho_b \times D_A}$$

where

$$\frac{Q}{C_w} = A \times \exp\left[\frac{(\ln A_s - B)^2}{C}\right] \text{ and}$$

$$D_A = \frac{\left[\left(\theta_a^{\frac{10}{3}} \times D_{ia} \times H' + \theta_w^{\frac{10}{3}} \times D_{iw}\right) / n^2\right]}{\rho_b \times K_d + \theta_w + \theta_a \times H'}$$

Diffusivity in Water (cm²/s)

Diffusivity in water can be calculated from the chemical's molecular weight and density, using the following correlation equation based on WATER9 ([U.S. EPA, 2001](#)):

$$D_{iw} \left(\frac{cm^2}{s}\right) = 0.0001518 \times \left(\frac{T^{\circ}C + 273.16}{298.16}\right) \times \left(\frac{MW \left(\frac{g}{mol}\right)}{\rho \left(\frac{g}{cm^3}\right)}\right)^{-0.6}$$

where

T typically = 25°C

If density is not available,

$$D_{iw} \left(\frac{cm^2}{s}\right) = 0.000222 \times (MW)^{-\left(\frac{2}{3}\right)}$$

If density is not available, diffusivity in water can be calculated using the correlation equation based on U.S. EPA (1987). The value for diffusivity in water must be greater than zero. No maximum limit is enforced.

Diffusivity in Air (cm²/s).

Diffusivity in air can be calculated from the chemical's molecular weight and density, using the following correlation equation based on WATER9 (U.S. EPA, 2001):

$$D_{ia} \left(\frac{\text{cm}^2}{\text{s}} \right) = \frac{0.00229 \times (T^{\circ}\text{C} + 273.16)^{1.5} \times \left[0.034 + \left(\frac{1}{\text{MW} \left(\frac{\text{g}}{\text{mol}} \right)} \right) \times \text{MW}_{\text{cor}} \right]}{\left(\left(\frac{\text{MW} \left(\frac{\text{g}}{\text{mol}} \right)}{2.5 \times \rho \left(\frac{\text{g}}{\text{cm}^3} \right)} \right)^{0.333} + 1.8 \right)^2}$$

where

T typically = 25 °C

$\text{MW}_{\text{cor}} = (1 - 0.000015 \times \text{MW}^2)$ If MW_{cor} is less than 0.4, then MW_{cor} is set to 0.4.

If density is not available,

$$D_{ia} \left(\frac{\text{cm}^2}{\text{s}} \right) = 1.9 \times \left(\text{MW} \left(\frac{\text{g}}{\text{mol}} \right) \right)^{-\left(\frac{2}{3} \right)} \text{ except for dioxins use, } D_{ia} \left(\frac{\text{cm}^2}{\text{s}} \right) = \left(\frac{154}{\text{MW} \left(\frac{\text{g}}{\text{mol}} \right)} \right)^{0.5} \times 0.068$$

If density is not available, diffusivity in air can be calculated using the correlation equation based on U.S. EPA (1987). For dioxins, diffusivity in air can be calculated from the molecular weight using the correlation equation based on EPA's Dioxin Reassessment (U.S. EPA, 2000).

5. Special Considerations

Most of the SLs are readily derived by referring to the above equations. However, there are some cases for which the standard equations do not apply and/or external adjustments to the SLs are recommended. These special case chemicals are discussed below.

5.1 Cadmium

IRIS presents an oral "water" RfD for cadmium for use in assessment of risks to water of 0.0005 mg/kg-day. IRIS also presents an oral "food" RfD for cadmium for use in assessment of risks to soil and biota of 0.001 mg/kg-day. The SLs for Cadmium are based on the oral RfD for "water", which is slightly more conservative (by a factor of 2) than the RfD for "food". Because the SLs are considered screening values, the more conservative RfD is used for cadmium. However, reasonable arguments could be made for applying an RfD for food (instead of the oral RfD for water) for some media such as soils. RAGS Part E, in Exhibit 4-1, presents a GIABS for soil of 2.5% and for water of 5%.

5.2 Lead

EPA has no consensus RfD or CSF for inorganic lead, so it is not possible to calculate SLs as we have done for other chemicals. EPA considers lead to be a special case because of the difficulty in identifying the classic "threshold" needed to develop an RfD.

EPA therefore evaluates lead exposure by using blood-lead modeling, such as the Integrated Exposure-Uptake Biokinetic Model (IEUBK). The EPA Office of Solid Waste has also released a detailed directive on risk assessment and cleanup of residential soil lead. The directive recommends that soil lead levels less than 400 mg/kg are generally safe for residential use. Above that level, the document suggests collecting data and modeling blood-lead levels with the IEUBK model. For the purposes of screening, therefore, 400 mg/kg is recommended for residential soils. For water, we suggest 15 ug/l (the EPA Action Level in water), and for air, the National Ambient Air Quality Standard.

However, caution should be used when both water and soil are being assessed. The IEUBK model shows that if the average soil concentration is 400 mg/kg, an average tap water concentration above 5 ug/L would yield more than 5% of the population above a 10 ug/dL blood-lead level. If the average tap water concentration is 15 ug/L, an average soil concentration greater than 250 mg/kg would yield more than 5% of the population above a 10 ug/dL blood-lead level.

EPA uses a second Adult Lead Model to estimate SLs for an industrial setting. This SL is intended to protect a fetus that may be carried by a pregnant female worker. It is assumed that a cleanup goal that is protective of a fetus will also afford protection for male or female adult workers. The model equations were developed to calculate cleanup goals such that the fetus of a pregnant female worker would not likely have an unsafe concentration of lead in blood.

For more information on EPA's lead models and other lead-related topics, please go to [Addressing Lead at Superfund Sites](#).

5.3 Manganese

The IRIS RfD (0.14 mg/kg-day) includes manganese from all sources, including diet. The author of the IRIS assessment for manganese recommended that the dietary contribution from the normal U.S. diet (an upper limit of 5 mg/day) be subtracted when evaluating non-food (e.g., drinking water or soil) exposures to manganese, leading to a RfD of 0.071 mg/kg-day for non-food items. The explanatory text in IRIS further recommends using a modifying factor of 3 when calculating risks associated with non-food sources due to a number of uncertainties that are discussed in the IRIS file for manganese, leading to a RfD of 0.024 mg/kg-day. This modified RfD has been used in the derivation of some manganese screening levels for soil and water. For more information regarding the Manganese RfD, users are advised to contact the author of the IRIS assessment on Manganese.

5.4 Vanadium and Thallium Compounds

The oral RfD for Thallium, used in this website, is derived from the IRIS oral RfD for Thallium Sulfate by factoring out the molecular weight (MW) of the sulfate ion. Thallium Sulfate (Tl_2SO_4) has a molecular weight of 504.82. The two atoms of Thallium contribute 81% of the MW. Thallium Sulfate's oral RfD of 8E-05 multiplied by 81% gives a Thallium oral RfD of 6.48E-05.

The oral RfD toxicity value for Vanadium, used in this website, is derived from the IRIS oral RfD for Vanadium Pentoxide by factoring out the molecular weight (MW) of the oxide ion. Vanadium Pentoxide (V_2O_5) has a molecular weight of 181.88. The two atoms of Vanadium contribute 56% of the MW. Vanadium Pentoxide's oral RfD of 9E-03 multiplied by 56% gives a Vanadium oral RfD of 5.04E-03.

5.5 Uranium

"Uranium Soluble Salts" uses the IRIS oral RfD of 3E-03. For the insoluble salts of Uranium, the oral RfD of 6E-04 may be used from the Federal Register, Thursday December 7, 2000. Part II, Environmental Protection Agency. 40 CFR Parts 9, 141, and 142 - National Primary Drinking Water Regulations; Radionuclides; Final Rule. p 76713.

5.6 Chromium (VI)

For Chromium (VI) (Cr6), IRIS shows an air unit risk of 1.2E-2 per (ug/m³). However, the supporting documentation in the IRIS file states that this toxicity value is based on an assumed 1:6 ratio of Cr6:Cr3. Because of this assumption and in an effort to be transparent, RSLs based on this cancer toxicity value are presented as "Chromium, Total (1:6 ratio Cr VI:III)" numbers.

In the RSL Table, the Cr6 specific value (assuming 100% Cr6) is derived by multiplying the IRIS Cr6 value by 7. This is considered to be a conservative and protective and is consistent with the State of California's interpretation of the Mancuso study that forms the basis of Cr6's toxicity values.

It is recommended that valent-specific data for Chromium be collected when Chromium is likely to be an important contaminant at a site, and when Cr6 may exist. In the absence of valent-specific data, screening levels for total Chromium are provided. If you are working on a chromium site, you may want to contact the appropriate regulatory officials in your region to determine what their position is on this issue.

5.7 Aminodinitrotoluenes

The IRIS oral RfD of 2E-03 for 2,4-Dinitrotoluene is used as a surrogate for 2-Amino-4,6-Dinitrotoluene and 4-Amino-2,6-Dinitrotoluene.

5.8 PCBs

Aroclor 1016 is considered low risk and assigned appropriate toxicity values. All other Aroclors are assigned the high risk toxicity values.

5.9 Soil Saturation Limit (C_{sat})

The soil saturation concentration, C_{sat} , corresponds to the contaminant concentration in soil at which the absorptive limits of the soil particles, the solubility limits of the soil pore water, and saturation of soil pore air have been reached. Above this concentration, the soil contaminant may be present in free phase (i.e., nonaqueous phase liquids (NAPLs) for contaminants that are liquid at ambient soil temperatures and pure solid phases for compounds that are solid at ambient soil temperatures).

Equation 4-10 is used to calculate C_{sat} for each volatile contaminant. As an update to RAGS HHEM, Part B (USEPA 1991a), this equation takes into account the amount of contaminant that is in the vapor phase in soil in addition to the amount dissolved in the soil's pore water and sorbed to soil particles.

Chemical-specific C_{sat} concentrations must be compared with each VF-based SL because a basic principle of the SL volatilization model is not applicable when free-phase contaminants are present. How these cases are handled depends on whether the contaminant is liquid or solid at ambient temperatures. Liquid contaminant that have a VF-based SL that exceeds the C_{sat} concentration are set equal to C_{sat} whereas for solids (e.g., PAHs), soil screening decisions are based on the appropriate SLs for other pathways of concern at the site (e.g., ingestion).

$$C_{sat} = \frac{s \left(\frac{mg}{L} \right)}{\rho_b \left(\frac{Kg}{L} \right)} \times \left(K_d \left(\frac{L}{Kg} \right) \times \rho_b \left(\frac{Kg}{L} \right) + \theta_w \left(\frac{L_{water}}{L_{soil}} \right) + H' \times \theta_a \left(\frac{L_{air}}{L_{soil}} \right) \right)$$

where

$$K_d = K_{oc} \left(\frac{L}{Kg} \right) \times f_{oc} \left(\frac{g}{g} \right),$$

$$\theta_a \left(\frac{L_{air}}{L_{soil}} \right) = n \left(\frac{L_{pore}}{L_{soil}} \right) - \theta_w \left(\frac{L_{water}}{L_{soil}} \right) \text{ and}$$

$$n = 1 - \left(\frac{\rho_b \left(\frac{Kg}{L} \right)}{\rho_s \left(\frac{Kg}{L} \right)} \right)$$

5.10 SL Theoretical Ceiling Limit

The ceiling limit of 10⁺⁵ mg/kg is equivalent to a chemical representing 10% by weight of the soil sample. At this contaminant concentration (and higher), the assumptions for soil contact may be violated (for example, soil adherence and wind-borne dispersion assumptions) due to the presence of the foreign substance itself.

5.11 Target Risk

With the exceptions described previously in Sections 5.6 and 5.7, SLs are chemical concentrations that correspond to fixed levels of risk (i.e., either a one-in-one million [10⁻⁶] cancer risk or a noncarcinogenic hazard quotient of 1) in soil, air, and water. In most cases, where a substance causes both cancer and noncancer (systemic) effects, the 10⁻⁶ cancer risk will result in a more stringent criteria and consequently this value is presented in the printed copy of the

Table. SL concentrations that equate to a 10^{-6} cancer risk are indicated by 'ca'. SL concentrations that equate to a hazard quotient of 1 for noncarcinogenic concerns are indicated by 'nc'.

If the SLs are to be used for site screening, it is recommended that both cancer and noncancer-based SLs be used. Both carcinogenic and noncarcinogenic values may be obtained in the Supporting Tables.

Some users of this SL Table may plan to multiply the cancer SL concentrations by 10 or 100 to set 'action levels' for triggering remediation or to set less stringent cleanup levels for a specific site after considering non-risk-based factors such as ambient levels, detection limits, or technological feasibility. This risk management practice recognizes that there may be a range of values that may be 'acceptable' for carcinogenic risk (EPA's risk management range is one-in-a-million [10^{-6}] to one-in-ten thousand [10^{-4}]). However, this practice could lead one to overlook serious noncancer health threats and it is strongly recommended that the user consult with a toxicologist or regional risk assessor before doing this. Carcinogens are indicated by an asterisk (*) in the SL Table where the noncancer SLs would be exceeded if the cancer value that is displayed is multiplied by 100. (***) indicate that the noncancer values would be exceeded if the cancer SL were multiplied by 10. There is no range of 'acceptable' noncarcinogenic 'risk' for CERCLA sites. Therefore, the noncancer SLs should not be multiplied by 10 or 100 when setting final cleanup criteria. In the rare case where noncancer SLs are more stringent than cancer SLs set at one-in-one-million risk, a similar approach has been applied (e.g. 'max').

SL concentrations in the printed Table are risk-based, but for soil there are two important exceptions: (1) for several volatile chemicals, SLs may exceed the soil saturation level ('sat') and (2) SLs may exceed a non-risk based 'ceiling limit' concentration of 10^{+5} mg/kg ('max') for relatively less toxic inorganic and semivolatile contaminants. For more information on the 'sat' value in the SL Table, please see the discussion in Section 5.8. For more information on the 'max' value in the SL Table, please see the discussion in Section 5.9.

With respect to applying a 'ceiling limit' for chemicals other than volatiles, it is recognized that this is not a universally accepted approach. Some within the agency argue that all values should be risk-based to allow for scaling (for example, if the risk-based SL is set at a hazard quotient = 1.0, and the user would like to set the hazard quotient to 0.1 to take into account multiple chemicals, then this is as simple as multiplying the risk-based SL by 1/10th). If scaling is necessary, SL users can do this simply by referring to the Supporting Tables at this website where risk-based soil concentrations are presented for all chemicals.

In spite of the fact that applying a ceiling limit is not a universally accepted approach, this table applies a 'max' soil concentration to the SL Table for the following reasons:

- Risk-based SLs for some chemicals in soil exceed unity ($>1,000,000$ mg/kg), which is not possible.
- The ceiling limit of 10^{+5} mg/kg is equivalent to a chemical representing 10% by weight of the soil sample. At this contaminant concentration (and higher), the assumptions for soil contact may be violated (for example, soil adherence and wind-borne dispersion assumptions) due to the presence of the foreign substance itself.
- SLs currently do not address short-term exposures (e.g., pica children and construction workers). Although extremely high soil SLs are likely to represent relatively non-toxic chemicals, such high values may not be justified if in fact more toxicological data were available for evaluating short-term and/or acute exposures.

5.12 Screening Sites with Multiple Contaminants

Since the screening levels in the tables are contaminant specific, users needing to screen sites with multiple contaminants, especially sites with multiple contaminants affecting the same target organ, may wish to use this website's [calculator](#). User's are encouraged to consult with risk assessors in that EPA Regional Office when evaluating or screening contamination at a site with multiple contaminants.

5.13 Deriving Soil Gas SLs

The air SLs could apply to indoor air from, e.g., a vapor intrusion scenario. To model indoor air concentrations from other media (e.g., soil gas, groundwater), consult with regional experts in vapor intrusion.

For more information on EPA's current understanding of this emerging exposure pathway, please refer to EPA's recent draft guidance Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) (USEPA 2002) available on the web at: <http://www.epa.gov/correctiveaction/eis/vapor.htm>.

6. Using the Calculator

The [Calculator](#) can be used to generate site-specific SLs or PRGs. The calculator requires the user to make some simple selections. To use the calculator Select a landuse. Next, select whether you want Default or Site-specific SLs. Selecting default screening levels will reproduce the results in the generic [Generic Tables](#). Selecting Site-Specific will allow you to change exposure parameters. Now pick your analytes. To pick several in a row, depress the left mouse button and drag, then release. Or hold the Ctrl key down and select multiple analytes that are not in a row. Select the output option. Hit the retrieve button. If you selected Site-Specific, the next page allows you to change exposure parameters. Hit the retrieve button. SLs are being calculated. The first table presents the input parameters that were selected. The next table contains the screening levels. This table can be too big to print. The easiest way to manage this table is to move it to a spreadsheet or a database. To copy this table, hold the left mouse key down and drag across the entire table. when done, press Ctrl c to copy. Switch to a spreadsheet and press Ctrl v to paste.

Table 1. Standard Default Factors

Symbol	Definition (units)	Default	Reference
SLs			
SL _{res-air-ca}	Resident Air Carcinogenic (ug/m ³)	Contaminant-specific	Determined in this calculator
SL _{res-air-ca-vinylchloride}	Resident Air Carcinogenic Vinyl Chloride (ug/m ³)	Vinyl Chloride-specific	Determined in this calculator
SL _{res-air-mu}	Resident Air Mutagenic (ug/m ³)	Mutagen-specific	Determined in this calculator
SL _{res-air-nc}	Resident Air Noncarcinogenic (ug/m ³)	Contaminant-specific	Determined in this calculator
SL _{res-fish-ca-ing}	Resident Fish Carcinogenic (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{res-fish-nc-ing}	Resident Fish Noncarcinogenic (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{water-ca-ing}	Resident Tapwater Groundwater Carcinogenic Ingestion (ug/L)	Contaminant-specific	Determined in this calculator
SL _{water-ca-inh}	Resident Tapwater Groundwater Carcinogenic Inhalation (ug/L)	Contaminant-specific	Determined in this calculator
SL _{water-ca-tot}	Resident Tapwater Groundwater Carcinogenic Total (ug/L)	Contaminant-specific	Determined in this calculator
SL _{res-water-ca-vc-ing}	Resident Tapwater Groundwater Carcinogenic Vinyl Chloride Ingestion (ug/L)	Contaminant-specific	Determined in this calculator

SL _{res-water-ca-vc-inh}	Resident Tapwater Groundwater Carcinogenic Vinyl Chloride Inhalation (ug/L)	Contaminant-specific	Determined in this calculator
SL _{res-water-ca-vc-tot}	Resident Tapwater Groundwater Carcinogenic Vinyl Chloride Total (ug/L)	Contaminant-specific	Determined in this calculator
SL _{water-mu-ing}	Resident Tapwater Groundwater Mutagenic Ingestion (ug/L)	Contaminant-specific	Determined in this calculator
SL _{water-mu-inh}	Resident Tapwater Groundwater Mutagenic Inhalation (ug/L)	Mutagen-specific	Determined in this calculator
SL _{water-mu-tot}	Resident Tapwater Groundwater Mutagenic Total (ug/L)	Contaminant-specific	Determined in this calculator
SL _{water-nc-ing}	Resident Tapwater Groundwater Noncarcinogenic Ingestion (ug/L)	Contaminant-specific	Determined in this calculator
SL _{water-nc-inh}	Resident Tapwater Groundwater Noncarcinogenic Inhalation (ug/L)	Mutagen-specific	Determined in this calculator
SL _{water-nc-tot}	Resident Tapwater Groundwater Noncarcinogenic Total (ug/L)	Contaminant-specific	Determined in this calculator
SL _{res-soil-ca-ing}	Resident Soil Carcinogenic Ingestion (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{res-soil-ca-der}	Resident Soil Carcinogenic Dermal (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{res-soil-ca-inh}	Resident Soil Carcinogenic Inhalation (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{res-soil-ca-tot}	Resident Soil Carcinogenic Total (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{res-soil-ca-vc-ing}	Resident Soil Carcinogenic Vinyl Chloride Ingestion (mg/kg)	Vinyl Chloride -specific	Determined in this calculator
SL _{res-soil-ca-vc-der}	Resident Soil Carcinogenic Vinyl Chloride Dermal (mg/kg)	Vinyl Chloride-specific	Determined in this calculator
SL _{res-soil-ca-vc-inh}	Resident Soil Carcinogenic Vinyl Chloride Inhalation (mg/kg)	Vinyl Chloride-specific	Determined in this calculator
SL _{res-soil-ca-vc-tot}	Resident Soil Carcinogenic Vinyl Chloride Total (mg/kg)	Vinyl Chloride-specific	Determined in this calculator
SL _{res-soil-mu-ing}	Resident Soil Mutagenic Ingestion (mg/kg)	Mutagen-specific	Determined in this calculator
SL _{res-soil-mu-der}	Resident Soil Mutagenic Dermal (mg/kg)	Mutagen-specific	Determined in this calculator
SL _{res-soil-mu-inh}	Resident Soil Mutagenic Inhalation (mg/kg)	Mutagen-specific	Determined in this calculator
SL _{res-soil-mu-tot}	Resident Soil Mutagenic Total (mg/kg)	Mutagen-specific	Determined in this calculator
SL _{res-soil-nc-ing}	Resident Soil Noncarcinogenic Ingestion (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{res-soil-nc-der}	Resident Soil Noncarcinogenic Dermal (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{res-soil-nc-inh}	Resident Soil Noncarcinogenic Inhalation (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{res-soil-nc-tot}	Resident Soil Noncarcinogenic Total (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{w-soil-ca-ing}	Worker Soil Carcinogenic Ingestion (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{w-soil-ca-der}	Worker Soil Carcinogenic Dermal (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{w-soil-ca-inh}	Worker Soil Carcinogenic Inhalation (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{w-soil-ca-tot}	Worker Soil Carcinogenic Total (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{w-soil-nc-ing}	Worker Soil Noncarcinogenic Ingestion (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{w-soil-nc-der}	Worker Soil Noncarcinogenic Dermal (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{w-soil-nc-inh}	Worker Soil Noncarcinogenic Inhalation (mg/kg)	Contaminant-specific	Determined in this calculator
SL _{w-soil-nc-tot}	Worker Soil Noncarcinogenic Total (mg/kg)	Contaminant-specific	Determined in this calculator
Toxicity Values			
RFD _a	Chronic Oral Reference Dose (mg/kg-day)	Contaminant-specific	EPA Superfund hierarchy
RfC	Chronic Inhalation Reference Concentration (mg/m ³)	Contaminant-specific	EPA Superfund hierarchy
CSF _a	Chronic oral Slope Factor (mg/kg-day) ⁻¹	Contaminant-specific	EPA Superfund hierarchy
IUR	Chronic Inhalation Unit Risk (ug/m ³) ⁻¹	Contaminant-specific	EPA Superfund hierarchy
Miscellaneous Variables			
TR	target risk	1 × 10 ⁻⁶	Determined in this calculator
THQ	target hazard quotient	1	Determined in this calculator
K	Andelman Volatilization Factor (L/m ³)	0.5	U.S. EPA 1991b (pg. 20)
AT _r	Averaging time - resident (days/year)	365	U.S. EPA 1989 (pg. 6-23)
AT _w	Averaging time - worker (days/year)	365	U.S. EPA 1989 (pg. 6-23)
LT	Lifetime (years)	70	U.S. EPA 1989 (pg. 6-22)
Ingestion, and Dermal Contact Rates			
IRW _c	Drinking Water Ingestion Rate - Child (L/day)	1	
IRW _a	Drinking Water Ingestion Rate - Adult (L/day)	2	U.S. EPA 1989 (Exhibit 6-11)
IFW _{adj}	Drinking Water Ingestion Rate - Age-adjusted (L-year/kg-day)	2	Calculated using the aged adjusted intake factors equation
IFWM _{adj}	Mutagenic Drinking Water Ingestion Rate - Age-adjusted (L-year/kg-day)	3.39	Calculated using the aged adjusted intake factors equation
IRS _c	Resident Soil Ingestion Rate - Child (mg/day)	200	U.S. EPA 1991a (pg. 15)
IRS _a	Resident Soil Ingestion Rate - Adult (mg/day)	100	U.S. EPA 1991a (pg. 15)
IFS _{adj}	Resident Soil Ingestion Rate - Age-adjusted (mg-year/kg-day)	114	Calculated using the aged adjusted intake factors equation
IFSM _{adj}	Mutagenic Resident Soil Ingestion Rate - Age-adjusted (mg-year/kg-day)	489.5	Calculated using the aged adjusted intake factors equation
IRF _a	Fish Ingestion Rate (mg/day)	5.4 × 10 ⁴	U.S. EPA 1991a (pg. 15)
SA _c	Resident soil surface area - child (cm ²)	2800	U.S. EPA 2002 (Exhibit 1-2)
SA _a	Resident soil surface area - adult (cm ²)	5700	U.S. EPA 2002 (Exhibit 1-2)
AF _c	Resident soil adherence factor-child (mg/cm ²)	0.2	U.S. EPA 2002 (Exhibit 1-2)
AF _a	Resident soil adherence factor-adult (mg/cm ²)	0.07	U.S. EPA 2002 (Exhibit 1-2)
DFS _{adj}	Resident soil dermal contact factor- age-adjusted (mg-year/kg-day)	361	Calculated using the aged adjusted intake factors equation
DFSM _{adj}	Mutagenic Resident soil dermal contact factor- age-	1445	Calculated using the aged adjusted

	adjusted (mg-year/kg-day)		intake factors equation
SA _{ow}	Worker soil surface area - adult (cm ²)	3300	U.S. EPA 2002 (Exhibit 1-2)
AF _{ow}	Worker soil adherence factor-child (mg/cm ²)	0.2	U.S. EPA 2002 (Exhibit 1-2)
ABS	Fraction of contaminant absorbed dermally from soil (unitless)	Contaminant-specific	U.S. EPA 2004 (Exhibit 3-4)
GIABS	Fraction of contaminant absorbed in gastrointestinal tract (unitless) Note: if the GIABS is >50% then it is set to 100% for the calculation of dermal toxicity values.	Contaminant-specific	U.S. EPA 2004 (Exhibit 4-1)
Exposure Frequency, Exposure Duration, and Exposure Time Variables			
EF _r	Exposure Frequency - residential (days/yr)	350	U.S. EPA 1991a (pg. 15)
EF _{ow}	Exposure Frequency - worker (days/yr)	250	U.S. EPA 1991a (pg. 15)
ED _r	Exposure Duration - resident (yr)	30	U.S. EPA 1991a (pg. 15)
ED _c	Exposure Duration -child resident (yr)	6	U.S. EPA 1991a (pg. 15)
ED _{ow}	Exposure Duration - worker (yr)	25	U.S. EPA 1991a (pg. 15)
ET _{ra}	Exposure Time - resident air (hr/hr)	1	24 hrs per 24 hr Day
Soil to Groundwater SSL Factor Variables			
I	Infiltration Rate (m/year)	0.18	U.S. EPA. 1996a (pg. 31)
L	source length parallel to ground water flow (m)	400	U.S. EPA. 1996a (pg. 31)
i	hydraulic gradient (m/m)	1.2	U.S. EPA. 1996a (pg. 31)
K	aquifer hydraulic conductivity (m/year)	40	U.S. EPA. 1996a (pg. 31)
θ _w	water-filled soil porosity (L _{water} /L _{soil})	0.3	U.S. EPA. 1996a (pg. 31)
θ _a	air-filled soil porosity (L _{air} /L _{soil})	= n - θ _w	U.S. EPA. 1996a (pg. 31)
n	total soil porosity(L _{pore} /L _{soil})	= 1 - (P _b /P _s)	U.S. EPA. 1996a (pg. 31)
P _s	soil particle density (Kg/L)	2.65	U.S. EPA. 1996a (pg. 31)
P _b	dry soil bulk density (kg/L)	1.5	U.S. EPA. 1996a (pg. 31)
H'	Dimensionless Henry Law Constant (unitless)	analyte-specific	EPI Suite
K _d	soil-water partition coefficient (L/kg)	= K _{oc} * f _{oc} for organics	U.S. EPA. 1996a (pg. 31)
K _{oc}	soil organic carbon/water partition coefficient (L/kg)	analyte-specific	EPI Suite
f _{oc}	fraction organic carbon in soil (g/g)	0.002	U.S. EPA. 1996a (pg. 31)
d _a	aquifer thickness (m)	12	U.S. EPA. 1996a (pg. 31)
d _s	depth of source (m)	2	U.S. EPA. 1996a (pg. 31)
d	mixing zone depth (m)	calculated	U.S. EPA. 1996a (pg. 31)
Particulate Emission Factor Variables			
PEF	Particulate Emission Factor - Minneapolis (m ³ /kg)	1.36 x 10 ⁹ (region-specific)	Determined in this calculator
Q/C	Inverse of the Mean Concentration at the Center of a 0.5-Acre-Square Source (g/m ² -s per kg/m ³)	93.77 (region-specific)	Determined in this calculator
V	Fraction of Vegetative Cover (unitless)	0.5	U.S. EPA 1996a (pg. 23)
U _m	Mean Annual Wind Speed (m/s)	4.69	U.S. EPA 1996a (pg. 23)
U _t	Equivalent Threshold Value of Wind Speed at 7m (m/s)	11.32	U.S. EPA 1996a (pg. 23)
F(x)	Function Dependent on U _m /U _t (unitless)	0.194	U.S. EPA 1996a (pg. 23)
A	Dispersion constant unitless	PEF and region-specific	U.S. EPA 2002 (pg. D-6 to D-8)
A _c	Areal extent of the site or contamination (acres)	0.5 (range 0.5 to 500)	U.S. EPA 2002 (pg. D-2)
B	Dispersion constant unitless	PEF and region-specific	U.S. EPA 2002 (pg. D-6 to D-8)
C	Dispersion constant unitless	PEF and region-specific	U.S. EPA 2002 (pg. D-6 to D-8)
Volatilization Factor and Soil Saturation Limit Variables			
VF	Volatilization Factor - Los Angeles (m ³ /kg)	Contaminant-specific	U.S. EPA. 1996b (pg. 24)
Q/C _w	Inverse of the Mean Concentration at the Center of a 0.5-Acre-Square Source (g/m ² -s per kg/m ³)	68.81	U.S. EPA. 1996b (pg. 24)
D _a	Apparent Diffusivity (cm ² /s)	Contaminant-specific	U.S. EPA. 1996b (pg. 24)
T	Exposure interval (s)	9.5 × 10 ⁸	U.S. EPA. 1996b (pg. 24)
P _b	Dry soil bulk density (g/cm ³)	1.5	U.S. EPA. 1996b (pg. 24)
θ _a	Air-filled soil porosity (L _{air} /L _{soil}) (n - θ _w)	0.28	U.S. EPA. 1996b (pg. 24)
n	Total soil porosity (L _{pore} /L _{soil}) (1 - (P _b /P _s))	0.43	U.S. EPA. 1996b (pg. 24)
θ _w	Water-filled soil porosity (L _{water} /L _{soil})	0.15	U.S. EPA. 1996b (pg. 24)
P _s	Soil particle density (g/cm ³)	2.65	U.S. EPA. 1996b (pg. 24)
S	Water Solubility Limit (mg/L)	Contaminant-specific	EPI Suite
D _{oa}	Diffusivity in air (cm ² /s)	Contaminant-specific	U.S. EPA. 2001
H'	Dimensionless Henry's Law Constant	Contaminant-specific	EPI Suite
D _{ow}	Diffusivity in water (cm ² /s)	Contaminant-specific	U.S. EPA. 2001
K _d	Soil-water partition coefficient (L/Kg) (K _{oc} * f _{oc})	Contaminant-specific	U.S. EPA. 1996b (pg. 24)
K _{oc}	Soil organic carbon-water partition coefficient (L/Kg)	Contaminant-specific	EPI Suite
f _{oc}	Organic carbon content of soil (g/g)	0.006	U.S. EPA. 1996b (pg. 24)

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For assistance/questions contact [Dave Crawford](#) or [Fred Dolisslager](#)

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Appendix B

Naples, Italy – Public Health Evaluation: Development and Application of Multi-Story Vapor Intrusion Attenuation Factors to Residences in Naples, Italy

Appendix B is comprised of 36 pages.



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DECEMBER 2010

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ATTACHMENTS

ATTACHMENT B-1 – NAPLES PUBLIC HEALTH EVALUATION – PROCESS FOR APPLYING MULTI-FLOOR VAPOR INTRUSION ATTENUATION FACTORS. PIONEER TECHNOLOGIES CORPORATION. FEBRUARY 2010.

ATTACHMENT B-2 – MODELING AND MATHEMATICAL ANALYSIS OF PCE ATTENUATION BETWEEN FLOORS OF MULTI-STORY DWELLINGS AS IT APPLIES TO THE PUBLIC HEALTH EVALUATION, NAPLES, ITALY. TETRA TECH NUS. DECEMBER 2009.

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ATTACHMENT B-1

NAPLES PUBLIC HEALTH EVALUATION – PROCESS FOR APPLYING MULTI-FLOOR VAPOR INTRUSION ATTENUATION FACTORS. PIONEER TECHNOLOGIES CORPORATION. FEBRUARY 2010.

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MEMO



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To: Paul Gillooly

From: Kara Roberts and Chris Waldron

Date: February 12, 2010

Re: Naples Public Health Evaluation – Process for Applying Multi-Floor Vapor Intrusion Attenuation Factors

Dear Dr. Gillooly:

The purpose of this memo is to present the process for determining when it is appropriate to apply multi-floor vapor intrusion attenuation factors (TetraTech, 2009) to soil gas data collected from residences in Naples, Italy. Multi-floor vapor intrusion attenuation factors account for the attenuation in airborne chemical concentrations that occurs between lower and higher floors or levels in a building and would potentially apply to situations where U.S. Personnel reside in living spaces on the 2nd floor¹ or higher. Multi-floor attenuation factors are applied in order to conservatively estimate the health risks associated with exposure to chemicals in indoor air resulting from vapor intrusion of soil gas.

Applicability

The multi-floor vapor intrusion attenuation factors presented in this memo are applicable to (TetraTech, 2009):

...multi-story apartments [*all multi-floor dwellings will be considered in this process including multi-floor houses, apartments, et cetera*] with concrete floors from subsurface sources may attenuate between floors. This memorandum is also useful for examining buildings with subsurface garages. Ultimately the attenuation factors between floors may be important in allowing residents to occupy spaces at higher floors in an apartment complex. Figure 1 shows a conceptualization for a two-story apartment. PCE vapor from a presumptive groundwater plume and/or contaminated soil volatilizes, diffuses through the unsaturated zone [*the area between the top of the water table and ground surface*], and migrates into the apartment through small cracks in the slab (or other available openings). Once vapors enter the first floor, the vapors mix with the indoor air, exchange with outdoor air, and potentially further intrude into the second story. This example apartment has a slab-on-grade foundation, which can be below grade as shown in this particular example. This example apartment unit also has no preferential pathway between floors, such as a stairwell. There is air exchange between the first and second floors, as well as air exchange between the outdoor air and each of the two stories. The vapor concentrations can be different between floors. This particular rendition of a two-story apartment and the surrounding environment is generic, and does not represent any specific apartment in Naples. Specific information about apartment construction and floor construction in Naples was not available for this course of this analysis. However, by specifying or calculating the size of the building, air exchange rates, building foundation types, and other data, this model can simulate different apartment types that use different construction materials. At present, site-specific data are unavailable to simulate a specific apartment; therefore, the present analysis is an approximation and only predicts indoor air concentrations within an order of magnitude.

¹ United States (U.S.) conventions for identifying floors in a building are used in this memo (i.e., the 1st floor is the ground floor and the 2nd floor is the floor immediately above the ground floor).



Proposed Approach for Applying Multi-Floor Vapor Intrusion Attenuation Factors to Soil Gas Data to Determine if Predicted Indoor Air Concentrations Results Pose an Acceptable or Unacceptable Risk

The approach/decision criteria for determining how/when multi-floor attenuation factors should be applied is described in the following bullets and summarized in Figure 2:

1. PIONEER will calculate health risks based on indoor air concentrations predicted by multiplying sub-slab or shallow (i.e., collected less than five feet below ground surface) near-slab soil gas results by the United States Environmental Protection Agency's (USEPA's) default vapor intrusion attenuation factor of 0.1 (USEPA, 2002). The USEPA's default attenuation factor of 0.1 accounts for the attenuation that occurs as vapors beneath a residence migrate into the lowest level of the building.
2. If the results are Acceptable, no further evaluation is necessary. If the health risks from Step 1 are Unacceptable, then a representative from the Environmental Health Information Center (EHIC) at U.S. Naval Hospital Naples will contact the resident by telephone regarding the soil gas results and ask specific questions about their residence (e.g., is it a multi-story structure [e.g., apartment], what floor do they live on, et cetera) and questions on the construction and arrangement of the building structure. See Telephone Notification Scripts attachment.
3. For the cases where the initial results were Unacceptable and contact was made with the resident, the information from the interview will be used to determine if the default attenuation factor (AF) is appropriate for estimating indoor air concentrations in the resident's living space, or if another AF (such as a multi-floor vapor intrusion attenuation factor (MFVIAF)) should be applied to calculate health risks based on indoor air concentrations. The following cases are possible:
 - a) The resident lives exclusively on the first floor directly above where a soil gas sample was collected. In this case, the transfer of volatile constituents across the building foundation and into the living space would be represented by the default AF of 0.1 applied to the soil gas sample results.
 - b) The resident lives on the second floor or higher and the building has an interior stairwell or elevator between levels without doors or structural elements (e.g., separate living spaces on each floor [apartments or condos]) that prevent indoor air from multiple floors from completely mixing. In this case, the transfer of volatile constituents across all of the levels of the building would be represented by the default AF of 0.1 (i.e., it is assumed that the MFVIAF for all inter-floor transfers within living spaces with interior stairwells or elevators is 1.0).
 - c) The resident lives on the second floor or higher and the building has an interior stairwell or elevator between levels with doors or structural elements (e.g., separate living spaces on each floor [apartments or condos]) that prevent indoor air from multiple floors from completely mixing. In this case, the transfer of volatile constituents across floors would be represented by a modified AF, calculated by using the default AF of 0.1 multiplied by the MFVIAF for each step of vertical transfer (0.12) assuming there is no site-specific information (e.g., the indoor air concentration on the 3rd floor would be calculated by multiplying the active soil gas concentration x 0.1 x 0.12 x 0.12).
 - d) The resident lives on the second floor or higher and there are no interior stairwells or elevators between levels. In this case, the transfer of volatile constituents across floors would be represented by a modified AF, calculated by using the default AF of 0.1 multiplied by the MFVIAF for each step of vertical transfer (0.12) assuming there is no site-specific information (e.g., the indoor air concentration on the 3rd floor would be calculated by multiplying the active soil gas concentration x 0.1 x 0.12 x 0.12).
 - e) The resident lives on the first or higher floor but the building has a sub-surface or first floor "open-air" garage (e.g., an open air parking garage or a non-routinely used storage space). In this case, the transfer of volatile constituents across floors would be represented by a modified AF, in the same manner as described in the previous example for each step of vertical transfer.

- Residences who fit cases b, c, d, or e in Step 3 are confirmed with a visit by a TetraTech representative, who will take photographs of the residence and collect site-specific information if possible and if not already documented at the time of soil gas sampling.
- If the visit confirms the resident's responses from Step 3, then PIONEER will recalculate the indoor air concentrations for the upper-floors of the structure (i.e., floors located above the 1st floor [ground floor in Italy]) using measured soil gas concentrations as follows:

$$IA_N = (SG_c \times 0.1) \times \left(\frac{1}{\left(\frac{X_f V_f}{Q_{f-1,f}} \right)} \right)^{N-1} \quad \text{Equation (1)}$$

Where:

IA_N = Indoor air concentration predicted on the N^{th} floor ($\mu\text{g}/\text{m}^3$).

SG_c = Sub-slab or shallow, (i.e., collected less than 5 feet below ground surface) near-slab soil gas concentration ($\mu\text{g}/\text{m}^3$).

0.1 = USEPA's default attenuation factor that is used to calculate the indoor air concentration on the 1st floor of the building based on the sub-slab/shallow soil gas concentration (unitless).

X_f = Air exchange rate of the N^{th} floor. If unknown use USEPA's default value of 6/day.

V_f = Volume of the N^{th} floor. If unknown use USEPA's default value of $(100 * (2.44\text{m}^3))$.

$Q_{f-1,f}$ = Air flow rate from any one floor to the next. If unknown use $180 \text{ m}^3/\text{day}$.

N = Floor where residence is located.

Note: If the USEPA's default inputs are used in Equation (1), then Equation (1) can be simplified to:

$$IA_N = (SG_c \times 0.1) \times (0.12^{N-1}) \quad \text{Equation (2)}$$

Examples

Below are examples of applying Equation (1) and Equation (2) to calculate indoor air concentrations based on measured sub-slab soil gas or shallow near-slab soil gas concentrations.

- Example of applying Equation (1) to calculate the indoor air concentration for a residence located on the third floor of a building with site-specific information:

$$IA_N = (200.5 \times 0.1) \times \left(\frac{1}{\left(\frac{10 \times 488}{200} \right)} \right)^{3-1} = 0.034 \frac{\mu\text{g}}{\text{m}^3} \quad \text{Example (1)}$$

Where:

IA_N = Indoor air concentration predicted on the N^{th} floor ($\mu\text{g}/\text{m}^3$).



SG_c = The sub-slab soil gas concentration is 200.5 ug/m^3 .

0.1 = USEPA's default attenuation factor that is used to calculate the indoor air concentration on the 1st floor of the building based on the sub-slab/shallow soil gas concentration (unitless).

X_f = Air exchange rate of the 3rd floor is 10/day.

V_f = Volume of the 3rd floor is $(100 * 4.88 \text{ m}^3)$.

$Q_{f-1,f}$ = The air flow rate between floors is $200 \text{ m}^3/\text{day}$.

N = The residence is located on the 3rd floor.

2. Example of applying Equation (2) to calculate the indoor air concentration for a residence located on the fifth floor of a building that does not have site-specific information.

$$IA_N = (200.5 \times 0.1) \times (0.12^{5-1}) = 0.0043 \frac{\text{ug}}{\text{m}^3} \quad \text{Example (2)}$$

Where:

IA_N = Indoor air concentration predicted on the Nth floor (ug/m^3).

SG_c = The sub-slab soil gas concentration is 200.5 ug/m^3 .

0.1 = USEPA's default attenuation factor that is used to calculate the indoor air concentration on the 1st floor of the building based on the sub-slab/shallow soil gas concentration (unitless).

0.12 = Upper-floor attenuation factor calculated using the following default parameters:

X_f = Air exchange rate of the Nth floor. If unknown use USEPA's default value of 6/day.

V_f = Volume of the Nth floor. If unknown use USEPA's default value of $(100 * (2.44 \text{ m}^3))$.

$Q_{f-1,f}$ = Air flow rate from any one floor to the next. If unknown use $180 \text{ m}^3/\text{day}$.

N = The residence is located on the 5th floor.



References

- TetraTech (Tetra Tech NUS). 2009. Modeling and Mathematical Analysis of PCE Attenuation between Floors of Multi-Story Dwellings as it Applies to the Public Health Evaluation, Naples, Italy. December 2, 2009.
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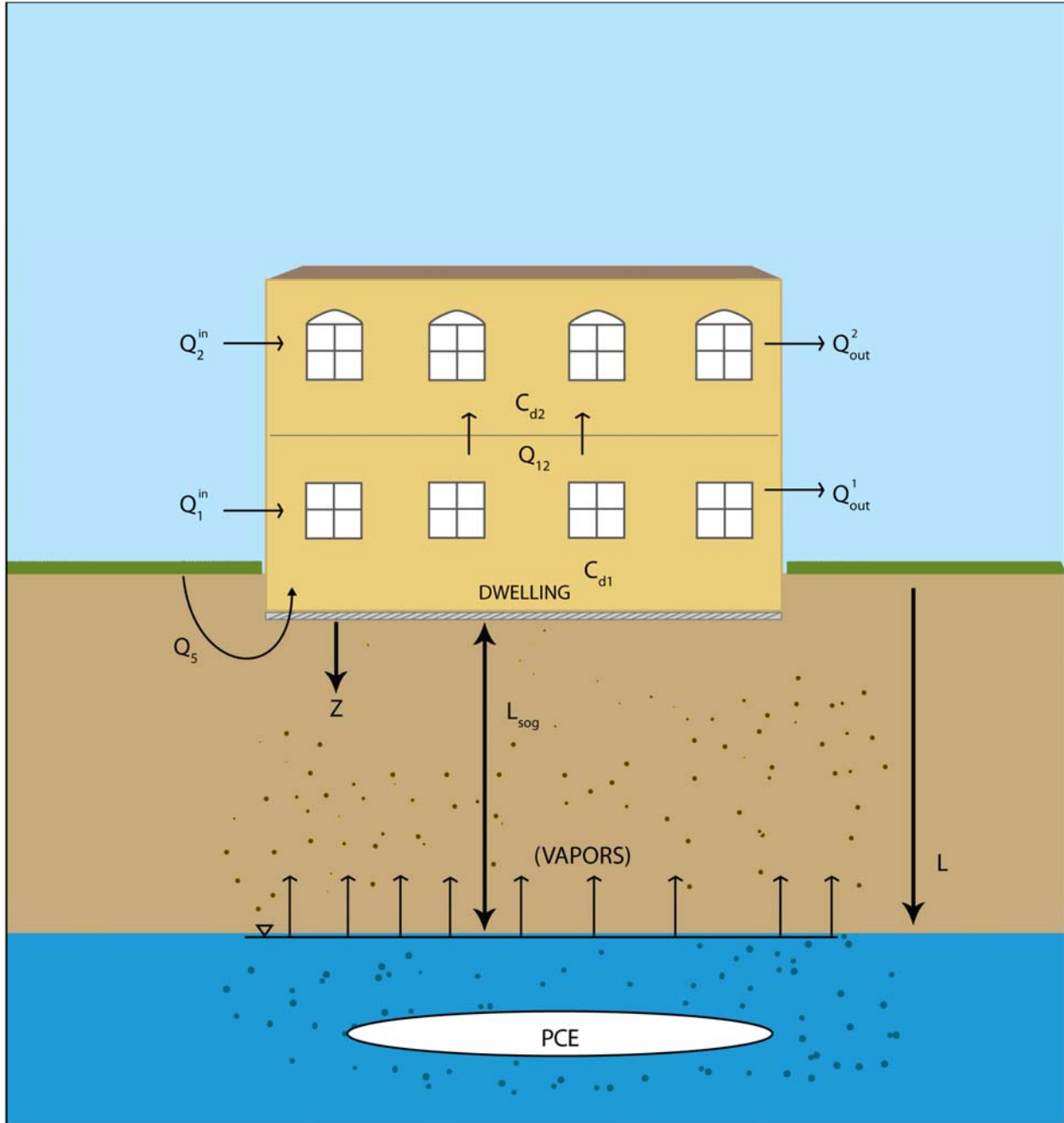
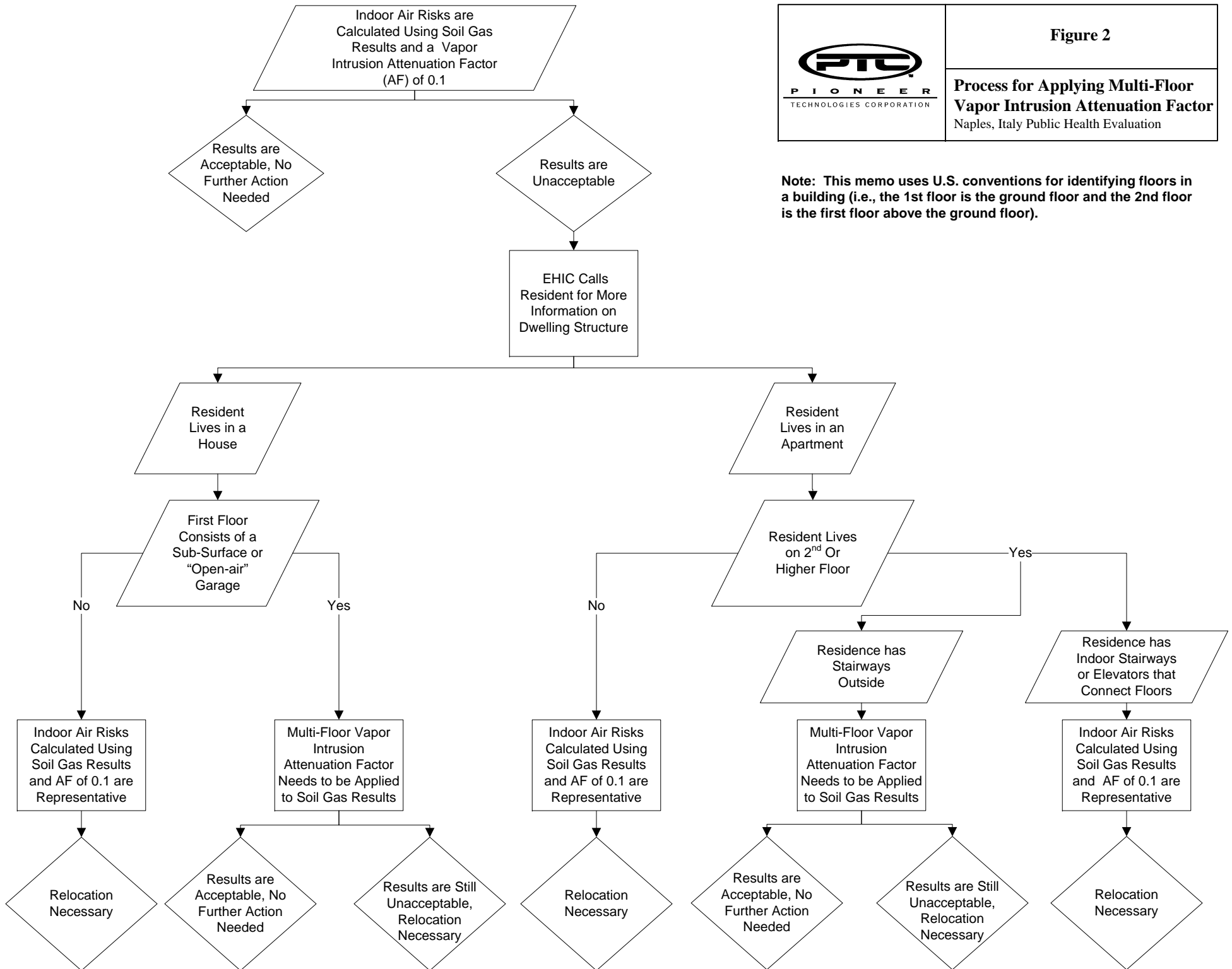


Figure 1 - Conceptual model of two-story apartment over hypothetical PCE plume in groundwater. (Q_2^{in}, Q_1^{in} (Q_2^{out}, Q_1^{out}) = volumetric flow rates of outdoor air into (out of) the second and first floors, respectively; Q_{12} = volumetric flow rate from first floor to the second floor; Q_s = volumetric flow rate through soil; C_{d1}, C_{d2} = concentrations of PCE in first and second floors, respectively; L_{sog} = distance from bottom of slab to groundwater; L = distance from surface to groundwater; z = distance below bottom of slab on grade.

Note: This memo uses U.S. conventions for identifying floors in a building (i.e., the 1st floor is the ground floor and the 2nd floor is the first floor above the ground floor).



Telephone Notification Scripts for Environmental Health Information Center Notification of U.S. Personnel Due to PCE Contamination

Phase II F1 Inquiry Calls

(See Q&A on page 2)

Hello, this is Dr. Tim Halenkamp from the Naval Hospital's Environmental Health Information Center.

I'm calling on behalf of the Naples Public Health Evaluation and in particular, to discuss results of tap water and active soil gas samples that were collected from your residence.

The sampling preliminary results show that a chemical, **Tetrachloroethene** or **PCE**, was detected in active soil gas samples collected beneath or adjacent to your rental property at levels higher than the USEPA's health-based standards, which are the standards that we are using to assess health risks.

Let me first emphasize that there is no immediate health concern. We want to make sure that you have the sampling results and would like to meet with you one-on-one if you desire, to explain this in more detail and answer any questions you may have.

Based on the sampling results, there could be a potential risk of being exposed to PCE through *inhalation* of the chemical in indoor air (PCE vapors may enter the home from contaminated groundwater underneath through a process called vapor intrusion. [*Explain vapor intrusion if needed*].) However, to fully evaluate potential health risks in your home, we are calling to verify structural information about your building, because certain building structures can affect the potential risk from vapor intrusion.

Our database shows your home type is a [INSERT]. I'd like to go through a series of questions about your building:

- Is your building single story or multi story? On what floor is your residence? Is there an open, internal connection (e.g., open, internal stairway) between floors?
- Do you have a basement? Does the building have a basement? Is the basement connected to the upper floors via an open, internal stairway?
- Is there a ventilated garage beneath the living spaces?
- Do you know if there is a crawl space, or if the building is concrete slab-on-grade construction?
- Are there other American or NATO families living nearby? (Get Name, Address, Phone #)
- I would like to confirm your rank and rate? (If Active Duty)

[*Confirm Mailing Address*]

[*Confirm PRD*]

We appreciate your time and we'll review the information you have provided to determine the overall potential risk at your residence. We will follow up with you as soon as possible after our evaluation is complete.

Do you have any questions, or would you like to meet to discuss the sampling results?

[*Mention available information posted on the Community Health Awareness website:*

<https://www.cnic.navy.mil/Naples/Programs/HealthAwareness/index.htm>

- *Fact Sheets:*
 - (1) *Vapor Intrusion;*
 - (2) *Building Structures and Vapor Intrusion.*
- *Vapor Intrusion Video*]

[*Provide EHIC Contact Information*]

###

Q&A

**** If someone asks about relocation, use the following points ****

- **Will I have to relocate?**
 - Not necessarily. The information you provide us on the building structure will help us determine whether relocation is necessary, because certain building structures can affect the potential risk from vapor intrusion. (Refer to *Building Structures and Vapor Intrusion* fact sheet.)
 - Personnel in the Casal di Principe area were relocated, regardless of their building structure, because there is a suspected groundwater plume, that in the Navy's opinion, it requires investigation by the Italian authorities.
- **When will I know if I have to relocate?**
 - It will take some time to evaluate the information and determine whether relocation is confirmed. Please remember that there is no immediate health concern, and we will follow up with you as soon as possible.

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ATTACHMENT B-2

MODELING AND MATHEMATICAL ANALYSIS OF PCE ATTENUATION BETWEEN FLOORS OF MULTI-STORY DWELLINGS AS IT APPLIES TO THE PUBLIC HEALTH EVALUATION, NAPLES, ITALY. TETRA TECHNUS, DECEMBER 2009.

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Modeling and Mathematical Analysis of PCE Attenuation between Floors of Multi-Story Dwellings as it Applies to the Public Health Evaluation, Naples, Italy

Prepared by: Tetra Tech NUS

December 2, 2009

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Introduction

The purpose of this memorandum is to examine how volatile organic compounds (VOCs), such as tetrachloroethene (PCE), that migrate into multi-story apartments with concrete floors from subsurface sources may attenuate between floors. This memorandum is also useful for examining buildings with subsurface garages. Ultimately the attenuation factors between floors may be important in allowing residents to occupy spaces at higher floors in an apartment complex. Figure 1 shows a conceptualization for a two-story apartment. PCE vapor from a presumptive groundwater plume and/or contaminated soil volatilizes, diffuses through the unsaturated zone, and migrates into the apartment through small cracks in the slab (or other available openings). Once vapors enter the first floor, the vapors mix with the indoor air, exchange with outdoor air, and potentially further intrude into the second story. This example apartment has a slab-on-grade foundation, which can be below grade as shown in this particular example. This example apartment unit also has no preferential pathway between floors, such as a stairwell. There is air exchange between the first and second floors, as well as air exchange between the outdoor air and each of the two stories. The vapor concentrations can be different between floors. This particular rendition of a two-story apartment and the surrounding environment is generic, and does not represent any specific apartment in Naples. Specific information about apartment construction and floor construction in Naples was not available for this course of this analysis. However, by specifying or calculating the size of the building, air exchange rates, building foundation types, and other data, this model can simulate different apartment types that use different construction materials. At present, site-specific data are unavailable to simulate a specific apartment; therefore, the present analysis is an approximation and only predicts indoor air concentrations within an order of magnitude.

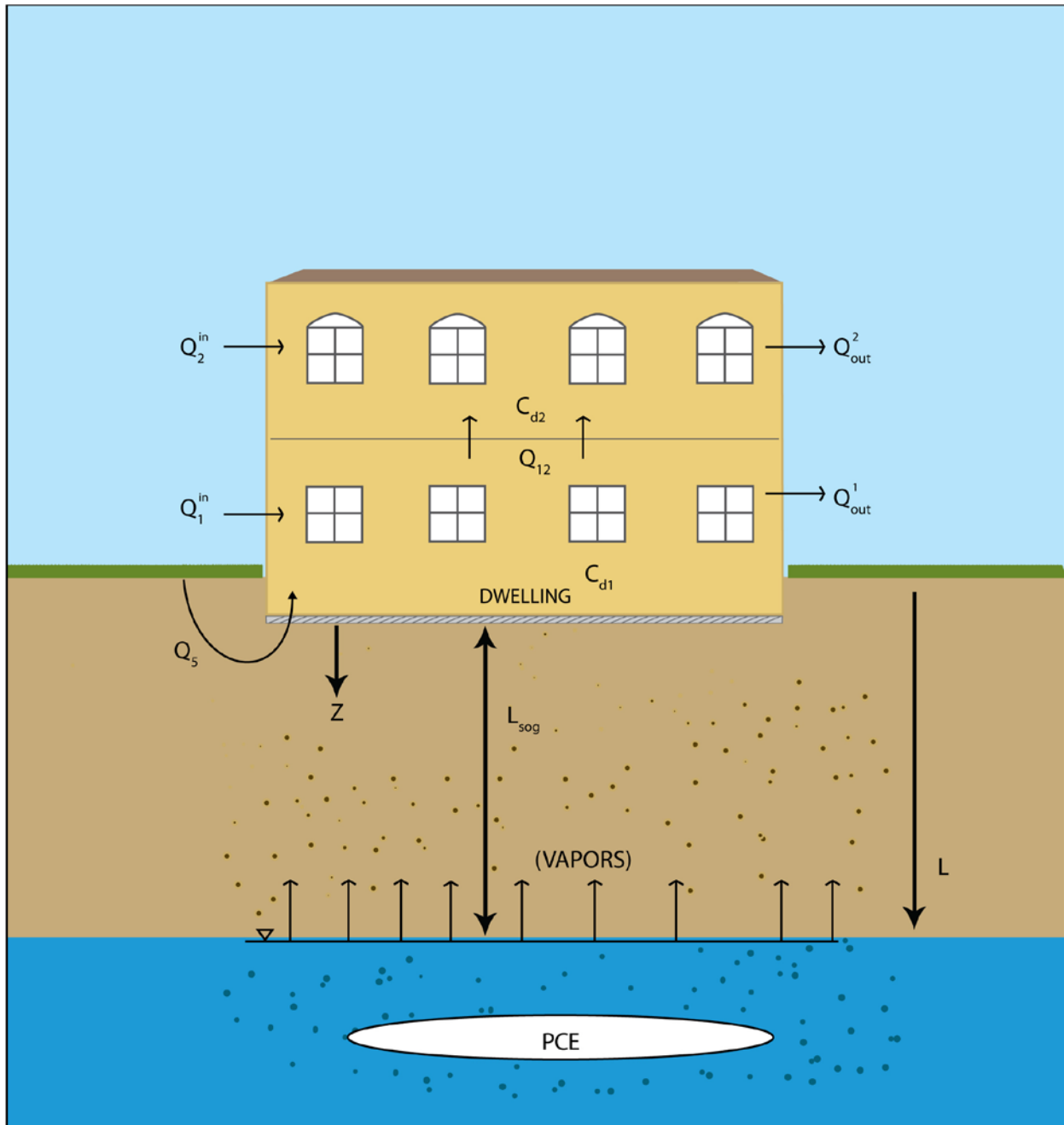


Figure 1 - Conceptual model of two-story apartment over hypothetical PCE plume in groundwater. (Q_2^{in}, Q_1^{in} (Q_2^{out}, Q_1^{out}) = volumetric flow rates of outdoor air into (out of) the second and first floors, respectively; Q_{12} = volumetric flow rate from first floor to the second floor; Q_s = volumetric flow rate through soil; C_{d1}, C_{d2} = concentrations of PCE in first and second floors, respectively; L_{sog} = distance from bottom of slab to groundwater; L = distance from surface to groundwater; z = distance below bottom of slab on grade.

This memorandum examines two approaches that address the issue of PCE attenuation between floors:

1. Use of the Vapor Intrusion Model (ViM) (Mills et al., 2007) to simulate the entire process of plume volatilization, diffusion, intrusion, and mixing with indoor air. This approach predicts the ratios of concentrations between the first and second floors and the actual concentrations. ViM can analyze vapor intrusion into one-story or two-story apartments and can simulate multiple building types by using different parts of the code. For example, the part of the code that simulates a two-story slab-on-grade structure is different than the part of the code that simulates a crawl space. As such, ViM has numerous sub-models that are available as needed. Differing depths to groundwater and different soil properties are inputs to the model. ViM predicts floor-averaged concentrations and time-variable indoor air concentrations if concentrations in the plume are time variable. Mills et al. has updated ViM from the version discussed in Mills et al. (2007) to add slab-on-grade capabilities. The model is presently a research-grade model, and Mills et al. continue to add new features. Within the past year, Mills et al. have completed model results for single-story slab-on-grade applications for the United States Air Force. Mills et al. have presented many of the Air Force results at conferences around the United States over the past year. A portion of such a presentation is an attachment as a separate file to this technical memorandum (Attachment B). The presentation illustrates the accuracy that ViM attains when using site-specific data. It includes comparisons of the Johnson and Ettinger (J&E) model and ViM for a building with a slab-on-grade foundation. In that application, it was possible for the J&E model to predict indoor air concentrations within a factor of three of the observed data, while ViM predicted indoor air concentrations within about 10 percent. Both predictions were within the 5- to 95-percent confidence limit.
2. **Use of a mathematical approach that focuses only on predicting the concentration ratio between floors.** The mathematical approach is applicable to more than one-story or two-story apartments and uses a subset of the equations in ViM that pertains only to concentration changes between floors (that is, attenuation factors between floors). As the analysis below shows, this is a simpler approach than the full model described above if the analysis only requires defining attenuation factors. This is because the attenuation factors within buildings do not depend on plume concentration, depth to groundwater, or other geochemical factors.

Modeling Approach

Inputs to the ViM model are United States Environmental Protection Agency (EPA) default values, the foundation is slab-on-grade, and the chemical of interest is PCE. The reason for using the ViM model rather than the J&E model is that ViM can predict concentration differences between two floors and consequently the attenuation factors between the two floors, which is the objective of the study.

Figure 2 and Figure 3 illustrate ViM predictions of plume attenuation coefficients and PCE concentrations, respectively. In Figure 2, the three curves are as follows:

- The green curve represents attenuation from the groundwater to the subslab
- The blue curve represents attenuation from the groundwater to the first floor (indoor air)
- The red curve represents attenuation from the groundwater to the second floor (indoor air)

Note that the attenuation coefficients initially change rapidly (for the first few years) and then level off to constant values. The rapid initial change is during the period before PCE actually intrudes into the first floor. It is the constant (steady-state) values that are of interest here.

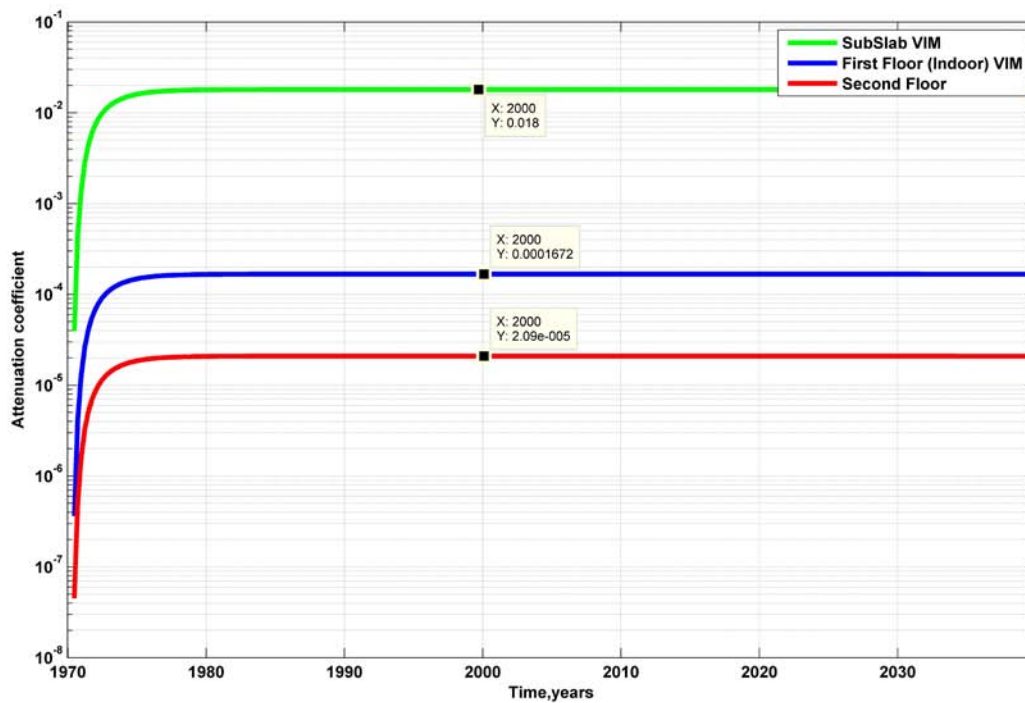


Figure 2 - Predicted Plume Attenuation Coefficients for PCE.

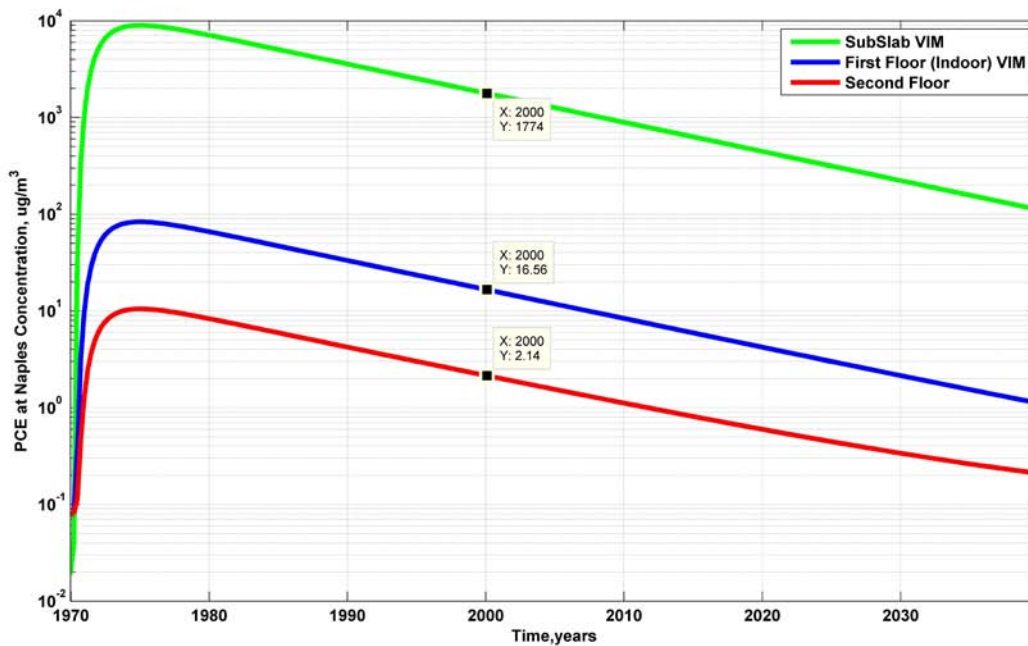


Figure 3. Predicted PCE concentration.

The ratio between the steady-state (year 2000 in the figure) attenuation factors from the blue and red lines (that is, the first and second floors) in this case is:

$$\frac{0.0001672}{2.09 \cdot 10^{-5}} = 8, \text{ and the attenuation factor ratio is } 1/8 \text{ or } 0.13$$

The model predicts that concentrations of PCE are lower by a factor of eight in the second story compared to the first for *this particular setting*. Note that even though attenuation factors attain a steady state, PCE concentrations do not (Figure 3) because the model assumes that PCE concentrations in the plume beneath the site are slowly decreasing. The fact that PCE concentrations are decreasing while the attenuation factors are approaching steady state may be helpful in streamlining any future analysis. This technical memorandum does not make a comparison to the J&E model because the J&E model does not simulate two-story buildings and time-variable plumes. However, Attachment B provides a comparison for a single-story slab-on-grade building.

Mathematical Analysis Based on a Subset of the Equations in ViM

The mathematical analysis that follows relates to PCE concentrations between stories. Equations (1) and (2) below are the same as programmed in ViM. As mentioned previously, over the past several years, Mills et al. have updated ViM. One of these updates is the two-story slab-on-grade option, so Mills et al. (2007) does not include those equations. Equation (1) is the chemical vapor mass balance equation for the second floor, which states that the change in mass in the second story equals the mass input from the ambient air and from the first floor minus the vapor that exits the second story, which depends on the air exchange rate. Attachment A includes this derivation. In mathematical symbols, for the second story:

$$V_{d2} \frac{\partial C_{d2}}{\partial t} = Q_2^{\text{in}} C_a + Q_{12} C_{d1} - X_{d2} V_{d2} C_{d2} \quad (1)$$

$$Q_2^{\text{in}} = X_{d2} V_{d2} - Q_{12} \quad (2)$$

Where:

$$\frac{\partial C_{d2}}{\partial t} = \text{time rate of change of PCE concentration on the second floor}$$

V_{d2} = volume of second floor

C_a = ambient or background PCE concentration

X_{d2} = air exchange rate for the second floor

Figure 1 shows all other variables.

The model includes the following two assumptions:

- The PCE concentration has attained steady state so the time-derivative in Equation (1) (the term on the left-hand side) is zero.
- The ambient or background air concentration of PCE is negligible compared to the PCE concentration in the intruding air. If this assumption is not valid, the actual background concentration can be a model input.

Assuming these assumptions are valid, the ratio of concentrations between the two floors is:

$$\frac{C_{d1}}{C_{d2}} = \frac{X_{d2} \cdot V_{d2}}{Q_{12}} \quad (3)$$

In the ViM simulation, the following data were used:

X_{d2} = 6/day (EPA's default value)

V_{d2} = (100)(2.44) m³ (EPA's default value)

Q_{12} = 180 m³/day (this value is proportionately less than the value shown in the application described in Mills et al. (2007) to account for a smaller apartment building with no preferential pathways). Note that Q_{12} is not the same as the subsurface soil gas flow rate (shown in Figure 1 as Q_s , which typically is in the range of 7.2 m³/day). Q_{12} is much higher than Q_s . Mills et al. (2007) derived the original value of Q_{12} from a tracer test..

Therefore,

$$\frac{C_{d1}}{C_{d2}} = \frac{(6)(100)(2.44)}{180} = 8.1, \text{ so the attenuation factor is } 1/8.1 = 0.12, \text{ approximately the}$$

same as predicted by ViM,

Where:

$$\frac{C_{d1}}{C_{d2}} = \text{concentration ratio between the first floor and second floor}$$

Because site-specific data for an individual unit are not available for this analysis, it is difficult to predict how site-specific features would change the results. The concentration ratio and attenuation ratio are the same as calculated by ViM, but the approach is less complex. Note that this approach does not require chemical property data such as Henry's Law Constant or depth to groundwater. The required data are air exchange rates for each floor, volume of the second story, and air flow from the first story to the second story. Note that the specific data assumptions in the model are the basis for the concentration ratio of 8.1:1 between stories. Although standard default values are available for air exchange rates, no such default data are available for the air flow rate between floors.

The approach for estimating the attenuation factor between the first floor and second floor, Equation (3), is applicable to more than two stories if using the same assumptions as between the first and second stories. Without showing the steps, the attenuation factor between the first story and Nth floor is:

$$\frac{C_{d1}}{C_{dN}} = \prod_{i=2}^N \frac{X_{di}V_{di}}{Q_{i-1,i}} \quad (4)$$

Where:

$$\frac{C_{d1}}{C_{dN}} = \text{concentration ratio between first and N}^{\text{th}} \text{ floors (attenuation factor is inverse of this)}$$

$\prod_{i=2}^N$ = multiplication operator

X_i = air exchange rate of the i^{th} floor

V_i = volume of i^{th} floor

$Q_{i+1,i}$ = volumetric flow rate from i^{th} to $(i+1)^{\text{th}}$ floor

If X_i , V_i , and $Q_{i+1,i}$ do not vary between floors, Equation (4) becomes:

$$\frac{C_{d1}}{C_{dN}} = \left(\frac{X_f V_f}{Q_{f-1,f}} \right)^{N-1} \quad (5)$$

Where:

X_f = air exchange rate of any of the floors

V_f = volume of any of the floors

$Q_{f-1,f}$ = air flow rate from any one floor to the next

As an example of an application of Equation (5), use the same data as before for a four-story building:

$$\frac{C_{d1}}{C_{d4}} = (8.1)^3 = 530, \text{ so the attenuation factor is } 1/530$$

For this example, the first-floor concentration is 530 times greater than the concentration on the fourth floor, assuming all the assumptions made earlier are valid.

The lower limit of Equation (5), the concentration ratio for N stories, is theoretically close to unity. This would occur **only** if all air flow into a floor were to come from the floors below (a very unlikely situation) and not from exchange with outdoor air or from the operation of systems such as Heating, Ventilating, and Air Conditioning (HVAC) systems.

Summary

This memorandum describes two approaches for calculating concentration ratios (or attenuation factors) between floors of an apartment building. One of the approaches is to use the ViM model that simulates migration of vapors between floors in a two-story building. The second approach is to solve mathematically the chemical mass balance equations for each of the floors of the building. The equations used are the same as in ViM for the second floor, and these equations are applicable to additional stories. Comparison of the two approaches (modeling and mathematical formulas) for a second-story apartment showed that predicted results were the same.

As long as the goal of the study is to calculate the ratio of attenuation factors between floors and not the concentrations themselves, the simpler mathematical approach is the preferred choice because implementation requires less data. At best, the use of EPA default data and lack of site-specific data limit the interpretation of the approaches presented here to an order-of-magnitude screening-level analysis. If site-specific data are available, their review and comparison with data using the current approaches will determine their applicability for future modeling efforts.

The attenuation factor between floors derived in this technical memorandum will allow the public health team to determine whether to allow residents to occupy spaces on higher floors in an apartment building. Applying an attenuation factor of 0.1 to active soil gas contaminant concentrations predicts an estimated indoor air concentration for the ground floor. Applying an attenuation factor of 0.12, as derived in this technical memorandum, to the estimated indoor air contaminant concentrations predicts an estimated indoor air concentration on the next higher floor. In some cases, residents may live on the higher floor of a building where field personnel collected active soil gas data. If the estimated ground floor indoor air concentrations were unacceptable, use of the between-floors attenuation factor may help the public health team demonstrate that higher floor indoor air concentrations could be acceptable.

All models have limitations. Before choosing a model for an analysis, the modeler must review the assumptions which form the basis of the model to ensure they are consistent with and applicable to the situation. If not, then the modeler must either choose another model or possibly undertake a field study.

References

Mills, W.B., Liu, S., Rigby, M.C., and Brenner, D., 2007. Time-Variable Simulation of Soil Vapor Intrusion into a Building with a Combined Crawl Space and Basement, *Environmental Science and Technology*, Vol. 41, No. 14, pgs. 4993-5001.

Attachment A

Derivation of Equations

This attachment provides more details of the development of Equations (1) through (5) presented in the technical memorandum, Modeling and Mathematical Analysis of PCE Attenuation Between Floors of Multi-Story Dwellings as it Applies to the Public Health Evaluation, Naples, Italy. Equation (1) is a mass balance of a chemical (PCE in this case) on the second floor of the apartment. In more conceptual terms, Equation (1) is equivalent to:

$$\frac{\Delta M_2}{\Delta t} = M_{in_2} - M_{out_2} \quad (\text{A-1})$$

Where:

M_{in_2} = mass of PCE that enters the building at second story over a time period of Δt
(from all sources)

M_{out_2} = mass of PCE that leaves the building at floor level 2 over time period Δt
(for all sinks)

M_2 = mass of PCE in building at floor level 2

The mass rate that PCE enters floor level 2 depends on the mass entering from ambient air, the flow rate of the ambient air, and the flow rate into the building from the floor below and from any other source. Based on this information:

$$M_{in_2} = Q_2^{in} C_a \quad (\text{A-2})$$

$$M_{out_2} = X_{d2} V_{d2} C_{d2} \quad (\text{A-3})$$

$$Q_2^{in} = X_{d2} V_{d2} C_{d2} \quad (\text{A-4})$$

$$M_2 = V_{d2} \cdot C_{d2} \quad (\text{A-5})$$

Where:

$$\frac{\Delta M_2}{\Delta t} = \text{time rate of change of PCE mass on the second floor}$$

$$V_{d2} = \text{volume of second floor}$$

$$C_a = \text{ambient or background PCE concentration}$$

$$X_{d2} = \text{air exchange rate for the second floor}$$

$$C_{d2} = \text{concentration of PCE on second floor}$$

$$C_{d1} = \text{concentration of PCE on first floor}$$

Combining Equations (A-2) through (A-5) with (A-1), the following results:

$$V_{d2} \frac{\Delta C_{d2}}{\Delta t} = Q_2^{in} C_a + Q_{12} C_{d1} - X_{d2} V_{d2} C_{d2} \quad (\text{A-6})$$

Equation (A-6) is the same as Equation (1) in the memorandum, except the left-hand side in Equation (1) denotes the instantaneous change. From a practical point of view, this makes no difference as we only consider a steady-state condition when that term is zero.

To develop Equation (3), assume the ambient concentration of PCE (C_a) is zero, then Equation (A-6) becomes at steady state:

$$0 = 0 + Q_{12} C_{d1} - X_{d2} \cdot V_{d2} \cdot C_{d2} \quad (\text{A-7})$$

By rearranging (A-7) in terms of the ratio between floors, the following results:

$$\frac{C_{d1}}{C_{d2}} = \frac{X_{d2} \cdot V_{d2}}{Q_{12}} \quad (\text{A-8})$$

This equation is identical to Equation (3) in the memorandum.

For apartments with more than two floors, the logic to derive (A-8) is the same:

$$\frac{C_{d2}}{C_{d3}} = \frac{X_{d3} \cdot V_{d3}}{Q_{23}} \quad (\text{A-9})$$

$$\frac{C_{d3}}{C_{d4}} = \frac{X_{d4} \cdot V_{d4}}{Q_{34}} \quad (\text{A-10})$$

Multiply (A-8) by (A-9) by (A-10):

$$\frac{C_{d1}}{C_{d2}} \cdot \frac{C_{d2}}{C_{d3}} \cdot \frac{C_{d3}}{C_{d4}} = \frac{X_{d2} \cdot V_{d2}}{Q_{12}} \cdot \frac{X_{d3} \cdot V_{d3}}{Q_{23}} \cdot \frac{X_{d4} \cdot V_{d4}}{Q_{34}}$$

or

$$\frac{C_{d1}}{C_{d4}} = \prod_{i=2}^4 \frac{X_{d_i} \cdot V_{d_i}}{Q_{i-1,i}} \quad (\text{A-11})$$

Equation (A-11) is the same as Equation (4) (for two stories). This equation does not show the generalization to N stories.

If exchange rates, floor volumes, and flow rates between stories is constant, Equation (A-11) becomes:

$$\frac{C_{d1}}{C_{d4}} = \prod_{i=2}^4 \frac{X_d \cdot V_d}{Q_{f-1,f}} = \left(\frac{X_d V_d}{Q_{f-1,f}} \right)^3 \quad (\text{A-12})$$

Where:

X_d = air exchange rate of any of the floors

V_d = volume of any of the floors

$Q_{f-1,f}$ = air flow rate from any one floor to the next

Equation (A-12) generalizes to Equation (5) for N floors.

Attachment B

Comparison of J&E and ViM Models



Investigation of Multiple Lines of Evidence for Vapor Intrusion Assessment

Society for Risk Analysis Annual Meeting

December 10, 2008

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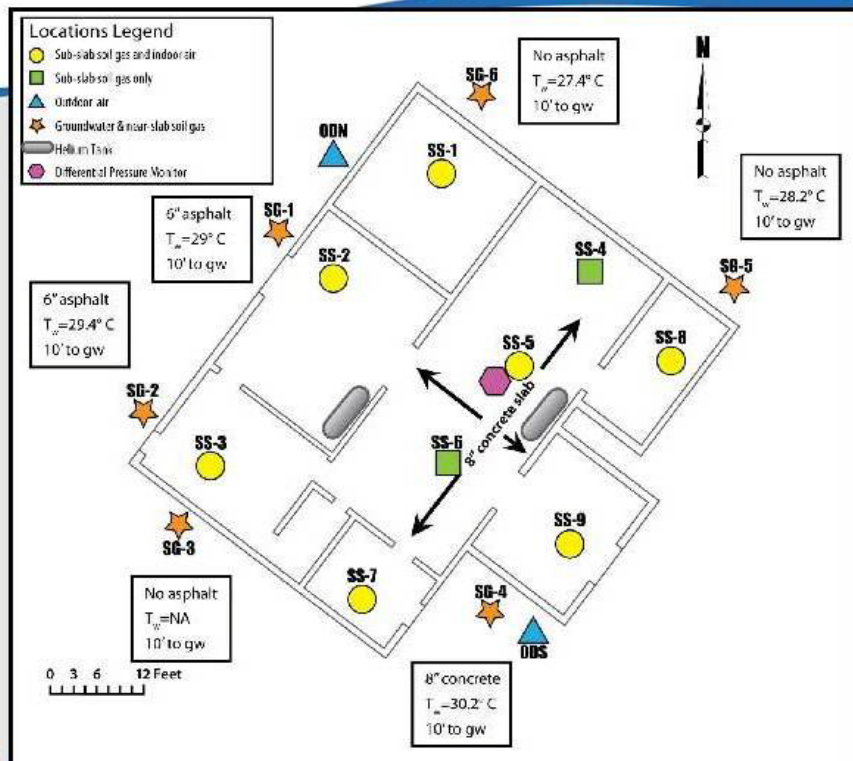
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Sampling Locations



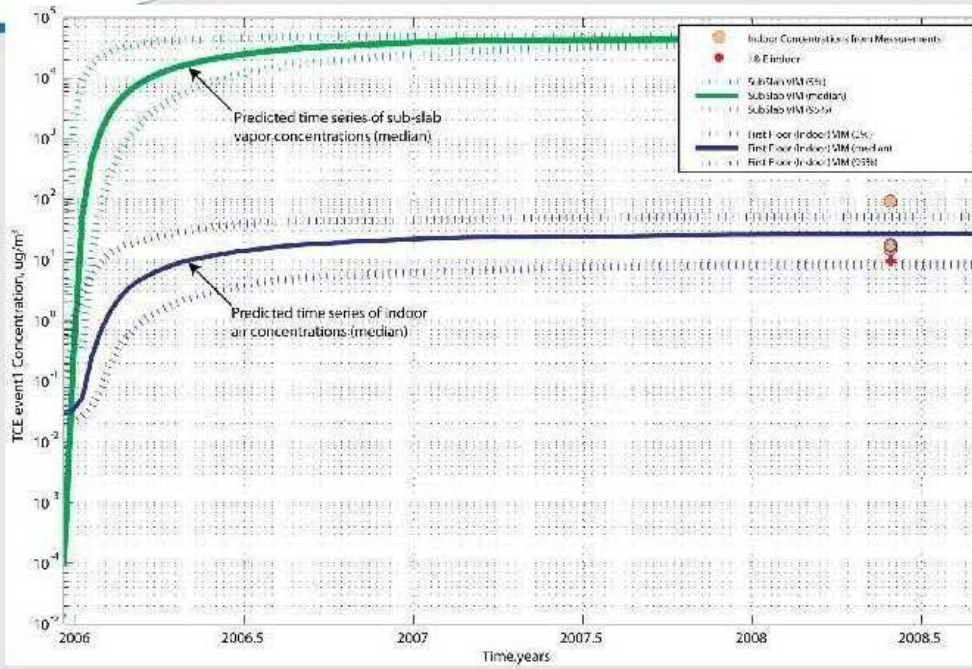
ViM and J&E Comparison

Capability	ViM	J&E/EPA
Basements, slab-on-grade	✓	✓
Crawl space	✓	
Multiple compartments	✓	
Outdoor air intrusion	✓	
Non-steady conditions	✓	
Lifetime exposure	✓	✓
Monte Carlo: Uncertainty Analysis	✓	
Chemical Processes: biodecay, adsorption	✓	
Sensitivity Analysis	✓	✓



TETRA TECH

Example Vapor Intrusion Modeling Results: TCE, HVAC-on, Arithmetic Mean Sub-slab Soil Gas



Example Indoor Air Predictions: HVAC On and Average Sub-slab Soil Gas

Sampled Indoor TCE ¹	J&E predictions ^{2,3}	ViM predictions	ViM Monte Carlo (median)	95% attenuation factor (EPA, 2008)
28	8.0	31	32	76

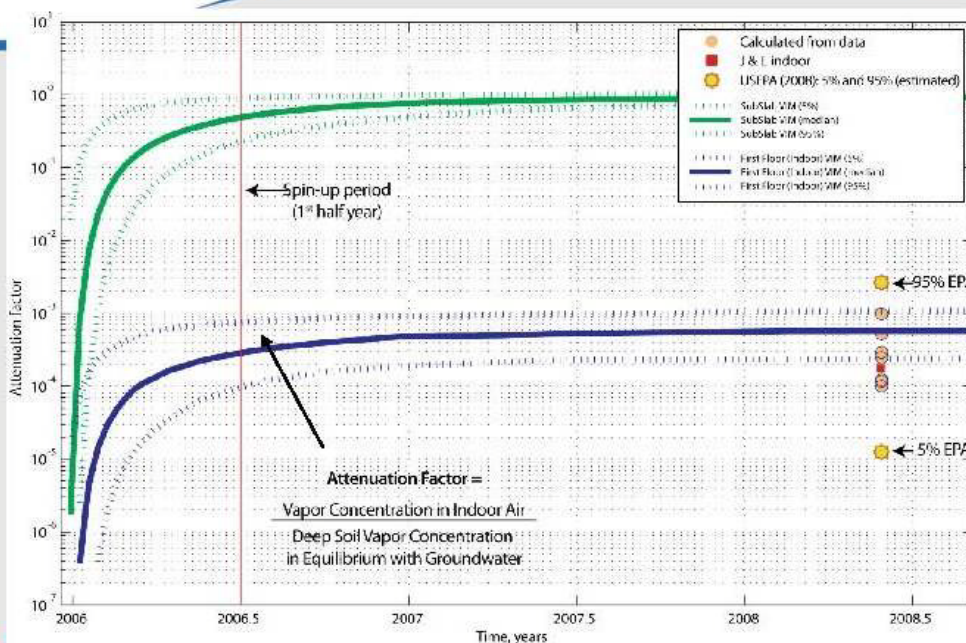
1: All units: ug/m³

2: Using J&E default diffusion coefficient through slab

3: 24 ug/m³, using ViM default diffusion coefficient through slab

Attenuation Factors – TCE

(same modeling scenario as previous)



TETRA TECH

Conclusions from the Alternative Modeling Approaches

- Indoor air TCE best correlated with:
 - Arithmetic average sub-slab soil gas measurements as source term
 - Predicted indoor air concentrations using near-slab and sub-slab soil gas differ by only about 10%
- Groundwater equilibrium vapor concentrations less appropriate source term
 - Predicted indoor air levels averaged 7 times lower than measured concentrations

Appendix C

Summary Statistics for Ambient Air from Naples, Italy and the United States

Appendix C is comprised of 122 pages.



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TABLE OF CONTENTS

SUMMARY STATISTICS FOR AMBIENT AIR COLLECTED IN NAPLES, ITALY AND IN THE U.S..... 1
1.1 OVERVIEW 1
REFERENCES 3

TABLES

TABLE C-1 – AMBIENT AIR STATISTICAL SUMMARY FOR STUDY AREA 1
TABLE C-2 – AMBIENT AIR STATISTICAL SUMMARY FOR STUDY AREA 2
TABLE C-3 – AMBIENT AIR STATISTICAL SUMMARY FOR STUDY AREA 3
TABLE C-4 – AMBIENT AIR STATISTICAL SUMMARY FOR STUDY AREA 4
TABLE C-5 – AMBIENT AIR STATISTICAL SUMMARY FOR STUDY AREA 5
TABLE C-6 – AMBIENT AIR STATISTICAL SUMMARY FOR STUDY AREA 6
TABLE C-7 – AMBIENT AIR STATISTICAL SUMMARY FOR STUDY AREA 7
TABLE C-8 – AMBIENT AIR STATISTICAL SUMMARY FOR STUDY AREA 8
TABLE C-9 – AMBIENT AIR STATISTICAL SUMMARY FOR STUDY AREA 9
TABLE C-10 – AMBIENT AIR STATISTICAL SUMMARY FOR USEPA 2007 AIR TOXICS DATABASE

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SUMMARY STATISTICS FOR AMBIENT AIR COLLECTED IN NAPLES, ITALY AND IN THE U.S.

1.1 Overview

This appendix presents summary statistics for ambient air samples that were collected in Naples, Italy as part of the year-long ambient air sampling and monitoring program (07/09/2008 to 07/08/2009) and at individual residences. In addition, summary statistics are presented for ambient air samples collected from six cities in the United States by the United States Environmental Protection Agency (USEPA) (USEPA, 2007). These data were used to develop exposure point concentrations for (EPCs) for ambient air that are applicable to all residences located within a study area. The data are organized by study area as follows:

- Table C-1 – Study Area 1 – Joint Forces Command (JFC) North Atlantic Treaty Organization (NATO) Site
- Table C-2 – Study Area 2 – U.S. Consulate
- Table C-3 – Study Area 3 – Capodichino
- Table C-4 – Study Area 4 – Carney Park (Carney Park is located within Study Area 1 but was used to evaluate Study Area 4)
- Table C-5 – Study Area 5 – Lago Patria Receiver Site/Parco Artemide
- Table C-6 – Study Area 6 – Gricignano Support Site
- Table C-7 – Study Area 7 – Parco Eva (US Navy-Leased Parco)
- Table C-8 – Study Area 8 – Villa (Home leased by the US Navy for the Public Health Evaluation)
- Table C-9 – Study Area 9 – Parco Le Ginestre (US Navy-Leased Parco)
- Table C-10 – USEPA 2007 Air Toxics Database

Unlike soil, individual tap water samples, and soil gas samples that were collected as part of the Naples Public Health Evaluation, multiple ambient air samples were collected as part of the year-long ambient air study in the Campania Region from the air monitoring stations in each study area from 07/09/2008 to 07/08/2009. Consequently, EPCs for ambient air were determined by calculating the 95% upper confidence limit (UCL) on the mean concentration for all samples collected in each study area (individual ambient air samples that were collected from select residences in the study areas were also included in the calculations). The 95% UCL on the logarithmic mean concentration (calculated using the H-statistic via the Land method) was used as the EPC if the data appeared to be lognormally distributed (5% significance level), the 95% UCL on the arithmetic mean was used if the data appeared to be normally distributed (5% significance level). If the distribution could not be determined (i.e., the data were neither normally or lognormally distributed), the 95% UCL on the arithmetic mean was used as the EPC, which is typically a reasonable assumption for data sets with over 30 data points because they tend to approximate a normal distribution. The maximum detected concentration was used if the 95% UCL on the logarithmic mean concentration or 95% UCL on the arithmetic mean concentration exceeded the maximum detected concentration. Nondetects were included in the statistical calculations using a

surrogate value of half the detection limit. Prior to performing the statistical analysis on the ambient air data, the data were pre-processed as described below:

- Field duplicate results were averaged based on the following decision rules:
 - If both results were detected, then the average concentration was calculated
 - If one result was detected and the other result was not detected, then the detected result was used as the concentration for the sample.
 - If both results were not detected, then the lower of the detection limits was used as the quantitation limit for the sample.
- In instances where a COPC's result was reported by the laboratory using different analytical methods, only one result was retained in the analytical database based on the following decision rules:
 - If both results were detected, then the higher of the two results was used as the concentration for the sample.
 - If one result was detected and the other result was not detected, then the detected result was used as the concentration for the sample.
 - If both results were not detected, then the lower of the detection limits was used as the quantitation limit for the sample.

REFERENCES

USEPA. 2007. U.S. EPA 2007 Air Toxics Database: (1) San Diego County, California (2) Los Angeles County, California (3) King County (Seattle), Washington (4) Harris County (Houston), Texas (5) Ellis County (Dallas/Midlothian) Texas. (6) Washington DC. http://www.epa.gov/aqspubl1/annual_summary.html.

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Tables

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Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde	mg/m3	52	94.23	0.0004	0.0009	0.0003	0.087	0.006	0.001	
Benzaldehyde	mg/m3	49	87.76	0.00001	0.0003	0.00009	0.015	0.001	0.0004	
Butyraldehyde	mg/m3	49	73.47	0.00003	0.00003	0.00005	0.0009	0.0002	0.0001	0.00001
Crotonaldehyde	mg/m3	49	14.29	0.00001	0.00002	0.00002	0.0002	0.00002	0.000007	0.000007
Formaldehyde	mg/m3	49	91.84	0.002	0.004	0.0006	0.006	0.002	0.002	
Hexaldehyde	mg/m3	49	71.43	0.00002	0.0002	0.00006	0.0005	0.0002	0.0001	0.00001
M-tolualdehyde	mg/m3	49	53.06	0.00001	0.0001	0.00004	0.003	0.0002	0.00006	0.000007
Methacrylaldehyde	mg/m3	49	59.18	0.00001	0.00002	0.00002	0.0004	0.0001	0.00007	0.000007
N-valeraldehyde	mg/m3	49	71.43	0.00001	0.00001	0.00003	0.0010	0.00010	0.00006	0.000007
Propionaldehyde	mg/m3	49	85.71	0.000007	0.0005	0.00004	0.0009	0.0002	0.0001	
Dioxins/Furans										
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	49	71.43	0.0000000000	0.0000000000	0.0000000000	0.0000000005	0.0000000000	0.0000000000	
Inorganics										
Aluminum	mg/m3	49	79.59	0.00004	0.001	0.00002	0.001	0.0002	0.0001	
Antimony	mg/m3	49	0.00	0.000003	0.000007			0.000003	0.000003	
Arsenic	mg/m3	49	77.55	0.0000002	0.000002	0.0000005	0.000008	0.000002	0.000001	
Barium	mg/m3	49	77.55	0.000003	0.0002	0.000003	0.00002	0.000009	0.000006	
Beryllium	mg/m3	49	0.00	0.0000001	0.0000002			0.00000009	0.00000009	
Cadmium (Diet)	mg/m3	49	34.69	0.0000001	0.0000005	0.0000002	0.000002	0.0000002	0.00000010	
Chromium	mg/m3	49	36.73	0.0000004	0.000006	0.0000006	0.000007	0.000002	0.000001	
Cobalt	mg/m3	49	42.86	0.00000008	0.0000003	0.0000001	0.0000007	0.0000001	0.00000007	
Copper	mg/m3	49	0.00	0.0003	0.0007			0.0003	0.0003	
Iron	mg/m3	49	0.00	0.007	0.013			0.005	0.006	
Lead	mg/m3	49	85.71	0.000001	0.000006	0.000002	0.00002	0.000006	0.000005	
Manganese (Diet)	mg/m3	49	61.22	0.0000002	0.00002	0.0000008	0.00003	0.000006	0.000005	
Mercury	mg/m3	50	80.00	0.00000006	0.000008	0.000000002	0.000008	0.000003	0.000002	
Nickel	mg/m3	49	0.00	0.0002	0.0003			0.0001	0.0001	
Selenium	mg/m3	49	0.00	0.00003	0.00007			0.00003	0.00003	
Silver	mg/m3	49	0.00	0.00003	0.00007			0.00003	0.00003	
Thallium	mg/m3	49	16.33	0.0000007	0.000002	0.000001	0.000007	0.000001	0.0000006	
Tin	mg/m3	49	44.90	0.0000002	0.000010	0.0000003	0.000007	0.000002	0.000001	
Vanadium	mg/m3	49	4.08	0.000007	0.00001	0.00001	0.00002	0.000006	0.000006	

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics										
Zinc	mg/m3	49	0.00	0.002	0.003			0.001	0.001	
Polychlorinated bi-phenyls										
Aroclor 1016	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1221	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1232	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1242	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1248	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1254	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1260	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Pesticides										
4,4-DDD	mg/m3	49	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
4,4-DDE	mg/m3	49	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
4,4-DDT	mg/m3	49	0.00	0.0000009	0.000001			0.0000005	0.0000005	
Aldrin	mg/m3	49	0.00	0.0000010	0.000001			0.0000006	0.0000006	
Dieldrin	mg/m3	49	0.00	0.0000007	0.0000009			0.0000004	0.0000004	
Endosulfan I	mg/m3	49	0.00	0.000001	0.000001			0.0000007	0.0000007	
Endosulfan II	mg/m3	49	0.00	0.0000005	0.0000006			0.0000003	0.0000003	
Endosulfan Sulfate	mg/m3	49	0.00	0.000001	0.000001			0.0000006	0.0000006	
Endrin	mg/m3	49	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
Endrin Aldehyde	mg/m3	49	0.00	0.0000002	0.0000003			0.0000001	0.0000001	
Heptachlor	mg/m3	49	0.00	0.0000005	0.0000007			0.0000003	0.0000003	
Heptachlor Epoxide	mg/m3	49	0.00	0.0000006	0.0000007			0.0000003	0.0000003	
Methoxychlor	mg/m3	49	0.00	0.000002	0.000002			0.000001	0.000001	
Toxaphene	mg/m3	49	0.00	0.0000010	0.0001			0.000005	0.000005	
alpha-BHC	mg/m3	49	0.00	0.0000003	0.0000004			0.0000002	0.0000002	
alpha-Chlordane	mg/m3	49	0.00	0.0000005	0.0000006			0.0000003	0.0000003	
beta-BHC	mg/m3	49	0.00	0.0000002	0.0000002			0.0000009	0.0000009	
delta-BHC	mg/m3	49	0.00	0.0000006	0.0000007			0.0000003	0.0000003	
gamma-BHC (Lindane)	mg/m3	49	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
gamma-Chlordane	mg/m3	49	0.00	0.000001	0.000002			0.0000008	0.0000008	

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
PM-10										
Gravimetrics-PM10	mg/m3	49	97.96	0.004	0.004	0.006	0.160	0.04	0.03	
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	mg/m3	49	36.73	0.000003	0.000004	0.000004	0.000010	0.000003	0.000002	
1,2,4,5-Tetrachlorobenzene	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
2,3,4,6-Tetrachlorophenol	mg/m3	49	0.00	0.000003	0.000004			0.000002	0.000002	0.000002
2,4,5-Trichlorophenol	mg/m3	49	4.08	0.000008	0.000010	0.000003	0.000006	0.000006	0.000005	
2,4,6-Trichlorophenol	mg/m3	49	4.08	0.000005	0.000007	0.000004	0.000006	0.000005	0.000003	
2,4-Dichlorophenol	mg/m3	49	14.29	0.000005	0.000007	0.000007	0.000004	0.000006	0.000003	
2,4-Dimethylphenol	mg/m3	49	42.86	0.000005	0.000007	0.000007	0.000004	0.000010	0.000003	
2,4-Dinitrophenol	mg/m3	45	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
2,4-Dinitrotoluene	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
2,6-Dichlorophenol	mg/m3	49	10.20	0.000003	0.000003	0.000005	0.000003	0.000003	0.000002	
2,6-Dinitrotoluene	mg/m3	49	2.04	0.000003	0.000003	0.000001	0.000001	0.000002	0.000002	0.000002
2-Chloronaphthalene	mg/m3	49	4.08	0.000003	0.000003	0.000005	0.000007	0.000002	0.000002	
2-Chlorophenol	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
2-Methylnaphthalene	mg/m3	49	12.24	0.000003	0.000001	0.000004	0.000001	0.000002	0.000002	0.000002
2-Methylphenol (o-Cresol)	mg/m3	49	32.65	0.000003	0.000006	0.000005	0.000005	0.000006	0.000002	0.000002
2-Nitrophenol	mg/m3	49	2.04	0.000005	0.000007	0.000001	0.000001	0.000003	0.000003	0.000003
3&4-Methylphenol	mg/m3	49	40.82	0.000002	0.000002	0.000002	0.000001	0.000003	0.000001	
3-Nitroaniline	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
4,6-Dinitro-2-Methylphenol	mg/m3	49	0.00	0.000001	0.000002			0.000007	0.000008	0.000008
4-Bromophenylphenylether	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
4-Chloro-3-Methylphenol	mg/m3	49	8.16	0.000005	0.000007	0.000001	0.000005	0.000005	0.000003	
4-Chloroaniline	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
4-Nitroaniline	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
4-Nitrophenol	mg/m3	47	0.00	0.000008	0.000010			0.000004	0.000005	0.000005
Acenaphthene	mg/m3	49	8.16	0.000003	0.000003	0.000007	0.000010	0.000002	0.000002	
Acenaphthylene	mg/m3	49	22.45	0.000003	0.000003	0.000004	0.000001	0.000003	0.000002	
Aniline	mg/m3	49	2.04	0.000003	0.000007	0.000002	0.000002	0.000002	0.000002	0.000002
Anthracene	mg/m3	49	16.33	0.000003	0.000003	0.000003	0.000009	0.000002	0.000002	0.000002
Atrazine	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
Benzo(a)anthracene	mg/m3	49	4.08	0.000003	0.000003	0.000004	0.000006	0.000002	0.000002	0.000002

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Semi-Volatile Organic Compounds										
Benzo(a)pyrene	mg/m3	49	6.12	0.0000002	0.0000003	0.0000003	0.0000006	0.0000001	0.0000001	0.0000001
Benzo(b)fluoranthene	mg/m3	49	4.08	0.0000005	0.0000007	0.0000007	0.0000007	0.0000003	0.0000003	0.0000003
Benzo(g,h,i)perylene	mg/m3	49	4.08	0.0000003	0.0000003	0.0000005	0.0000003	0.0000002	0.0000002	0.0000002
Benzo(k)fluoranthene	mg/m3	49	4.08	0.0000005	0.0000007	0.0000007	0.0000008	0.0000003	0.0000003	0.0000003
Bis(2-ethylhexyl)phthalate	mg/m3	49	40.82	0.0000003	0.000009	0.000005	0.000008	0.000001	0.000008	
Butylbenzylphthalate	mg/m3	49	8.16	0.0000003	0.000003	0.0000007	0.000003	0.000002	0.0000002	0.0000002
Carbazole	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002
Chrysene	mg/m3	49	20.41	0.0000003	0.0000003	0.0000004	0.0000009	0.0000002	0.0000002	0.0000002
Di-n-butylphthalate	mg/m3	49	51.02	0.0000003	0.000007	0.000004	0.0001	0.000003	0.000002	
Di-n-octylphthalate	mg/m3	49	0.00	0.0000005	0.0000007			0.0000003	0.0000003	0.0000003
Dibenzo(a,h)anthracene	mg/m3	49	2.04	0.0000002	0.0000002	0.0000003	0.0000003	0.0000001	0.0000001	0.0000001
Dibenzofuran	mg/m3	49	59.18	0.0000003	0.0000003	0.0000004	0.0000003	0.0000009	0.0000005	
Diethylphthalate	mg/m3	49	42.86	0.0000001	0.000001	0.0000003	0.000004	0.0000005	0.0000004	
Dimethylphthalate	mg/m3	49	26.53	0.0000003	0.0000005	0.0000003	0.0000002	0.0000003	0.0000002	
Diphenylamine	mg/m3	49	14.29	0.0000003	0.0000003	0.0000003	0.0000002	0.0000003	0.0000002	0.0000002
Fluoranthene	mg/m3	49	97.96	0.0000003	0.0000003	0.0000006	0.0000003	0.0000001	0.0000001	
Fluorene	mg/m3	49	75.51	0.0000003	0.0000005	0.0000003	0.0000002	0.0000009	0.0000008	
Hexachlorobenzene	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002
Hexachlorobutadiene	mg/m3	55	32.73	0.0000003	0.002	0.0002	0.003	0.0004	0.0001	0.0001
Hexachlorocyclopentadiene	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002
Hexachloroethane	mg/m3	55	1.82	0.0000003	0.000007	0.0002	0.0002	0.00002	0.0000002	0.000004
Indeno(1,2,3-c,d)pyrene	mg/m3	49	0.00	0.0000001	0.0000002			0.0000007	0.0000008	0.0000008
Naphthalene	mg/m3	52	30.77	0.0000003	0.0002	0.0000004	0.001	0.000003	0.0000004	0.0000002
Nitrobenzene	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002
Pentachlorobenzene	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002
Pentachloronitrobenzene	mg/m3	49	0.00	0.0000004	0.0000007			0.0000003	0.0000003	
Pentachlorophenol	mg/m3	49	0.00	0.0000008	0.0000010			0.0000004	0.0000005	0.0000005
Phenanthrene	mg/m3	49	93.88	0.0000002	0.0000005	0.0000002	0.000001	0.0000005	0.0000004	
Phenol	mg/m3	49	20.41	0.0000003	0.0000008	0.0000008	0.000004	0.0000008	0.0000002	0.0000002
Pyrene	mg/m3	49	97.96	0.0000003	0.0000003	0.0000005	0.0000003	0.0000001	0.0000001	0.0000005
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	49	22.45	0.0000006	0.0000008	0.0000000004	0.0000001	0.0000003	0.0000003	0.0000004
o-Toluidine	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	mg/m3	51	1.96	0.0002	0.0002	0.0002	0.0002	0.00009	0.00009	0.00009
1,1,1-Trichloroethane	mg/m3	51	25.49	0.0002	0.0002	0.0002	0.0003	0.0001	0.00008	0.00008
1,1,2,2-Tetrachloroethane	mg/m3	51	15.69	0.00004	0.0001	0.0002	0.0004	0.00006	0.00002	0.00002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	51	94.12	0.00008	0.0002	0.0004	0.002	0.0007	0.0007	0.00004
1,1,2-Trichloroethane	mg/m3	51	0.00	0.00008	0.00008			0.00004	0.00004	0.00004
1,1-Dichloroethane	mg/m3	51	1.96	0.00005	0.00005	0.0002	0.0002	0.00003	0.00003	0.00003
1,1-Dichloroethene	mg/m3	51	3.92	0.00010	0.00010	0.0001	0.0002	0.00005	0.00005	0.00005
1,2,3-Trichlorobenzene	mg/m3	48	12.50	0.0004	0.0004	0.0008	0.003	0.0004	0.0002	0.0002
1,2,3-Trichloropropane	mg/m3	51	1.96	0.00007	0.00007	0.0002	0.0002	0.00004	0.00004	0.00004
1,2,4-Trichlorobenzene	mg/m3	49	34.69	0.0002	0.002	0.0005	0.004	0.0006	0.0002	0.00010
1,2,4-Trimethylbenzene	mg/m3	51	92.16	0.00005	0.0004	0.0002	0.004	0.0009	0.0007	0.00003
1,2-Dibromo-3-Chloropropane	mg/m3	48	4.17	0.00010	0.00010	0.0003	0.0003	0.00006	0.00005	0.00005
1,2-Dibromoethane	mg/m3	51	3.92	0.0001	0.0001	0.0002	0.0002	0.00006	0.00006	0.00006
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	51	7.84	0.0003	0.0003	0.0003	0.0004	0.0001	0.0001	0.0001
1,2-Dichlorobenzene	mg/m3	51	19.61	0.00010	0.0003	0.0001	0.0009	0.0001	0.00005	0.00005
1,2-Dichloroethane	mg/m3	51	9.80	0.00010	0.00010	0.0001	0.0003	0.00006	0.00005	0.00005
1,2-Dichloropropane	mg/m3	51	66.67	0.00009	0.0004	0.0002	0.026	0.002	0.0004	0.00005
1,3,5-Trimethylbenzene	mg/m3	51	86.27	0.00005	0.0004	0.00008	0.001	0.0003	0.0002	0.00003
1,3-Butadiene	mg/m3	51	0.00	0.0005	0.0005			0.0002	0.0002	0.0002
1,3-Dichlorobenzene	mg/m3	51	21.57	0.00009	0.0002	0.0001	0.0009	0.0001	0.00005	0.00005
1,4-Dichlorobenzene	mg/m3	50	24.00	0.00009	0.0002	0.0001	0.0009	0.0001	0.00005	0.00005
2-Butanone (methyl ethyl ketone)	mg/m3	52	84.62	0.000007	0.0003	0.0005	0.004	0.002	0.001	0.0002
Acetone	mg/m3	51	94.12	0.001	0.001	0.004	0.068	0.01	0.01	0.0005
Acetonitrile	mg/m3	51	25.49	0.0004	0.0004	0.0004	0.002	0.0003	0.0002	0.0002
Acetophenone	mg/m3	49	32.65	0.001	0.001	0.001	0.061	0.004	0.0005	0.0005
Acrolein	mg/m3	51	68.63	0.0004	0.0004	0.0006	0.011	0.002	0.001	0.0002
Acrylonitrile	mg/m3	51	7.84	0.0002	0.0002	0.0005	0.0007	0.0001	0.00010	0.00010
Benzene	mg/m3	51	92.16	0.00003	0.0005	0.0002	0.004	0.001	0.0010	0.001
Bis(2-Chloroethyl)ether	mg/m3	51	0.00	0.0002	0.0002			0.00008	0.00008	0.00008
Bromodichloromethane	mg/m3	51	1.96	0.0002	0.0002	0.0007	0.0007	0.00009	0.00008	0.00008
Bromoform	mg/m3	51	1.96	0.0001	0.0001	0.0002	0.0002	0.00006	0.00006	0.00006
Bromomethane	mg/m3	51	15.69	0.00007	0.00007	0.0001	0.0003	0.00007	0.00004	0.00004
Carbon Disulfide	mg/m3	51	78.43	0.00010	0.002	0.0001	0.025	0.002	0.0004	0.00005

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Carbon Tetrachloride	mg/m3	51	94.12	0.0002	0.0007	0.0003	0.0009	0.0006	0.0006	0.0006
Chlorobenzene	mg/m3	51	13.73	0.00004	0.0004	0.0001	0.0004	0.00005	0.00002	0.00002
Chloroethane	mg/m3	51	3.92	0.0001	0.0001	0.0002	0.0010	0.00008	0.00006	0.00006
Chloroform	mg/m3	51	41.18	0.0001	0.0002	0.0001	0.0005	0.0001	0.00006	0.00006
Chloromethane	mg/m3	51	90.20	0.00007	0.00007	0.0007	0.004	0.001	0.002	0.00004
Cyclohexane	mg/m3	51	62.75	0.0001	0.0001	0.0001	0.007	0.0010	0.0003	0.00006
Dibromochloromethane	mg/m3	51	0.00	0.0002	0.0002			0.0001	0.0001	0.0001
Dibromomethane	mg/m3	51	5.88	0.0002	0.0002	0.0002	0.0002	0.00008	0.00008	0.00008
Dichlorodifluoromethane (Freon 12)	mg/m3	51	96.08	0.0002	0.0002	0.001	0.003	0.002	0.002	0.002
Ethylbenzene	mg/m3	51	88.24	0.00003	0.0006	0.0002	0.002	0.0007	0.0005	0.00002
Hexane	mg/m3	51	90.20	0.0002	0.0002	0.0002	0.127	0.010	0.0008	0.00009
Isobutyl Alcohol	mg/m3	51	17.65	0.0005	0.0005	0.001	0.004	0.0006	0.0002	0.0002
Isopropylbenzene	mg/m3	51	15.69	0.00007	0.00007	0.0001	0.0004	0.00006	0.00004	0.00004
Methyl Acetate	mg/m3	51	37.25	0.0003	0.0003	0.0003	0.0008	0.0002	0.0001	0.0001
Methyl tert-Butyl Ether	mg/m3	51	45.10	0.0002	0.0002	0.0003	0.003	0.0005	0.00009	0.00009
Methylcyclohexane	mg/m3	51	60.78	0.00008	0.00008	0.0001	0.021	0.001	0.0002	0.00004
Methylene Chloride	mg/m3	51	94.12	0.00008	0.00008	0.0002	0.016	0.001	0.0006	0.00004
Pentachloroethane	mg/m3	51	0.00	0.0003	0.0003			0.0001	0.0001	0.0001
Styrene	mg/m3	51	45.10	0.00007	0.0003	0.0001	0.015	0.0005	0.0001	0.00004
Tetrachloroethene	mg/m3	51	49.02	0.001	0.001	0.001	0.006	0.002	0.0007	0.0007
Toluene	mg/m3	51	98.04	0.0003	0.0003	0.0004	0.025	0.004	0.003	0.002
Trans-1,4-Dichloro-2-Butene	mg/m3	49	0.00	0.0002	0.0002			0.00009	0.00009	0.00009
Trichloroethene	mg/m3	51	21.57	0.00008	0.0003	0.00009	0.0005	0.00008	0.00004	0.00004
Trichlorofluoromethane	mg/m3	51	98.04	0.0003	0.0003	0.0009	0.003	0.002	0.002	0.001
Vinyl Acetate	mg/m3	51	11.76	0.0001	0.0001	0.001	0.011	0.0005	0.00006	0.00006
Vinyl Chloride	mg/m3	51	1.96	0.00007	0.00007	0.0002	0.0002	0.00004	0.00004	0.00004
Xylenes, Total	mg/m3	51	98.04	0.002	0.002	0.0002	0.012	0.003	0.002	
cis-1,2-Dichloroethene	mg/m3	51	1.96	0.00009	0.00009	0.0002	0.0002	0.00005	0.00005	0.00005
cis-1,3-Dichloropropene	mg/m3	51	5.88	0.00004	0.00004	0.00007	0.0002	0.00003	0.00002	0.00002
m,p-Xylenes	mg/m3	51	98.04	0.001	0.001	0.0002	0.009	0.002	0.002	0.001
o-Xylene	mg/m3	51	86.27	0.00006	0.0007	0.0002	0.004	0.0008	0.0006	0.00003
trans-1,2-Dichloroethene	mg/m3	51	1.96	0.0001	0.0001	0.0002	0.0002	0.00006	0.00006	0.00006
trans-1,3-Dichloropropene	mg/m3	51	1.96	0.00007	0.00007	0.0002	0.0002	0.00004	0.00004	0.00004

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde	mg/m3	0.02	0.010	0.010	0.007	Unknown
Benzaldehyde	mg/m3	0.003	0.001	0.002	0.001	Lognormal
Butyraldehyde	mg/m3	0.0002	0.0002	0.0002	0.0004	Unknown
Crotonaldehyde	mg/m3	0.00004	0.00003	0.00003	0.00002	Unknown
Formaldehyde	mg/m3	0.001	0.003	0.003	0.003	Lognormal
Hexaldehyde	mg/m3	0.0001	0.0002	0.0002	0.0004	Unknown
M-tolualdehyde	mg/m3	0.0005	0.0003	0.0003	0.0005	Unknown
Methacrylaldehyde	mg/m3	0.0001	0.0001	0.0001	0.0003	Unknown
N-valeraldehyde	mg/m3	0.0002	0.0001	0.0001	0.0002	Unknown
Propionaldehyde	mg/m3	0.0002	0.0002	0.0002	0.0003	Unknown
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	0.0000000000	0.0000000000	0.0000000000	0.0000000000	Unknown
Inorganics						
Aluminum	mg/m3	0.0002	0.0003	0.0003	0.0003	Lognormal
Antimony	mg/m3	0.0000003		0.000003	0.000003	Unknown
Arsenic	mg/m3	0.000002	0.000002	0.000002	0.000004	Unknown
Barium	mg/m3	0.00002	0.00001	0.00001	0.00001	Unknown
Beryllium	mg/m3	0.0000001		0.0000009	0.0000009	Normal
Cadmium (Diet)	mg/m3	0.0000003	0.0000003	0.0000003	0.0000002	Unknown
Chromium	mg/m3	0.000001	0.000002	0.000002	0.000002	Unknown
Cobalt	mg/m3	0.0000001	0.0000002	0.0000002	0.0000002	Unknown
Copper	mg/m3	0.00003		0.0003	0.0003	Unknown
Iron	mg/m3	0.0006		0.006	0.006	Unknown
Lead	mg/m3	0.000005	0.000007	0.000007	0.000009	Unknown
Manganese (Diet)	mg/m3	0.000006	0.000007	0.000007	0.00001	Unknown
Mercury	mg/m3	0.000002	0.000003	0.000003	0.000008	Unknown
Nickel	mg/m3	0.00002		0.0001	0.0001	Unknown
Selenium	mg/m3	0.000003		0.00003	0.00003	Unknown
Silver	mg/m3	0.000003		0.00003	0.00003	Unknown
Thallium	mg/m3	0.000001	0.000001	0.000001	0.000001	Unknown
Tin	mg/m3	0.000001	0.000003	0.000002	0.000003	Lognormal
Vanadium	mg/m3	0.000002	0.000006	0.000006	0.000006	Unknown

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics						
Zinc	mg/m3	0.0002		0.001	0.001	Unknown
Polychlorinated bi-phenyls						
Aroclor 1016	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1221	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1232	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1242	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1248	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1254	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1260	mg/m3	0.000001		0.000006	0.00001	Unknown
Pesticides						
4,4-DDD	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDE	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDT	mg/m3	0.00000003		0.0000005	0.0000005	Unknown
Aldrin	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Dieldrin	mg/m3	0.00000002		0.0000004	0.0000004	Unknown
Endosulfan I	mg/m3	0.00000004		0.0000007	0.0000007	Unknown
Endosulfan II	mg/m3	0.00000001		0.0000003	0.0000003	Unknown
Endosulfan Sulfate	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Endrin	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Endrin Aldehyde	mg/m3	0.00000007		0.0000001	0.0000001	Unknown
Heptachlor	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Heptachlor Epoxide	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Methoxychlor	mg/m3	0.00000006		0.000001	0.000001	Unknown
Toxaphene	mg/m3	0.00001		0.00005	0.0001	Unknown
alpha-BHC	mg/m3	0.000000010		0.0000002	0.0000002	Unknown
alpha-Chlordane	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
beta-BHC	mg/m3	0.000000005		0.00000009	0.00000009	Unknown
delta-BHC	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
gamma-BHC (Lindane)	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
gamma-Chlordane	mg/m3	0.00000004		0.0000008	0.0000008	Unknown

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
PM-10						
Gravimetrics-PM10	mg/m3	0.02	0.05	0.05	0.05	Unknown
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	mg/m3	0.0000002	0.0000004	0.0000004	0.0000004	Unknown
1,2,4,5-Tetrachlorobenzene	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
2,3,4,6-Tetrachlorophenol	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,4,5-Trichlorophenol	mg/m3	0.0000009	0.0000008	0.0000008	0.0000006	Unknown
2,4,6-Trichlorophenol	mg/m3	0.0000009	0.0000007	0.0000007	0.0000004	Unknown
2,4-Dichlorophenol	mg/m3	0.0000001	0.0000009	0.0000009	0.0000006	Unknown
2,4-Dimethylphenol	mg/m3	0.0000001	0.0000001	0.0000001	0.0000001	Unknown
2,4-Dinitrophenol	mg/m3	0.00000010		0.0000002	0.0000002	Unknown
2,4-Dinitrotoluene	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
2,6-Dichlorophenol	mg/m3	0.0000005	0.0000004	0.0000004	0.0000003	Unknown
2,6-Dinitrotoluene	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
2-Chloronaphthalene	mg/m3	0.00000010	0.0000002	0.0000002	0.0000002	Unknown
2-Chlorophenol	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
2-Methylnaphthalene	mg/m3	0.0000002	0.0000003	0.0000003	0.0000003	Unknown
2-Methylphenol (o-Cresol)	mg/m3	0.0000009	0.0000008	0.0000008	0.0000008	Unknown
2-Nitrophenol	mg/m3	0.0000001	0.0000003	0.0000003	0.0000003	Unknown
3&4-Methylphenol	mg/m3	0.0000003	0.0000003	0.0000003	0.0000003	Unknown
3-Nitroaniline	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
4,6-Dinitro-2-Methylphenol	mg/m3	0.00000005		0.0000007	0.0000007	Unknown
4-Bromophenylphenylether	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
4-Chloro-3-Methylphenol	mg/m3	0.0000009	0.0000007	0.0000007	0.0000005	Unknown
4-Chloroaniline	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
4-Nitroaniline	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
4-Nitrophenol	mg/m3	0.00000003		0.0000005	0.0000005	Unknown
Acenaphthene	mg/m3	0.0000002	0.0000003	0.0000003	0.0000002	Unknown
Acenaphthylene	mg/m3	0.0000002	0.0000003	0.0000003	0.0000003	Unknown
Aniline	mg/m3	0.0000003	0.0000003	0.0000003	0.0000002	Unknown
Anthracene	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
Atrazine	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
Benzo(a)anthracene	mg/m3	0.00000007	0.0000002	0.0000002	0.0000002	Unknown
Benzo(a)pyrene	mg/m3	0.00000008	0.0000002	0.0000002	0.0000001	Unknown

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	mg/m3	0.00000008	0.0000003	0.0000003	0.0000003	Unknown
Benzo(g,h,i)perylene	mg/m3	0.00000004	0.0000003	0.0000003	0.0000002	Unknown
Benzo(k)fluoranthene	mg/m3	0.00000009	0.0000003	0.0000003	0.0000003	Unknown
Bis(2-ethylhexyl)phthalate	mg/m3	0.00001	0.00002	0.00002	0.00005	Unknown
Butylbenzylphthalate	mg/m3	0.000005	0.000003	0.000003	0.000001	Unknown
Carbazole	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
Chrysene	mg/m3	0.0000002	0.0000003	0.0000003	0.0000003	Unknown
Di-n-butylphthalate	mg/m3	0.00003	0.00004	0.00003	0.00004	Lognormal
Di-n-octylphthalate	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Dibenzo(a,h)anthracene	mg/m3	0.00000003	0.0000001	0.0000001	0.0000001	Unknown
Dibenzofuran	mg/m3	0.0000009	0.000001	0.000001	0.000001	Unknown
Diethylphthalate	mg/m3	0.000006	0.000006	0.000007	0.000006	Lognormal
Dimethylphthalate	mg/m3	0.0000003	0.0000004	0.0000004	0.0000003	Unknown
Diphenylamine	mg/m3	0.0000004	0.0000004	0.0000004	0.0000004	Unknown
Fluoranthene	mg/m3	0.0000006	0.000001	0.000001	0.000002	Unknown
Fluorene	mg/m3	0.0000006	0.000001	0.000001	0.000001	Unknown
Hexachlorobenzene	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
Hexachlorobutadiene	mg/m3	0.0006	0.0006	0.0006	0.004	Unknown
Hexachlorocyclopentadiene	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
Hexachloroethane	mg/m3	0.00004	0.00003	0.00003	0.0005	Unknown
Indeno(1,2,3-c,d)pyrene	mg/m3	0.00000005		0.0000007	0.0000007	Unknown
Naphthalene	mg/m3	0.0002	0.00007	0.00007	0.000009	Unknown
Nitrobenzene	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
Pentachlorobenzene	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
Pentachloronitrobenzene	mg/m3	0.00000004		0.0000003	0.0000003	Unknown
Pentachlorophenol	mg/m3	0.00000003		0.0000004	0.0000004	Unknown
Phenanthrene	mg/m3	0.000002	0.000006	0.000005	0.000006	Lognormal
Phenol	mg/m3	0.0000010	0.0000010	0.0000010	0.000001	Unknown
Pyrene	mg/m3	0.0000004	0.000001	0.000001	0.000001	Normal
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	0.0000002	0.0000003	0.0000003	0.0000009	Unknown
o-Toluidine	mg/m3	0.00000001		0.0000001	0.0000001	Unknown

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	mg/m3	0.00002	0.00010	0.00010	0.00010	Unknown
1,1,1-Trichloroethane	mg/m3	0.00006	0.0001	0.0001	0.0001	Unknown
1,1,2,2-Tetrachloroethane	mg/m3	0.00009	0.00008	0.00008	0.00006	Unknown
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	0.0003	0.0007	0.0007	0.0009	Unknown
1,1,2-Trichloroethane	mg/m3			0.00004	0.00004	Unknown
1,1-Dichloroethane	mg/m3	0.00003	0.00004	0.00004	0.00003	Unknown
1,1-Dichloroethene	mg/m3	0.00003	0.00006	0.00006	0.00006	Unknown
1,2,3-Trichlorobenzene	mg/m3	0.0005	0.0005	0.0005	0.0004	Unknown
1,2,3-Trichloropropane	mg/m3	0.00002	0.00004	0.00004	0.00004	Unknown
1,2,4-Trichlorobenzene	mg/m3	0.0008	0.0008	0.0008	0.0009	Unknown
1,2,4-Trimethylbenzene	mg/m3	0.0007	0.001	0.001	0.001	Unknown
1,2-Dibromo-3-Chloropropane	mg/m3	0.00005	0.00007	0.00007	0.00006	Unknown
1,2-Dibromoethane	mg/m3	0.00002	0.00007	0.00007	0.00007	Unknown
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	0.00005	0.0002	0.0002	0.0002	Unknown
1,2-Dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0001	Unknown
1,2-Dichloroethane	mg/m3	0.00004	0.00007	0.00007	0.00007	Unknown
1,2-Dichloropropane	mg/m3	0.005	0.008	0.004	0.008	Lognormal
1,3,5-Trimethylbenzene	mg/m3	0.0003	0.0004	0.0004	0.0004	Unknown
1,3-Butadiene	mg/m3			0.0002	0.0002	Unknown
1,3-Dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0001	Unknown
1,4-Dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
2-Butanone (methyl ethyl ketone)	mg/m3	0.001	0.002	0.002	0.003	Normal
Acetone	mg/m3	0.01	0.02	0.02	0.02	Unknown
Acetonitrile	mg/m3	0.0003	0.0004	0.0004	0.0004	Unknown
Acetophenone	mg/m3	0.01	0.007	0.007	0.005	Unknown
Acrolein	mg/m3	0.002	0.003	0.002	0.003	Lognormal
Acrylonitrile	mg/m3	0.0001	0.0002	0.0002	0.0001	Unknown
Benzene	mg/m3	0.0007	0.001	0.001	0.002	Unknown
Bis(2-Chloroethyl)ether	mg/m3			0.00008	0.00008	Unknown
Bromodichloromethane	mg/m3	0.00009	0.0001	0.0001	0.00009	Unknown
Bromoform	mg/m3	0.00003	0.00007	0.00007	0.00006	Unknown
Bromomethane	mg/m3	0.00008	0.00008	0.00008	0.00007	Unknown
Carbon Disulfide	mg/m3	0.004	0.003	0.002	0.003	Lognormal

Table C-1: Ambient Air Statistical Summary for Study Area 1

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Carbon Tetrachloride	mg/m3	0.0002	0.0006	0.0006	0.0007	Unknown
Chlorobenzene	mg/m3	0.00008	0.00007	0.00007	0.00006	Unknown
Chloroethane	mg/m3	0.0001	0.0001	0.0001	0.00007	Unknown
Chloroform	mg/m3	0.0001	0.0002	0.0002	0.0002	Unknown
Chloromethane	mg/m3	0.0006	0.002	0.002	0.003	Unknown
Cyclohexane	mg/m3	0.002	0.002	0.001	0.002	Lognormal
Dibromochloromethane	mg/m3			0.0001	0.0001	Unknown
Dibromomethane	mg/m3	0.00003	0.00009	0.00009	0.00009	Unknown
Dichlorodifluoromethane (Freon 12)	mg/m3	0.0007	0.002	0.002	0.003	Normal
Ethylbenzene	mg/m3	0.0005	0.0008	0.0008	0.001	Unknown
Hexane	mg/m3	0.02	0.02	0.02	0.02	Lognormal
Isobutyl Alcohol	mg/m3	0.0009	0.0008	0.0008	0.0007	Unknown
Isopropylbenzene	mg/m3	0.00007	0.00008	0.00008	0.00006	Unknown
Methyl Acetate	mg/m3	0.0002	0.0003	0.0003	0.0003	Unknown
Methyl tert-Butyl Ether	mg/m3	0.0007	0.0007	0.0007	0.0009	Unknown
Methylcyclohexane	mg/m3	0.003	0.002	0.002	0.002	Unknown
Methylene Chloride	mg/m3	0.003	0.002	0.002	0.002	Unknown
Pentachloroethane	mg/m3			0.0001	0.0001	Unknown
Styrene	mg/m3	0.002	0.0010	0.0010	0.0005	Unknown
Tetrachloroethene	mg/m3	0.001	0.002	0.002	0.002	Unknown
Toluene	mg/m3	0.004	0.005	0.005	0.005	Unknown
Trans-1,4-Dichloro-2-Butene	mg/m3	0.0000000000		0.00009	0.00009	Unknown
Trichloroethene	mg/m3	0.00009	0.0001	0.0001	0.00009	Unknown
Trichlorofluoromethane	mg/m3	0.0004	0.002	0.002	0.002	Unknown
Vinyl Acetate	mg/m3	0.002	0.0009	0.0009	0.0004	Unknown
Vinyl Chloride	mg/m3	0.00003	0.00005	0.00005	0.00004	Unknown
Xylenes, Total	mg/m3	0.002	0.004	0.004	0.004	Lognormal
cis-1,2-Dichloroethene	mg/m3	0.00002	0.00005	0.00005	0.00005	Unknown
cis-1,3-Dichloropropene	mg/m3	0.00004	0.00004	0.00004	0.00003	Unknown
m,p-Xylenes	mg/m3	0.002	0.003	0.003	0.003	Lognormal
o-Xylene	mg/m3	0.0007	0.0010	0.0010	0.001	Unknown
trans-1,2-Dichloroethene	mg/m3	0.00002	0.00006	0.00006	0.00006	Unknown
trans-1,3-Dichloropropene	mg/m3	0.00002	0.00004	0.00004	0.00004	Unknown

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde	mg/m3	48	93.75	0.00005	0.0008	0.0003	0.061	0.007	0.002	
Benzaldehyde	mg/m3	48	93.75	0.00001	0.0002	0.0002	0.004	0.0005	0.0004	
Butyraldehyde	mg/m3	48	77.08	0.00003	0.00003	0.00006	0.005	0.0004	0.0003	
Crotonaldehyde	mg/m3	48	25.00	0.00001	0.00002	0.00002	0.0002	0.00003	0.00007	0.00007
Formaldehyde	mg/m3	48	89.58	0.003	0.006	0.0004	0.008	0.003	0.003	
Hexaldehyde	mg/m3	48	68.75	0.00002	0.0003	0.00004	0.0006	0.0002	0.0002	0.00001
M-tolualdehyde	mg/m3	48	39.58	0.00001	0.0002	0.00006	0.001	0.0001	0.00001	0.00007
Methacrylaldehyde	mg/m3	48	68.75	0.00001	0.00002	0.00002	0.0004	0.0001	0.00008	0.00007
N-valeraldehyde	mg/m3	48	81.25	0.00001	0.00001	0.00003	0.0008	0.0001	0.00009	0.00007
Propionaldehyde	mg/m3	48	85.42	0.000007	0.0004	0.00003	0.004	0.0003	0.0002	
Dioxins/Furans										
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	49	75.51	0.0000000000	0.0000000000	0.0000000000	0.0000000004	0.0000000000	0.0000000000	
Inorganics										
Aluminum	mg/m3	49	83.67	0.00001	0.003	0.00004	0.003	0.0005	0.0003	
Antimony	mg/m3	49	48.98	0.000004	0.00001	0.000004	0.00002	0.00007	0.00004	
Arsenic	mg/m3	49	69.39	0.0000003	0.0000009	0.0000004	0.00002	0.00003	0.00001	
Barium	mg/m3	49	83.67	0.000003	0.0003	0.000004	0.00008	0.00003	0.00002	
Beryllium	mg/m3	49	4.08	0.0000001	0.0000009	0.0000002	0.0000005	0.0000001	0.0000009	
Cadmium (Diet)	mg/m3	49	40.82	0.0000001	0.000001	0.0000002	0.000004	0.0000004	0.0000001	
Chromium	mg/m3	49	61.22	0.0000005	0.00001	0.0000008	0.00002	0.000006	0.000005	
Cobalt	mg/m3	49	69.39	0.00000009	0.0000007	0.00000009	0.000001	0.0000003	0.0000002	
Copper	mg/m3	49	2.04	0.0003	0.007	0.007	0.007	0.0005	0.0003	
Iron	mg/m3	49	0.00	0.007	0.027			0.006	0.006	
Lead	mg/m3	49	87.76	0.000001	0.00004	0.000002	0.00004	0.00001	0.00009	
Manganese (Diet)	mg/m3	49	81.63	0.0000002	0.00006	0.000002	0.0001	0.00002	0.00001	
Mercury	mg/m3	50	76.00	0.0000007	0.000003	0.0000003	0.000008	0.000002	0.000002	
Nickel	mg/m3	49	0.00	0.0002	0.0007			0.0002	0.0001	
Selenium	mg/m3	49	0.00	0.00003	0.0001			0.00003	0.00003	
Silver	mg/m3	49	0.00	0.00003	0.0001			0.00003	0.00003	
Thallium	mg/m3	49	12.24	0.0000007	0.000004	0.000001	0.000008	0.0000010	0.0000006	
Tin	mg/m3	49	77.55	0.0000002	0.00002	0.000001	0.00003	0.000009	0.000007	
Vanadium	mg/m3	49	14.29	0.000007	0.00002	0.00001	0.00004	0.000008	0.000006	

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics										
Zinc	mg/m3	49	0.00	0.002	0.007			0.002	0.001	
Polychlorinated bi-phenyls										
Aroclor 1016	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1221	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1232	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1242	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1248	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1254	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1260	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Pesticides										
4,4-DDD	mg/m3	48	0.00	0.0000004	0.0000005			0.0000002	0.0000002	0.0000002
4,4-DDE	mg/m3	48	0.00	0.0000004	0.0000006			0.0000002	0.0000002	0.0000003
4,4-DDT	mg/m3	48	0.00	0.0000009	0.000001			0.0000005	0.0000005	0.0000005
Aldrin	mg/m3	48	0.00	0.000001	0.000001			0.0000006	0.0000006	0.0000006
Dieldrin	mg/m3	48	2.08	0.0000007	0.0000009	0.000001	0.000001	0.0000004	0.0000004	0.0000004
Endosulfan I	mg/m3	48	0.00	0.000001	0.000002			0.0000007	0.0000007	0.0000007
Endosulfan II	mg/m3	48	0.00	0.0000005	0.0000006			0.0000003	0.0000003	0.0000003
Endosulfan Sulfate	mg/m3	48	0.00	0.000001	0.000001			0.0000006	0.0000006	0.0000006
Endrin	mg/m3	48	0.00	0.0000004	0.0000005			0.0000002	0.0000002	0.0000002
Endrin Aldehyde	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000001	0.0000001
Heptachlor	mg/m3	48	0.00	0.0000006	0.0000007			0.0000003	0.0000003	0.0000003
Heptachlor Epoxide	mg/m3	48	0.00	0.0000006	0.0000008			0.0000003	0.0000004	0.0000004
Methoxychlor	mg/m3	48	0.00	0.000002	0.000002			0.000001	0.000001	0.000001
Toxaphene	mg/m3	48	0.00	0.0000010	0.0001			0.000005	0.000006	0.000006
alpha-BHC	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
alpha-Chlordane	mg/m3	48	0.00	0.0000005	0.0000007			0.0000003	0.0000003	0.0000003
beta-BHC	mg/m3	48	0.00	0.0000002	0.0000002			0.0000009	0.0000009	0.0000009
delta-BHC	mg/m3	48	0.00	0.0000006	0.0000008			0.0000003	0.0000003	0.0000003
gamma-BHC (Lindane)	mg/m3	48	0.00	0.0000004	0.0000006			0.0000002	0.0000002	0.0000003
gamma-Chlordane	mg/m3	48	0.00	0.000001	0.000002			0.0000008	0.0000008	0.0000008

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
PM-10										
Gravimetrics-PM10	mg/m3	49	100.00			0.026	0.266	0.07	0.05	
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	mg/m3	49	53.06	0.000003	0.000004	0.000003	0.000002	0.000004	0.000003	
1,2,4,5-Tetrachlorobenzene	mg/m3	48	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
2,3,4,6-Tetrachlorophenol	mg/m3	48	0.00	0.000003	0.000004			0.000002	0.000002	0.000002
2,4,5-Trichlorophenol	mg/m3	48	4.17	0.000008	0.000001	0.000002	0.000008	0.000007	0.000005	0.000005
2,4,6-Trichlorophenol	mg/m3	48	2.08	0.000005	0.000007	0.000007	0.000007	0.000004	0.000003	0.000003
2,4-Dichlorophenol	mg/m3	48	8.33	0.000005	0.000007	0.000009	0.000004	0.000005	0.000003	0.000003
2,4-Dimethylphenol	mg/m3	49	67.35	0.000005	0.000006	0.000008	0.000007	0.000002	0.000001	
2,4-Dinitrophenol	mg/m3	43	0.00	0.000003	0.000003			0.000002	0.000002	0.000002
2,4-Dinitrotoluene	mg/m3	48	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
2,6-Dichlorophenol	mg/m3	48	6.25	0.000003	0.000003	0.000010	0.000003	0.000003	0.000002	0.000002
2,6-Dinitrotoluene	mg/m3	48	2.08	0.000003	0.000003	0.000001	0.000001	0.000002	0.000002	0.000002
2-Chloronaphthalene	mg/m3	48	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
2-Chlorophenol	mg/m3	48	0.00	0.000003	0.000003			0.000002	0.000002	0.000002
2-Methylnaphthalene	mg/m3	49	30.61	0.000003	0.000002	0.000004	0.000003	0.000005	0.000002	0.000002
2-Methylphenol (o-Cresol)	mg/m3	48	47.92	0.000003	0.000008	0.000010	0.000004	0.000001	0.000004	
2-Nitrophenol	mg/m3	48	4.17	0.000005	0.000007	0.000007	0.000010	0.000003	0.000003	0.000003
3&4-Methylphenol	mg/m3	48	62.50	0.000002	0.000003	0.000002	0.000001	0.000004	0.000003	
3-Nitroaniline	mg/m3	48	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
4,6-Dinitro-2-Methylphenol	mg/m3	48	0.00	0.000001	0.000002			0.000008	0.000008	0.000008
4-Bromophenylphenylether	mg/m3	48	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
4-Chloro-3-Methylphenol	mg/m3	48	4.17	0.000005	0.000007	0.000001	0.000001	0.000005	0.000003	0.000003
4-Chloroaniline	mg/m3	48	4.17	0.000003	0.000003	0.000004	0.000004	0.000002	0.000002	0.000002
4-Nitroaniline	mg/m3	48	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
4-Nitrophenol	mg/m3	46	10.87	0.000008	0.000010	0.000001	0.000005	0.000008	0.000005	0.000005
Acenaphthene	mg/m3	48	8.33	0.000003	0.000003	0.000003	0.000001	0.000002	0.000002	0.000002
Acenaphthylene	mg/m3	49	53.06	0.000003	0.000003	0.000003	0.000002	0.000006	0.000003	
Aniline	mg/m3	48	2.08	0.000003	0.000003	0.000001	0.000001	0.000002	0.000002	0.000002
Anthracene	mg/m3	49	75.51	0.000003	0.000003	0.000004	0.000008	0.000009	0.000008	
Atrazine	mg/m3	48	0.00	0.000003	0.000003			0.000001	0.000002	0.000002
Benzo(a)anthracene	mg/m3	48	0.00	0.000003	0.000003			0.000001	0.000002	0.000002

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Semi-Volatile Organic Compounds										
Benzo(a)pyrene	mg/m3	48	4.17	0.0000002	0.0000003	0.0000003	0.0000005	0.0000001	0.0000001	0.0000001
Benzo(b)fluoranthene	mg/m3	48	0.00	0.0000005	0.0000007			0.0000003	0.0000003	0.0000003
Benzo(g,h,i)perylene	mg/m3	48	6.25	0.0000003	0.0000003	0.0000007	0.0000003	0.0000002	0.0000002	0.0000002
Benzo(k)fluoranthene	mg/m3	48	0.00	0.0000005	0.0000007			0.0000003	0.0000003	0.0000003
Bis(2-ethylhexyl)phthalate	mg/m3	49	53.06	0.0000003	0.0001	0.000003	0.003	0.00008	0.00001	
Butylbenzylphthalate	mg/m3	48	0.00	0.0000003	0.000009			0.0000003	0.0000002	0.0000002
Carbazole	mg/m3	48	2.08	0.0000003	0.0000003	0.0000004	0.0000004	0.0000002	0.0000002	0.0000002
Chrysene	mg/m3	48	20.83	0.0000003	0.0000003	0.0000003	0.000001	0.0000003	0.0000002	
Di-n-butylphthalate	mg/m3	49	51.02	0.000003	0.00005	0.000007	0.0002	0.00003	0.00001	
Di-n-octylphthalate	mg/m3	48	0.00	0.0000005	0.0000007			0.0000003	0.0000003	0.0000003
Dibenzo(a,h)anthracene	mg/m3	48	0.00	0.0000002	0.0000002			0.0000001	0.0000001	0.0000001
Dibenzofuran	mg/m3	49	59.18	0.0000003	0.0000003	0.0000004	0.000004	0.0000010	0.0000005	
Diethylphthalate	mg/m3	49	44.90	0.000001	0.00002	0.000004	0.00002	0.000006	0.000005	
Dimethylphthalate	mg/m3	49	53.06	0.0000003	0.000001	0.0000003	0.000002	0.0000005	0.0000005	
Diphenylamine	mg/m3	48	16.67	0.0000003	0.000004	0.0000004	0.000006	0.0000006	0.0000002	0.0000002
Fluoranthene	mg/m3	49	100.00			0.0000005	0.000006	0.000003	0.000003	
Fluorene	mg/m3	49	77.55	0.0000003	0.0000003	0.0000005	0.000004	0.000001	0.000001	
Hexachlorobenzene	mg/m3	48	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002
Hexachlorobutadiene	mg/m3	49	32.65	0.0002	0.002	0.0002	0.003	0.0004	0.0002	0.0001
Hexachlorocyclopentadiene	mg/m3	48	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002
Hexachloroethane	mg/m3	49	0.00	0.0000003	0.0007			0.00003	0.0000002	0.00004
Indeno(1,2,3-c,d)pyrene	mg/m3	48	0.00	0.000001	0.000002			0.0000007	0.0000008	0.0000008
Naphthalene	mg/m3	49	38.78	0.0000003	0.000003	0.0000004	0.003	0.00008	0.0000006	
Nitrobenzene	mg/m3	48	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002
Pentachlorobenzene	mg/m3	48	2.08	0.0000003	0.0000003	0.0000008	0.0000008	0.0000002	0.0000002	0.0000002
Pentachloronitrobenzene	mg/m3	48	0.00	0.0000004	0.0000007			0.0000003	0.0000003	0.0000003
Pentachlorophenol	mg/m3	48	0.00	0.0000008	0.000001			0.0000005	0.0000005	0.0000005
Phenanthrene	mg/m3	49	100.00			0.000002	0.00002	0.000010	0.000008	
Phenol	mg/m3	49	42.86	0.0000003	0.000003	0.0000009	0.000006	0.000002	0.0000010	
Pyrene	mg/m3	49	100.00			0.0000008	0.000006	0.000003	0.000003	
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	48	20.83	0.0000006	0.0000008	0.0000000003	0.0000005	0.0000003	0.0000004	
o-Toluidine	mg/m3	48	0.00	0.0000003	0.0000003			0.0000001	0.0000002	0.0000002

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	mg/m3	49	2.04	0.0002	0.002	0.0002	0.0002	0.0001	0.00009	0.00009
1,1,1-Trichloroethane	mg/m3	49	20.41	0.0002	0.002	0.0002	0.0003	0.0001	0.00008	0.00008
1,1,2,2-Tetrachloroethane	mg/m3	49	18.37	0.00004	0.0004	0.0001	0.001	0.00008	0.00002	0.00002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	mg/m3	49	69.39	0.00008	0.0008	0.0004	0.0010	0.0005	0.0006	0.00004
1,1,2-Trichloroethane	mg/m3	49	2.04	0.00008	0.0008	0.0002	0.0002	0.00006	0.00004	0.00004
1,1-Dichloroethane	mg/m3	49	0.00	0.00005	0.0005			0.00003	0.00003	0.00003
1,1-Dichloroethene	mg/m3	49	6.12	0.00010	0.001	0.0001	0.0002	0.00008	0.00005	0.00005
1,2,3-Trichlorobenzene	mg/m3	46	8.70	0.0004	0.004	0.001	0.020	0.0008	0.0002	0.0002
1,2,3-Trichloropropane	mg/m3	49	0.00	0.00007	0.0007			0.00005	0.00004	0.00004
1,2,4-Trichlorobenzene	mg/m3	47	31.91	0.0002	0.002	0.0006	0.019	0.001	0.00010	0.00010
1,2,4-Trimethylbenzene	mg/m3	49	100.00			0.0001	0.008	0.003	0.003	
1,2-Dibromo-3-Chloropropane	mg/m3	47	4.26	0.00010	0.001	0.0003	0.0003	0.00008	0.00005	0.00005
1,2-Dibromoethane	mg/m3	49	2.04	0.0001	0.001	0.0002	0.0002	0.00008	0.00006	0.00006
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon)	mg/m3	49	2.04	0.0003	0.003	0.0004	0.0004	0.0002	0.0001	0.0001
1,2-Dichlorobenzene	mg/m3	49	20.41	0.00010	0.001	0.0001	0.0010	0.0001	0.00005	0.00005
1,2-Dichloroethane	mg/m3	49	16.33	0.00010	0.001	0.0001	0.0003	0.00009	0.00005	0.00005
1,2-Dichloropropane	mg/m3	49	83.67	0.00009	0.0003	0.0002	0.027	0.003	0.0009	0.00005
1,3,5-Trimethylbenzene	mg/m3	49	100.00			0.0001	0.002	0.0008	0.0008	0.001
1,3-Butadiene	mg/m3	49	4.08	0.0005	0.005	0.0005	0.0007	0.0003	0.0002	0.0002
1,3-Dichlorobenzene	mg/m3	49	22.45	0.00009	0.0009	0.00009	0.0009	0.0001	0.00005	0.00005
1,4-Dichlorobenzene	mg/m3	48	27.08	0.00009	0.0009	0.0002	0.0009	0.0002	0.00005	0.00005
2-Butanone (methyl ethyl ketone)	mg/m3	49	85.71	0.0003	0.003	0.00001	0.009	0.002	0.002	0.0002
Acetone	mg/m3	49	93.88	0.001	0.001	0.004	0.539	0.03	0.01	0.0005
Acetonitrile	mg/m3	49	46.94	0.0004	0.004	0.0004	0.105	0.003	0.0004	0.0002
Acetophenone	mg/m3	47	19.15	0.001	0.010	0.002	0.128	0.007	0.0005	0.0005
Acrolein	mg/m3	49	65.31	0.0004	0.004	0.0005	0.007	0.002	0.002	0.0002
Acrylonitrile	mg/m3	49	8.16	0.0002	0.002	0.0004	0.0007	0.0002	0.00010	0.00010
Benzene	mg/m3	49	100.00			0.0001	0.007	0.003	0.003	0.002
Bis(2-Chloroethyl)ether	mg/m3	49	0.00	0.0002	0.002			0.0001	0.00008	0.00008
Bromodichloromethane	mg/m3	49	2.04	0.0002	0.002	0.0007	0.0007	0.0001	0.00008	0.00008
Bromoform	mg/m3	49	4.08	0.0001	0.001	0.0002	0.0003	0.00008	0.00006	0.00006
Bromomethane	mg/m3	49	6.12	0.00007	0.0007	0.0002	0.0003	0.00006	0.00004	0.00004
Carbon Disulfide	mg/m3	49	79.59	0.00010	0.00010	0.0001	0.039	0.003	0.0008	0.00005

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Carbon Tetrachloride	mg/m3	49	91.84	0.0001	0.001	0.0001	0.0009	0.0006	0.0006	0.0007
Chlorobenzene	mg/m3	49	16.33	0.00004	0.0004	0.00008	0.0006	0.00007	0.00002	0.00002
Chloroethane	mg/m3	49	2.04	0.0001	0.001	0.0004	0.0004	0.00008	0.00006	0.00006
Chloroform	mg/m3	49	36.73	0.0001	0.001	0.0001	0.0004	0.0001	0.00006	0.00006
Chloromethane	mg/m3	49	89.80	0.00007	0.0007	0.0008	0.030	0.002	0.001	0.00004
Cyclohexane	mg/m3	49	65.31	0.0001	0.001	0.0002	0.007	0.001	0.0006	0.00006
Dibromochloromethane	mg/m3	49	0.00	0.0002	0.002			0.0002	0.0001	0.0001
Dibromomethane	mg/m3	49	6.12	0.0002	0.002	0.0002	0.0003	0.0001	0.00008	0.00008
Dichlorodifluoromethane (Freon 12)	mg/m3	49	93.88	0.0002	0.0002	0.0006	0.005	0.002	0.002	0.00009
Ethylbenzene	mg/m3	49	100.00			0.0001	0.006	0.002	0.002	0.001
Hexane	mg/m3	49	97.96	0.0002	0.0002	0.0003	0.238	0.02	0.002	
Isobutyl Alcohol	mg/m3	49	14.29	0.0005	0.005	0.0006	0.014	0.0008	0.0002	0.0002
Isopropylbenzene	mg/m3	49	30.61	0.00007	0.0007	0.0001	0.0010	0.0001	0.00004	0.00004
Methyl Acetate	mg/m3	49	28.57	0.0003	0.003	0.0003	0.0008	0.0003	0.0001	0.0001
Methyl tert-Butyl Ether	mg/m3	49	57.14	0.0002	0.002	0.0010	0.011	0.002	0.002	0.00009
Methylcyclohexane	mg/m3	49	79.59	0.00008	0.0008	0.0001	0.008	0.0007	0.0004	0.00004
Methylene Chloride	mg/m3	49	95.92	0.00008	0.00008	0.0003	0.026	0.001	0.0008	0.00004
Pentachloroethane	mg/m3	49	0.00	0.0003	0.003			0.0002	0.0001	0.0001
Styrene	mg/m3	49	57.14	0.00007	0.0007	0.00010	0.003	0.0005	0.0003	0.00004
Tetrachloroethene	mg/m3	49	61.22	0.001	0.007	0.001	0.028	0.003	0.002	0.0007
Toluene	mg/m3	49	100.00			0.0001	0.026	0.01	0.01	0.01
Trans-1,4-Dichloro-2-Butene	mg/m3	47	0.00	0.0002	0.002			0.0001	0.00009	0.00009
Trichloroethene	mg/m3	49	28.57	0.00008	0.0008	0.00010	0.001	0.0001	0.00004	0.00004
Trichlorofluoromethane	mg/m3	49	93.88	0.0003	0.003	0.0008	0.002	0.002	0.002	0.002
Vinyl Acetate	mg/m3	49	10.20	0.0001	0.001	0.002	0.007	0.0005	0.00006	0.00006
Vinyl Chloride	mg/m3	49	6.12	0.00007	0.0007	0.0002	0.0004	0.00006	0.00004	0.00004
Xylenes, Total	mg/m3	49	100.00			0.0003	0.029	0.01	0.01	
cis-1,2-Dichloroethene	mg/m3	49	6.12	0.00009	0.0009	0.0002	0.0006	0.00008	0.00005	0.00005
cis-1,3-Dichloropropene	mg/m3	49	8.16	0.00004	0.0004	0.0001	0.0003	0.00004	0.00002	0.00002
m,p-Xylenes	mg/m3	49	100.00			0.0002	0.021	0.008	0.008	0.007
o-Xylene	mg/m3	49	100.00			0.0001	0.008	0.003	0.003	0.002
trans-1,2-Dichloroethene	mg/m3	49	2.04	0.0001	0.001	0.0002	0.0002	0.00008	0.00006	0.00006
trans-1,3-Dichloropropene	mg/m3	49	4.08	0.00007	0.0007	0.0002	0.0003	0.00005	0.00004	0.00004

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde	mg/m3	0.01	0.01	0.01	0.01	Unknown
Benzaldehyde	mg/m3	0.0005	0.0007	0.0007	0.0009	Unknown
Butyraldehyde	mg/m3	0.0007	0.0005	0.0005	0.0008	Unknown
Crotonaldehyde	mg/m3	0.00005	0.00004	0.00004	0.00004	Unknown
Formaldehyde	mg/m3	0.001	0.003	0.003	0.003	Unknown
Hexaldehyde	mg/m3	0.0001	0.0002	0.0002	0.0004	Unknown
M-tolualdehyde	mg/m3	0.0003	0.0002	0.0002	0.0004	Unknown
Methacrylaldehyde	mg/m3	0.0001	0.0002	0.0002	0.0004	Unknown
N-valeraldehyde	mg/m3	0.0001	0.0002	0.0002	0.0002	Unknown
Propionaldehyde	mg/m3	0.0005	0.0004	0.0004	0.0005	Unknown
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	0.0000000000	0.0000000000	0.0000000000	0.0000000000	Unknown
Inorganics						
Aluminum	mg/m3	0.0005	0.0007	0.0006	0.0007	Lognormal
Antimony	mg/m3	0.000005	0.000008	0.000008	0.000008	Unknown
Arsenic	mg/m3	0.000004	0.000004	0.000004	0.000006	Unknown
Barium	mg/m3	0.00002	0.00004	0.00003	0.00004	Lognormal
Beryllium	mg/m3	0.00000008	0.0000001	0.0000001	0.0000001	Unknown
Cadmium (Diet)	mg/m3	0.0000007	0.0000005	0.0000005	0.0000005	Unknown
Chromium	mg/m3	0.000006	0.000008	0.000008	0.00001	Unknown
Cobalt	mg/m3	0.0000003	0.0000004	0.0000004	0.0000004	Lognormal
Copper	mg/m3	0.001	0.0008	0.0008	0.0005	Unknown
Iron	mg/m3	0.002		0.007	0.007	Unknown
Lead	mg/m3	0.000009	0.00001	0.00001	0.00002	Unknown
Manganese (Diet)	mg/m3	0.00002	0.00002	0.00002	0.00004	Unknown
Mercury	mg/m3	0.000002	0.000003	0.000003	0.000003	Unknown
Nickel	mg/m3	0.00004		0.0002	0.0002	Unknown
Selenium	mg/m3	0.000008		0.00003	0.00003	Unknown
Silver	mg/m3	0.000008		0.00003	0.00003	Unknown
Thallium	mg/m3	0.000001	0.000001	0.000001	0.000001	Unknown
Tin	mg/m3	0.000007	0.00001	0.00001	0.00002	Unknown
Vanadium	mg/m3	0.000005	0.000009	0.000009	0.000009	Unknown

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics						
Zinc	mg/m3	0.0004		0.002	0.002	Unknown
Polychlorinated bi-phenyls						
Aroclor 1016	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1221	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1232	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1242	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1248	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1254	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1260	mg/m3	0.000001		0.000006	0.00001	Unknown
Pesticides						
4,4-DDD	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDE	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDT	mg/m3	0.00000002		0.0000005	0.0000005	Unknown
Aldrin	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Dieldrin	mg/m3	0.0000001	0.0000005	0.0000005	0.0000004	Unknown
Endosulfan I	mg/m3	0.00000003		0.0000007	0.0000007	Unknown
Endosulfan II	mg/m3	0.00000001		0.0000003	0.0000003	Unknown
Endosulfan Sulfate	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Endrin	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Endrin Aldehyde	mg/m3	0.000000007		0.0000001	0.0000001	Unknown
Heptachlor	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Heptachlor Epoxide	mg/m3	0.00000002		0.0000004	0.0000004	Unknown
Methoxychlor	mg/m3	0.00000005		0.000001	0.000001	Unknown
Toxaphene	mg/m3	0.00001		0.00005	0.0001	Unknown
alpha-BHC	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
alpha-Chlordane	mg/m3	0.00000001		0.0000003	0.0000003	Unknown
beta-BHC	mg/m3	0.000000004		0.00000009	0.00000009	Unknown
delta-BHC	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
gamma-BHC (Lindane)	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
gamma-Chlordane	mg/m3	0.00000004		0.0000008	0.0000008	Unknown

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
PM-10						
Gravimetrics-PM10	mg/m3	0.05	0.08	0.08	0.08	Unknown
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	mg/m3	0.0000004	0.0000005	0.0000005	0.0000006	Unknown
1,2,4,5-Tetrachlorobenzene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
2,3,4,6-Tetrachlorophenol	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,4,5-Trichlorophenol	mg/m3	0.0000001	0.0000009	0.0000009	0.0000006	Unknown
2,4,6-Trichlorophenol	mg/m3	0.0000009	0.0000007	0.0000007	0.0000004	Unknown
2,4-Dichlorophenol	mg/m3	0.0000008	0.0000007	0.0000007	0.0000005	Unknown
2,4-Dimethylphenol	mg/m3	0.0000002	0.0000002	0.0000002	0.0000003	Unknown
2,4-Dinitrophenol	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
2,4-Dinitrotoluene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
2,6-Dichlorophenol	mg/m3	0.0000005	0.0000004	0.0000004	0.0000003	Unknown
2,6-Dinitrotoluene	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
2-Chloronaphthalene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
2-Chlorophenol	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
2-Methylnaphthalene	mg/m3	0.0000006	0.0000007	0.0000007	0.0000006	Unknown
2-Methylphenol (o-Cresol)	mg/m3	0.0000001	0.0000001	0.0000001	0.0000002	Unknown
2-Nitrophenol	mg/m3	0.0000001	0.0000003	0.0000003	0.0000003	Unknown
3&4-Methylphenol	mg/m3	0.0000003	0.0000005	0.0000005	0.0000005	Unknown
3-Nitroaniline	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
4,6-Dinitro-2-Methylphenol	mg/m3	0.00000005		0.0000008	0.0000008	Unknown
4-Bromophenylphenylether	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
4-Chloro-3-Methylphenol	mg/m3	0.0000001	0.0000009	0.0000009	0.0000005	Unknown
4-Chloroaniline	mg/m3	0.00000005	0.0000002	0.0000002	0.0000002	Unknown
4-Nitroaniline	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
4-Nitrophenol	mg/m3	0.0000010	0.0000001	0.0000001	0.0000008	Unknown
Acenaphthene	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
Acenaphthylene	mg/m3	0.0000006	0.0000007	0.0000007	0.0000008	Unknown
Aniline	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
Anthracene	mg/m3	0.0000001	0.0000001	0.0000001	0.0000001	Unknown
Atrazine	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
Benzo(a)anthracene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
Benzo(a)pyrene	mg/m3	0.00000006	0.0000001	0.0000001	0.0000001	Unknown

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Benzo(g,h,i)perylene	mg/m3	0.00000004	0.0000003	0.0000003	0.0000002	Unknown
Benzo(k)fluoranthene	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Bis(2-ethylhexyl)phthalate	mg/m3	0.0005	0.0002	0.0002	0.00007	Unknown
Butylbenzylphthalate	mg/m3	0.0000007		0.0000005	0.0000003	Unknown
Carbazole	mg/m3	0.00000004	0.0000002	0.0000002	0.0000002	Unknown
Chrysene	mg/m3	0.0000003	0.0000003	0.0000003	0.0000003	Unknown
Di-n-butylphthalate	mg/m3	0.00004	0.00004	0.00004	0.00004	Lognormal
Di-n-octylphthalate	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Dibenzo(a,h)anthracene	mg/m3	0.000000007		0.0000001	0.0000001	Unknown
Dibenzofuran	mg/m3	0.000001	0.000001	0.000001	0.000002	Unknown
Diethylphthalate	mg/m3	0.000004	0.000008	0.000007	0.000008	Lognormal
Dimethylphthalate	mg/m3	0.0000005	0.0000006	0.0000006	0.0000007	Unknown
Diphenylamine	mg/m3	0.000001	0.0000009	0.0000009	0.0000007	Unknown
Fluoranthene	mg/m3	0.000001	0.000003	0.000003	0.000003	Normal/Lognormal
Fluorene	mg/m3	0.000001	0.000002	0.000002	0.000003	Unknown
Hexachlorobenzene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
Hexachlorobutadiene	mg/m3	0.0006	0.0006	0.0006	0.0005	Unknown
Hexachlorocyclopentadiene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
Hexachloroethane	mg/m3	0.00007		0.00005	0.001	Unknown
Indeno(1,2,3-c,d)pyrene	mg/m3	0.00000005		0.0000008	0.0000008	Unknown
Naphthalene	mg/m3	0.0005	0.0002	0.0002	0.00007	Unknown
Nitrobenzene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
Pentachlorobenzene	mg/m3	0.00000010	0.0000002	0.0000002	0.0000002	Unknown
Pentachloronitrobenzene	mg/m3	0.00000004		0.0000003	0.0000003	Unknown
Pentachlorophenol	mg/m3	0.00000003		0.0000005	0.0000005	Unknown
Phenanthrene	mg/m3	0.000005	0.00001	0.00001	0.00001	Lognormal
Phenol	mg/m3	0.000002	0.000002	0.000002	0.000003	Unknown
Pyrene	mg/m3	0.000001	0.000003	0.000003	0.000003	Lognormal
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	0.0000001	0.0000003	0.0000003	0.0000008	Unknown
o-Toluidine	mg/m3	0.000000009		0.0000002	0.0000002	Unknown

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	mg/m3	0.0002	0.0002	0.0002	0.0001	Unknown
1,1,1-Trichloroethane	mg/m3	0.0001	0.0002	0.0002	0.0001	Unknown
1,1,2,2-Tetrachloroethane	mg/m3	0.0002	0.0001	0.0001	0.00009	Unknown
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	0.0003	0.0006	0.0006	0.001	Unknown
1,1,2-Trichloroethane	mg/m3	0.00007	0.00008	0.00008	0.00006	Unknown
1,1-Dichloroethane	mg/m3	0.00004		0.00005	0.00003	Unknown
1,1-Dichloroethene	mg/m3	0.00009	0.00010	0.00010	0.00008	Unknown
1,2,3-Trichlorobenzene	mg/m3	0.003	0.001	0.001	0.0005	Unknown
1,2,3-Trichloropropane	mg/m3	0.00006		0.00006	0.00005	Unknown
1,2,4-Trichlorobenzene	mg/m3	0.003	0.002	0.002	0.001	Unknown
1,2,4-Trimethylbenzene	mg/m3	0.002	0.003	0.003	0.004	Normal
1,2-Dibromo-3-Chloropropane	mg/m3	0.0001	0.0001	0.0001	0.00008	Unknown
1,2-Dibromoethane	mg/m3	0.0001	0.0001	0.0001	0.00009	Unknown
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
1,2-Dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
1,2-Dichloroethane	mg/m3	0.0001	0.0001	0.0001	0.00010	Unknown
1,2-Dichloropropane	mg/m3	0.005	0.004	0.004	0.01	Unknown
1,3,5-Trimethylbenzene	mg/m3	0.0005	0.0010	0.0010	0.001	Unknown
1,3-Butadiene	mg/m3	0.0004	0.0005	0.0005	0.0004	Unknown
1,3-Dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
1,4-Dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
2-Butanone (methyl ethyl ketone)	mg/m3	0.002	0.003	0.003	0.005	Unknown
Acetone	mg/m3	0.08	0.05	0.05	0.04	Unknown
Acetonitrile	mg/m3	0.01	0.007	0.007	0.002	Unknown
Acetophenone	mg/m3	0.02	0.01	0.01	0.005	Unknown
Acrolein	mg/m3	0.001	0.002	0.002	0.003	Unknown
Acrylonitrile	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Benzene	mg/m3	0.001	0.003	0.003	0.004	Normal
Bis(2-Chloroethyl)ether	mg/m3	0.0001		0.0001	0.0001	Unknown
Bromodichloromethane	mg/m3	0.0002	0.0002	0.0002	0.0001	Unknown
Bromoform	mg/m3	0.0001	0.0001	0.0001	0.00009	Unknown
Bromomethane	mg/m3	0.00008	0.00008	0.00008	0.00007	Unknown
Carbon Disulfide	mg/m3	0.007	0.005	0.005	0.01	Unknown

Table C-2: Ambient Air Statistical Summary for Study Area 2

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Carbon Tetrachloride	mg/m3	0.0002	0.0006	0.0006	0.0007	Unknown
Chlorobenzene	mg/m3	0.0001	0.00009	0.00009	0.00007	Unknown
Chloroethane	mg/m3	0.0001	0.0001	0.0001	0.00008	Unknown
Chloroform	mg/m3	0.0001	0.0002	0.0002	0.0002	Unknown
Chloromethane	mg/m3	0.004	0.003	0.003	0.003	Unknown
Cyclohexane	mg/m3	0.002	0.001	0.001	0.002	Unknown
Dibromochloromethane	mg/m3	0.0002		0.0002	0.0002	Unknown
Dibromomethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Dichlorodifluoromethane (Freon 12)	mg/m3	0.0009	0.002	0.002	0.003	Unknown
Ethylbenzene	mg/m3	0.001	0.002	0.002	0.003	Normal
Hexane	mg/m3	0.05	0.03	0.03	0.02	Unknown
Isobutyl Alcohol	mg/m3	0.002	0.001	0.001	0.0008	Unknown
Isopropylbenzene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Methyl Acetate	mg/m3	0.0003	0.0003	0.0003	0.0003	Unknown
Methyl tert-Butyl Ether	mg/m3	0.003	0.003	0.003	0.01	Unknown
Methylcyclohexane	mg/m3	0.001	0.0010	0.0010	0.001	Unknown
Methylene Chloride	mg/m3	0.004	0.002	0.002	0.002	Unknown
Pentachloroethane	mg/m3	0.0002		0.0002	0.0002	Unknown
Styrene	mg/m3	0.0006	0.0006	0.0006	0.001	Unknown
Tetrachloroethene	mg/m3	0.005	0.004	0.004	0.004	Unknown
Toluene	mg/m3	0.006	0.01	0.01	0.02	Normal
Trans-1,4-Dichloro-2-Butene	mg/m3	0.0002		0.0002	0.0001	Unknown
Trichloroethene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Trichlorofluoromethane	mg/m3	0.0004	0.002	0.002	0.002	Unknown
Vinyl Acetate	mg/m3	0.001	0.0008	0.0008	0.0003	Unknown
Vinyl Chloride	mg/m3	0.00009	0.00008	0.00008	0.00007	Unknown
Xylenes, Total	mg/m3	0.006	0.01	0.01	0.02	Normal
cis-1,2-Dichloroethene	mg/m3	0.0001	0.0001	0.0001	0.00008	Unknown
cis-1,3-Dichloropropene	mg/m3	0.00006	0.00005	0.00005	0.00004	Unknown
m,p-Xylenes	mg/m3	0.005	0.009	0.009	0.01	Normal
o-Xylene	mg/m3	0.002	0.003	0.003	0.004	Normal
trans-1,2-Dichloroethene	mg/m3	0.0001	0.0001	0.0001	0.00008	Unknown
trans-1,3-Dichloropropene	mg/m3	0.00007	0.00007	0.00007	0.00006	Unknown

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde	mg/m3	52	98.08	0.001	0.001	0.0004	0.051	0.005	0.002	
Benzaldehyde	mg/m3	49	95.92	0.00001	0.0002	0.0002	0.002	0.0006	0.0005	
Butyraldehyde	mg/m3	49	83.67	0.00003	0.00003	0.00003	0.001	0.0003	0.0003	
Crotonaldehyde	mg/m3	49	32.65	0.00001	0.00002	0.00001	0.0004	0.00004	0.000007	0.000007
Formaldehyde	mg/m3	49	91.84	0.003	0.006	0.0008	0.010	0.003	0.003	0.004
Hexaldehyde	mg/m3	49	73.47	0.00002	0.0002	0.00005	0.0006	0.0002	0.0002	0.00001
M-tolualdehyde	mg/m3	49	46.94	0.00001	0.0002	0.00004	0.0008	0.0001	0.00006	0.000007
Methacrylaldehyde	mg/m3	49	67.35	0.00001	0.00001	0.00004	0.0006	0.0002	0.0001	0.000007
N-valeraldehyde	mg/m3	49	79.59	0.00001	0.00001	0.00002	0.002	0.0001	0.00008	0.000007
Propionaldehyde	mg/m3	49	85.71	0.000007	0.0005	0.00005	0.0010	0.0003	0.0002	
Dioxins/Furans										
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	48	91.67	0.0000000000	0.0000000000	0.0000000000	0.000000001	0.0000000001	0.0000000000	
Inorganics										
Aluminum	mg/m3	49	85.71	0.0001	0.003	0.00004	0.002	0.0004	0.0002	
Antimony	mg/m3	49	61.22	0.000004	0.000008	0.000006	0.00005	0.000009	0.000007	
Arsenic	mg/m3	49	79.59	0.0000002	0.000001	0.0000005	0.00006	0.000007	0.000003	
Barium	mg/m3	49	85.71	0.000003	0.0002	0.000006	0.00006	0.00002	0.00002	
Beryllium	mg/m3	49	2.04	0.0000001	0.0000002	0.000001	0.000001	0.0000001	0.0000009	
Cadmium (Diet)	mg/m3	49	75.51	0.0000002	0.000002	0.0000002	0.000006	0.0000006	0.0000004	
Chromium	mg/m3	49	46.94	0.0000004	0.000008	0.000001	0.00003	0.000004	0.000003	
Cobalt	mg/m3	49	79.59	0.0000001	0.0000008	0.0000002	0.000001	0.0000003	0.0000003	
Copper	mg/m3	49	0.00	0.0004	0.0008			0.0003	0.0003	
Iron	mg/m3	49	0.00	0.009	0.015			0.006	0.006	
Lead	mg/m3	49	87.76	0.000001	0.00005	0.000005	0.0001	0.00002	0.00002	
Manganese (Diet)	mg/m3	49	73.47	0.0000002	0.0001	0.000003	0.0002	0.00002	0.00001	
Mercury	mg/m3	49	69.39	0.00000006	0.000010	0.000000002	0.000009	0.000002	0.000002	
Nickel	mg/m3	49	0.00	0.0002	0.0004			0.0001	0.0001	
Selenium	mg/m3	49	0.00	0.00004	0.00008			0.00003	0.00003	
Silver	mg/m3	49	0.00	0.00004	0.00008			0.00003	0.00003	
Thallium	mg/m3	49	14.29	0.0000009	0.000002	0.000001	0.000003	0.0000008	0.0000006	
Tin	mg/m3	49	79.59	0.0000002	0.00002	0.000002	0.00002	0.000006	0.000006	
Vanadium	mg/m3	49	24.49	0.000009	0.00002	0.00001	0.00004	0.000010	0.000006	

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics										
Zinc	mg/m3	49	0.00	0.002	0.004			0.001	0.001	
Polychlorinated bi-phenyls										
Aroclor 1016	mg/m3	47	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1221	mg/m3	47	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1232	mg/m3	47	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1242	mg/m3	47	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1248	mg/m3	47	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1254	mg/m3	47	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1260	mg/m3	47	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Pesticides										
4,4-DDD	mg/m3	47	0.00	0.0000004	0.0000006			0.0000002	0.0000002	0.0000002
4,4-DDE	mg/m3	47	0.00	0.0000004	0.0000006			0.0000002	0.0000002	0.0000002
4,4-DDT	mg/m3	47	0.00	0.0000009	0.00004			0.000001	0.0000005	0.0000005
Aldrin	mg/m3	47	0.00	0.000001	0.000001			0.0000006	0.0000006	0.0000006
Dieldrin	mg/m3	47	2.13	0.0000007	0.0000009	0.00001	0.00001	0.0000007	0.0000004	0.0000004
Endosulfan I	mg/m3	47	4.26	0.000001	0.000002	0.000002	0.000003	0.0000008	0.0000007	0.0000007
Endosulfan II	mg/m3	47	0.00	0.0000005	0.0000007			0.0000003	0.0000003	0.0000003
Endosulfan Sulfate	mg/m3	47	0.00	0.000001	0.000002			0.0000006	0.0000006	0.0000006
Endrin	mg/m3	47	0.00	0.0000004	0.0000006			0.0000002	0.0000002	0.0000002
Endrin Aldehyde	mg/m3	47	0.00	0.0000002	0.0000003			0.0000001	0.0000001	0.0000001
Heptachlor	mg/m3	47	0.00	0.0000006	0.0000008			0.0000003	0.0000003	0.0000003
Heptachlor Epoxide	mg/m3	47	0.00	0.0000006	0.0000009			0.0000004	0.0000004	0.0000003
Methoxychlor	mg/m3	47	0.00	0.000002	0.000003			0.000001	0.000001	0.000001
Toxaphene	mg/m3	47	0.00	0.000001	0.0001			0.000005	0.000006	0.000006
alpha-BHC	mg/m3	47	0.00	0.0000003	0.0000005			0.0000002	0.0000002	0.0000002
alpha-Chlordane	mg/m3	47	2.13	0.0000005	0.0000006	0.000002	0.000002	0.0000003	0.0000003	0.0000003
beta-BHC	mg/m3	47	0.00	0.0000002	0.0000002			0.0000009	0.0000009	0.0000009
delta-BHC	mg/m3	47	0.00	0.0000006	0.0000008			0.0000003	0.0000003	0.0000003
gamma-BHC (Lindane)	mg/m3	47	0.00	0.0000004	0.0000006			0.0000002	0.0000002	0.0000002
gamma-Chlordane	mg/m3	47	0.00	0.000001	0.000002			0.0000008	0.0000008	0.0000008

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
PM-10										
Gravimetrics-PM10	mg/m3	49	100.00			0.008	0.162	0.06	0.05	
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	mg/m3	49	63.27	0.000002	0.000001	0.000003	0.000004	0.000008	0.000005	0.000002
1,2,4,5-Tetrachlorobenzene	mg/m3	49	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
2,3,4,6-Tetrachlorophenol	mg/m3	49	0.00	0.000003	0.000004			0.000002	0.000002	0.000002
2,4,5-Trichlorophenol	mg/m3	49	4.08	0.000007	0.000010	0.000004	0.000009	0.000007	0.000005	0.000005
2,4,6-Trichlorophenol	mg/m3	49	4.08	0.000005	0.000006	0.000010	0.000004	0.000004	0.000003	0.000003
2,4-Dichlorophenol	mg/m3	49	4.08	0.000005	0.000006	0.000002	0.000003	0.000004	0.000003	0.000003
2,4-Dimethylphenol	mg/m3	49	57.14	0.000005	0.000003	0.000008	0.000004	0.000004	0.000001	0.000003
2,4-Dinitrophenol	mg/m3	43	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
2,4-Dinitrotoluene	mg/m3	49	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
2,6-Dichlorophenol	mg/m3	49	8.16	0.000002	0.000003	0.000006	0.000006	0.000003	0.000002	0.000002
2,6-Dinitrotoluene	mg/m3	49	2.04	0.000002	0.000003	0.000004	0.000004	0.000002	0.000002	0.000002
2-Chloronaphthalene	mg/m3	49	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
2-Chlorophenol	mg/m3	49	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
2-Methylnaphthalene	mg/m3	49	40.82	0.000003	0.000009	0.000004	0.000005	0.000006	0.000002	0.000002
2-Methylphenol (o-Cresol)	mg/m3	49	40.82	0.000002	0.000002	0.000008	0.000003	0.000003	0.000002	0.000002
2-Nitrophenol	mg/m3	49	14.29	0.000005	0.000006	0.000006	0.000004	0.000005	0.000003	0.000003
3&4-Methylphenol	mg/m3	49	53.06	0.000002	0.000006	0.000003	0.000009	0.000001	0.000003	0.000001
3-Nitroaniline	mg/m3	49	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
4,6-Dinitro-2-Methylphenol	mg/m3	49	0.00	0.000001	0.000002			0.000007	0.000008	0.000008
4-Bromophenylphenylether	mg/m3	49	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
4-Chloro-3-Methylphenol	mg/m3	49	4.08	0.000005	0.000006	0.000001	0.000001	0.000005	0.000003	0.000003
4-Chloroaniline	mg/m3	49	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
4-Nitroaniline	mg/m3	49	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
4-Nitrophenol	mg/m3	47	10.64	0.000008	0.000010	0.000001	0.000004	0.000007	0.000005	0.000005
Acenaphthene	mg/m3	49	16.33	0.000002	0.000003	0.000003	0.000002	0.000003	0.000002	0.000002
Acenaphthylene	mg/m3	49	61.22	0.000002	0.000003	0.000003	0.000001	0.000002	0.000005	0.000002
Aniline	mg/m3	49	0.00	0.000002	0.000002			0.000002	0.000002	0.000002
Anthracene	mg/m3	49	63.27	0.000002	0.000003	0.000004	0.000006	0.000001	0.000008	0.000002
Atrazine	mg/m3	49	0.00	0.000002	0.000003			0.000002	0.000002	0.000002
Benzo(a)anthracene	mg/m3	49	24.49	0.000002	0.000003	0.000005	0.000003	0.000004	0.000002	0.000002

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Semi-Volatile Organic Compounds										
Benzo(a)pyrene	mg/m3	49	28.57	0.0000002	0.0000003	0.0000003	0.000002	0.0000003	0.0000001	0.0000001
Benzo(b)fluoranthene	mg/m3	49	8.16	0.0000005	0.0000006	0.0000007	0.000001	0.0000004	0.0000003	0.0000003
Benzo(g,h,i)perylene	mg/m3	49	40.82	0.0000002	0.0000003	0.0000003	0.000003	0.0000005	0.0000002	0.0000002
Benzo(k)fluoranthene	mg/m3	49	8.16	0.0000005	0.0000006	0.0000007	0.000001	0.0000004	0.0000003	0.0000003
Bis(2-ethylhexyl)phthalate	mg/m3	49	51.02	0.0000002	0.000007	0.000003	0.003	0.00008	0.00001	
Butylbenzylphthalate	mg/m3	49	4.08	0.0000002	0.000002	0.0000009	0.00005	0.000001	0.0000002	0.0000002
Carbazole	mg/m3	49	2.04	0.0000002	0.0000003	0.0000005	0.0000005	0.0000002	0.0000002	0.0000002
Chrysene	mg/m3	49	69.39	0.0000002	0.0000003	0.0000004	0.000004	0.0000009	0.0000007	
Di-n-butylphthalate	mg/m3	49	38.78	0.0000003	0.000009	0.000004	0.0001	0.00002	0.000009	
Di-n-octylphthalate	mg/m3	49	0.00	0.0000005	0.0000006			0.0000003	0.0000003	0.0000003
Dibenzo(a,h)anthracene	mg/m3	49	2.04	0.0000002	0.0000002	0.0000004	0.0000004	0.0000001	0.0000001	0.0000001
Dibenzofuran	mg/m3	49	75.51	0.0000002	0.0000003	0.0000005	0.00001	0.000003	0.000001	
Diethylphthalate	mg/m3	49	44.90	0.000001	0.000001	0.000003	0.00002	0.000005	0.000004	
Dimethylphthalate	mg/m3	49	44.90	0.0000003	0.0000006	0.0000003	0.000001	0.0000003	0.0000002	0.0000002
Diphenylamine	mg/m3	49	6.12	0.0000002	0.000002	0.0000005	0.0000010	0.0000003	0.0000002	0.0000002
Fluoranthene	mg/m3	49	93.88	0.0000003	0.0000003	0.0000005	0.00001	0.000004	0.000003	
Fluorene	mg/m3	49	85.71	0.0000002	0.0000007	0.0000005	0.00001	0.000002	0.000002	
Hexachlorobenzene	mg/m3	49	0.00	0.0000002	0.0000003			0.0000002	0.0000002	0.0000002
Hexachlorobutadiene	mg/m3	55	27.27	0.0000003	0.002	0.0003	0.002	0.0004	0.0001	0.0001
Hexachlorocyclopentadiene	mg/m3	49	0.00	0.0000002	0.0000003			0.0000002	0.0000002	0.0000002
Hexachloroethane	mg/m3	55	1.82	0.0000003	0.0003	0.0004	0.0004	0.00002	0.0000002	0.00004
Indeno(1,2,3-c,d)pyrene	mg/m3	49	4.08	0.000001	0.000002	0.000002	0.000002	0.0000008	0.0000008	0.0000008
Naphthalene	mg/m3	52	40.38	0.0000003	0.0004	0.0000005	0.001	0.00004	0.0000009	0.0001
Nitrobenzene	mg/m3	49	0.00	0.0000002	0.0000003			0.0000002	0.0000002	0.0000002
Pentachlorobenzene	mg/m3	49	0.00	0.0000002	0.0000003			0.0000002	0.0000002	0.0000002
Pentachloronitrobenzene	mg/m3	47	0.00	0.0000004	0.0000007			0.0000003	0.0000003	0.0000003
Pentachlorophenol	mg/m3	49	0.00	0.0000007	0.0000010			0.0000004	0.0000005	0.0000005
Phenanthrene	mg/m3	49	100.00			0.000002	0.00004	0.00001	0.00001	
Phenol	mg/m3	49	44.90	0.0000003	0.00004	0.000001	0.00003	0.000004	0.000001	0.0000002
Pyrene	mg/m3	49	95.92	0.0000003	0.0000003	0.0000005	0.00001	0.000003	0.000003	
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	49	71.43	0.0000006	0.0000007	0.0000000004	0.000002	0.0000004	0.0000003	
o-Toluidine	mg/m3	49	0.00	0.0000002	0.0000003			0.0000002	0.0000002	0.0000002

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	mg/m3	51	7.84	0.0002	0.0007	0.0003	0.0003	0.0001	0.00009	0.00009
1,1,1-Trichloroethane	mg/m3	51	23.53	0.0002	0.0006	0.0002	0.0003	0.0001	0.00008	0.00008
1,1,2,2-Tetrachloroethane	mg/m3	51	17.65	0.00004	0.0002	0.0001	0.0005	0.00008	0.00002	0.00002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	51	82.35	0.00008	0.0009	0.0004	0.0009	0.0006	0.0006	0.00004
1,1,2-Trichloroethane	mg/m3	51	1.96	0.00008	0.0003	0.0002	0.0002	0.00005	0.00004	0.00004
1,1-Dichloroethane	mg/m3	51	5.88	0.00005	0.0002	0.00008	0.0001	0.00003	0.00003	0.00003
1,1-Dichloroethene	mg/m3	51	3.92	0.00010	0.0004	0.0001	0.0002	0.00006	0.00005	0.00005
1,2,3-Trichlorobenzene	mg/m3	46	10.87	0.0004	0.002	0.0005	0.002	0.0003	0.0002	0.0002
1,2,3-Trichloropropane	mg/m3	51	7.84	0.00007	0.0003	0.0002	0.0003	0.00006	0.00004	0.00004
1,2,4-Trichlorobenzene	mg/m3	49	22.45	0.0002	0.003	0.0004	0.003	0.0005	0.00010	0.00010
1,2,4-Trimethylbenzene	mg/m3	51	94.12	0.00005	0.0003	0.0002	0.004	0.001	0.001	0.00003
1,2-Dibromo-3-Chloropropane	mg/m3	46	8.70	0.00010	0.0004	0.0003	0.0007	0.00009	0.00005	0.00005
1,2-Dibromoethane	mg/m3	51	0.00	0.0001	0.0005			0.00006	0.00006	0.00006
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	51	5.88	0.0003	0.001	0.0003	0.0003	0.0001	0.0001	0.0001
1,2-Dichlorobenzene	mg/m3	51	21.57	0.00010	0.0004	0.0001	0.001	0.0002	0.00005	0.00005
1,2-Dichloroethane	mg/m3	51	15.69	0.00010	0.0004	0.0001	0.0002	0.00007	0.00005	0.00005
1,2-Dichloropropane	mg/m3	51	72.55	0.00009	0.0008	0.0002	0.027	0.002	0.0006	0.00005
1,3,5-Trimethylbenzene	mg/m3	51	82.35	0.00005	0.0007	0.0001	0.0010	0.0004	0.0004	0.00003
1,3-Butadiene	mg/m3	51	7.84	0.0005	0.002	0.0005	0.0009	0.0003	0.0002	0.0002
1,3-Dichlorobenzene	mg/m3	51	23.53	0.00009	0.0005	0.0001	0.0010	0.0002	0.00005	0.00005
1,4-Dichlorobenzene	mg/m3	50	30.00	0.00009	0.0004	0.0001	0.001	0.0002	0.00005	0.00005
2-Butanone (methyl ethyl ketone)	mg/m3	51	96.08	0.0003	0.0003	0.00001	0.015	0.003	0.002	0.0002
Acetone	mg/m3	51	98.04	0.004	0.004	0.001	85.200	1.69	0.02	0.01
Acetonitrile	mg/m3	51	41.18	0.0004	0.002	0.0004	0.003	0.0005	0.0002	0.0002
Acetophenone	mg/m3	49	28.57	0.001	0.004	0.001	0.123	0.004	0.0005	0.0005
Acrolein	mg/m3	51	78.43	0.0004	0.002	0.0005	0.009	0.002	0.002	0.0002
Acrylonitrile	mg/m3	51	9.80	0.0002	0.0008	0.0002	0.0005	0.0001	0.00010	0.00010
Benzene	mg/m3	51	100.00			0.0005	0.006	0.002	0.002	0.001
Bis(2-Chloroethyl)ether	mg/m3	51	0.00	0.0002	0.0006			0.00008	0.00008	0.00008
Bromodichloromethane	mg/m3	51	0.00	0.0002	0.0006			0.00008	0.00008	0.00008
Bromoform	mg/m3	51	0.00	0.0001	0.0004			0.00006	0.00006	0.00006
Bromomethane	mg/m3	51	13.73	0.00007	0.0003	0.0001	0.0003	0.00006	0.00004	0.00004
Carbon Disulfide	mg/m3	51	74.51	0.00010	0.0010	0.0001	0.008	0.001	0.0005	0.00005

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Carbon Tetrachloride	mg/m3	51	84.31	0.0001	0.0007	0.0004	0.0009	0.0006	0.0006	0.0006
Chlorobenzene	mg/m3	51	15.69	0.00004	0.0004	0.00009	0.0004	0.00006	0.00002	0.00002
Chloroethane	mg/m3	51	0.00	0.0001	0.0004			0.00006	0.00006	0.00006
Chloroform	mg/m3	51	33.33	0.0001	0.0004	0.0001	0.0003	0.0001	0.00006	0.00006
Chloromethane	mg/m3	51	94.12	0.00007	0.00007	0.0009	0.003	0.001	0.001	0.00004
Cyclohexane	mg/m3	51	90.20	0.0001	0.0004	0.0001	0.008	0.002	0.0010	0.00006
Dibromochloromethane	mg/m3	51	0.00	0.0002	0.0010			0.0001	0.0001	0.0001
Dibromomethane	mg/m3	51	9.80	0.0002	0.0006	0.0002	0.0003	0.00010	0.00008	0.00008
Dichlorodifluoromethane (Freon 12)	mg/m3	51	98.04	0.0002	0.0002	0.001	0.027	0.003	0.002	0.002
Ethylbenzene	mg/m3	51	96.08	0.0005	0.0007	0.0001	0.003	0.001	0.001	0.001
Hexane	mg/m3	51	98.04	0.0002	0.0002	0.0002	1.070	0.03	0.001	0.0004
Isobutyl Alcohol	mg/m3	51	19.61	0.0005	0.002	0.0006	0.003	0.0005	0.0002	0.0002
Isopropylbenzene	mg/m3	51	25.49	0.00007	0.0003	0.0001	0.0004	0.00009	0.00004	0.00004
Methyl Acetate	mg/m3	51	50.98	0.0003	0.001	0.0003	0.006	0.0005	0.0004	0.0001
Methyl tert-Butyl Ether	mg/m3	51	58.82	0.0002	0.0007	0.0005	0.012	0.001	0.0009	0.00009
Methylcyclohexane	mg/m3	51	66.67	0.00008	0.0003	0.0001	0.014	0.0009	0.0003	0.00004
Methylene Chloride	mg/m3	51	98.04	0.00008	0.00008	0.0004	0.009	0.002	0.001	0.001
Pentachloroethane	mg/m3	51	3.92	0.0003	0.001	0.0003	0.0005	0.0001	0.0001	0.0001
Styrene	mg/m3	51	62.75	0.00007	0.0004	0.0001	0.004	0.0005	0.0004	0.00004
Tetrachloroethene	mg/m3	51	52.94	0.001	0.005	0.002	0.008	0.002	0.002	0.0007
Toluene	mg/m3	51	100.00			0.001	0.017	0.007	0.007	
Trans-1,4-Dichloro-2-Butene	mg/m3	50	0.00	0.0002	0.0007			0.00009	0.00009	0.00009
Trichloroethene	mg/m3	51	47.06	0.00008	0.0005	0.00010	0.001	0.0002	0.00010	0.00004
Trichlorofluoromethane	mg/m3	51	98.04	0.0003	0.0003	0.001	0.003	0.002	0.002	0.002
Vinyl Acetate	mg/m3	51	9.80	0.0001	0.0004	0.002	0.005	0.0004	0.00006	0.00006
Vinyl Chloride	mg/m3	51	0.00	0.00007	0.0003			0.00004	0.00004	0.00004
Xylenes, Total	mg/m3	51	100.00			0.0007	0.016	0.006	0.006	
cis-1,2-Dichloroethene	mg/m3	51	1.96	0.00009	0.0004	0.0002	0.0002	0.00005	0.00005	0.00005
cis-1,3-Dichloropropene	mg/m3	51	5.88	0.00004	0.0002	0.00009	0.0004	0.00003	0.00002	0.00002
m,p-Xylenes	mg/m3	51	100.00			0.0005	0.013	0.005	0.004	0.004
o-Xylene	mg/m3	51	100.00			0.0002	0.003	0.002	0.001	0.001
trans-1,2-Dichloroethene	mg/m3	51	3.92	0.0001	0.0004	0.0001	0.0002	0.00006	0.00006	0.00006
trans-1,3-Dichloropropene	mg/m3	51	5.88	0.00007	0.0003	0.00010	0.0006	0.00005	0.00004	0.00004

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde	mg/m3	0.010	0.007	0.007	0.005	Unknown
Benzaldehyde	mg/m3	0.0004	0.0007	0.0007	0.0009	Unknown
Butyraldehyde	mg/m3	0.0003	0.0004	0.0004	0.0008	Unknown
Crotonaldehyde	mg/m3	0.00008	0.00006	0.00006	0.00006	Unknown
Formaldehyde	mg/m3	0.002	0.003	0.003	0.003	Lognormal
Hexaldehyde	mg/m3	0.0001	0.0002	0.0002	0.0004	Unknown
M-tolualdehyde	mg/m3	0.0002	0.0002	0.0002	0.0004	Unknown
Methacrylaldehyde	mg/m3	0.0002	0.0002	0.0002	0.0006	Unknown
N-valeraldehyde	mg/m3	0.0003	0.0002	0.0002	0.0003	Unknown
Propionaldehyde	mg/m3	0.0002	0.0003	0.0003	0.0006	Unknown
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	0.0000000003	0.0000000003	0.0000000002	0.0000000003	Lognormal
Inorganics						
Aluminum	mg/m3	0.0004	0.0005	0.0005	0.0005	Lognormal
Antimony	mg/m3	0.000010	0.00001	0.00001	0.00001	Unknown
Arsenic	mg/m3	0.00001	0.000009	0.000009	0.00002	Unknown
Barium	mg/m3	0.00001	0.00002	0.00002	0.00003	Unknown
Beryllium	mg/m3	0.0000002	0.0000002	0.0000002	0.0000001	Unknown
Cadmium (Diet)	mg/m3	0.0000009	0.0000008	0.0000009	0.0000008	Lognormal
Chromium	mg/m3	0.000004	0.000005	0.000005	0.000006	Unknown
Cobalt	mg/m3	0.0000002	0.0000004	0.0000004	0.0000004	Lognormal
Copper	mg/m3	0.00004		0.0003	0.0003	Normal/Lognormal
Iron	mg/m3	0.0008		0.006	0.006	Normal/Lognormal
Lead	mg/m3	0.00002	0.00003	0.00003	0.00003	Unknown
Manganese (Diet)	mg/m3	0.00002	0.00002	0.00002	0.00003	Unknown
Mercury	mg/m3	0.000002	0.000003	0.000003	0.000008	Unknown
Nickel	mg/m3	0.00002		0.0002	0.0002	Normal/Lognormal
Selenium	mg/m3	0.000004		0.00003	0.00003	Normal/Lognormal
Silver	mg/m3	0.000004		0.00003	0.00003	Normal/Lognormal
Thallium	mg/m3	0.0000006	0.0000009	0.0000009	0.0000009	Unknown
Tin	mg/m3	0.000004	0.000007	0.000007	0.00001	Normal
Vanadium	mg/m3	0.000008	0.00001	0.00001	0.00001	Unknown

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics						
Zinc	mg/m3	0.0002		0.002	0.002	Normal/Lognormal
Polychlorinated bi-phenyls						
Aroclor 1016	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1221	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1232	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1242	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1248	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1254	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1260	mg/m3	0.000001		0.000006	0.00001	Unknown
Pesticides						
4,4-DDD	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDE	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDT	mg/m3	0.000004		0.000002	0.0000010	Unknown
Aldrin	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Dieldrin	mg/m3	0.000002	0.000001	0.000001	0.0000006	Unknown
Endosulfan I	mg/m3	0.0000003	0.0000009	0.0000009	0.0000008	Unknown
Endosulfan II	mg/m3	0.00000001		0.0000003	0.0000003	Unknown
Endosulfan Sulfate	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Endrin	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Endrin Aldehyde	mg/m3	0.000000007		0.0000001	0.0000001	Unknown
Heptachlor	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Heptachlor Epoxide	mg/m3	0.00000002		0.0000004	0.0000004	Unknown
Methoxychlor	mg/m3	0.00000005		0.000001	0.000001	Unknown
Toxaphene	mg/m3	0.00001		0.00006	0.0001	Unknown
alpha-BHC	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
alpha-Chlordane	mg/m3	0.0000002	0.0000004	0.0000004	0.0000003	Unknown
beta-BHC	mg/m3	0.000000005		0.00000009	0.00000009	Unknown
delta-BHC	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
gamma-BHC (Lindane)	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
gamma-Chlordane	mg/m3	0.00000004		0.0000008	0.0000008	Unknown

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
PM-10						
Gravimetrics-PM10	mg/m3	0.03	0.07	0.07	0.07	Unknown
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	mg/m3	0.0000009	0.000001	0.000001	0.000001	Unknown
1,2,4,5-Tetrachlorobenzene	mg/m3	0.00000008		0.0000002	0.0000002	Unknown
2,3,4,6-Tetrachlorophenol	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,4,5-Trichlorophenol	mg/m3	0.000001	0.000001	0.000001	0.0000007	Unknown
2,4,6-Trichlorophenol	mg/m3	0.0000005	0.0000005	0.0000005	0.0000004	Unknown
2,4-Dichlorophenol	mg/m3	0.0000004	0.0000005	0.0000005	0.0000004	Unknown
2,4-Dimethylphenol	mg/m3	0.0000008	0.000006	0.000006	0.000006	Unknown
2,4-Dinitrophenol	mg/m3	0.00000009		0.000002	0.000002	Unknown
2,4-Dinitrotoluene	mg/m3	0.00000008		0.0000002	0.0000002	Unknown
2,6-Dichlorophenol	mg/m3	0.0000009	0.0000005	0.0000005	0.0000003	Unknown
2,6-Dinitrotoluene	mg/m3	0.0000005	0.0000004	0.0000004	0.0000002	Unknown
2-Chloronaphthalene	mg/m3	0.00000008		0.0000002	0.0000002	Unknown
2-Chlorophenol	mg/m3	0.00000008		0.0000002	0.0000002	Unknown
2-Methylnaphthalene	mg/m3	0.0000009	0.0000008	0.0000008	0.0000008	Unknown
2-Methylphenol (o-Cresol)	mg/m3	0.0000006	0.0000005	0.0000005	0.0000007	Unknown
2-Nitrophenol	mg/m3	0.0000006	0.0000007	0.0000007	0.0000005	Unknown
3&4-Methylphenol	mg/m3	0.000002	0.000002	0.000002	0.000002	Unknown
3-Nitroaniline	mg/m3	0.00000008		0.0000002	0.0000002	Unknown
4,6-Dinitro-2-Methylphenol	mg/m3	0.00000004		0.0000008	0.0000008	Unknown
4-Bromophenylphenylether	mg/m3	0.00000008		0.0000002	0.0000002	Unknown
4-Chloro-3-Methylphenol	mg/m3	0.0000001	0.0000009	0.0000009	0.0000004	Unknown
4-Chloroaniline	mg/m3	0.00000008		0.0000002	0.0000002	Unknown
4-Nitroaniline	mg/m3	0.00000008		0.0000002	0.0000002	Unknown
4-Nitrophenol	mg/m3	0.0000007	0.0000008	0.0000008	0.0000007	Unknown
Acenaphthene	mg/m3	0.0000004	0.0000004	0.0000004	0.0000003	Unknown
Acenaphthylene	mg/m3	0.0000003	0.0000002	0.0000002	0.0000003	Unknown
Aniline	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
Anthracene	mg/m3	0.0000001	0.0000001	0.0000001	0.0000002	Unknown
Atrazine	mg/m3	0.00000008		0.0000002	0.0000002	Unknown
Benzo(a)anthracene	mg/m3	0.0000007	0.0000006	0.0000006	0.0000005	Unknown
Benzo(a)pyrene	mg/m3	0.0000005	0.0000005	0.0000005	0.0000004	Unknown

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	mg/m3	0.0000002	0.0000004	0.0000004	0.0000004	Unknown
Benzo(g,h,i)perylene	mg/m3	0.0000005	0.0000006	0.0000006	0.0000006	Unknown
Benzo(k)fluoranthene	mg/m3	0.0000002	0.0000004	0.0000004	0.0000004	Unknown
Bis(2-ethylhexyl)phthalate	mg/m3	0.0004	0.0002	0.0002	0.00006	Unknown
Butylbenzylphthalate	mg/m3	0.000008	0.000003	0.000003	0.0000004	Unknown
Carbazole	mg/m3	0.00000005	0.0000002	0.0000002	0.0000002	Unknown
Chrysene	mg/m3	0.0000009	0.000001	0.000001	0.000001	Unknown
Di-n-butylphthalate	mg/m3	0.00003	0.00005	0.00003	0.00005	Lognormal
Di-n-octylphthalate	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Dibenzo(a,h)anthracene	mg/m3	0.00000004	0.0000001	0.0000001	0.0000001	Unknown
Dibenzofuran	mg/m3	0.000004	0.000004	0.000004	0.000005	Unknown
Diethylphthalate	mg/m3	0.000003	0.000006	0.000005	0.000006	Lognormal
Dimethylphthalate	mg/m3	0.0000003	0.0000004	0.0000004	0.0000004	Unknown
Diphenylamine	mg/m3	0.0000002	0.0000003	0.0000003	0.0000003	Unknown
Fluoranthene	mg/m3	0.000002	0.000004	0.000004	0.000006	Unknown
Fluorene	mg/m3	0.000002	0.000003	0.000003	0.000004	Unknown
Hexachlorobenzene	mg/m3	0.000000008		0.0000002	0.0000002	Unknown
Hexachlorobutadiene	mg/m3	0.0006	0.0006	0.0006	0.005	Unknown
Hexachlorocyclopentadiene	mg/m3	0.000000008		0.0000002	0.0000002	Unknown
Hexachloroethane	mg/m3	0.00005	0.00004	0.00004	0.0007	Unknown
Indeno(1,2,3-c,d)pyrene	mg/m3	0.0000002	0.0000008	0.0000008	0.0000008	Unknown
Naphthalene	mg/m3	0.0002	0.00008	0.00008	0.00001	Unknown
Nitrobenzene	mg/m3	0.000000008		0.0000002	0.0000002	Unknown
Pentachlorobenzene	mg/m3	0.000000008		0.0000002	0.0000002	Unknown
Pentachloronitrobenzene	mg/m3	0.00000004		0.0000003	0.0000003	Unknown
Pentachlorophenol	mg/m3	0.00000003		0.0000005	0.0000005	Unknown
Phenanthrene	mg/m3	0.000008	0.00002	0.00002	0.00002	Lognormal
Phenol	mg/m3	0.000007	0.000006	0.000006	0.000009	Unknown
Pyrene	mg/m3	0.000002	0.000004	0.000004	0.000005	Unknown
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	0.0000005	0.0000005	0.0000005	0.00009	Unknown
o-Toluidine	mg/m3	0.000000008		0.0000002	0.0000002	Unknown

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	mg/m3	0.00007	0.0001	0.0001	0.0001	Unknown
1,1,1-Trichloroethane	mg/m3	0.00007	0.0001	0.0001	0.0001	Unknown
1,1,2,2-Tetrachloroethane	mg/m3	0.0001	0.0001	0.0001	0.00009	Unknown
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	0.0002	0.0006	0.0006	0.0009	Unknown
1,1,2-Trichloroethane	mg/m3	0.00003	0.00005	0.00005	0.00005	Unknown
1,1-Dichloroethane	mg/m3	0.00002	0.00004	0.00004	0.00003	Unknown
1,1-Dichloroethene	mg/m3	0.00003	0.00006	0.00006	0.00006	Unknown
1,2,3-Trichlorobenzene	mg/m3	0.0003	0.0004	0.0004	0.0003	Unknown
1,2,3-Trichloropropane	mg/m3	0.00007	0.00007	0.00007	0.00006	Unknown
1,2,4-Trichlorobenzene	mg/m3	0.0008	0.0007	0.0007	0.0008	Unknown
1,2,4-Trimethylbenzene	mg/m3	0.0008	0.002	0.002	0.002	Normal
1,2-Dibromo-3-Chloropropane	mg/m3	0.0001	0.0001	0.0001	0.00009	Unknown
1,2-Dibromoethane	mg/m3	0.00003		0.00007	0.00007	Unknown
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	0.00007	0.0002	0.0002	0.0002	Unknown
1,2-Dichlorobenzene	mg/m3	0.0003	0.0002	0.0002	0.0002	Unknown
1,2-Dichloroethane	mg/m3	0.00005	0.00008	0.00008	0.00008	Unknown
1,2-Dichloropropane	mg/m3	0.005	0.007	0.004	0.007	Lognormal
1,3,5-Trimethylbenzene	mg/m3	0.0003	0.0005	0.0005	0.0007	Normal
1,3-Butadiene	mg/m3	0.0002	0.0003	0.0003	0.0003	Unknown
1,3-Dichlorobenzene	mg/m3	0.0003	0.0002	0.0002	0.0002	Unknown
1,4-Dichlorobenzene	mg/m3	0.0003	0.0003	0.0003	0.0003	Unknown
2-Butanone (methyl ethyl ketone)	mg/m3	0.002	0.003	0.003	0.005	Unknown
Acetone	mg/m3	11.93	4.50	4.50	0.08	Unknown
Acetonitrile	mg/m3	0.0006	0.0006	0.0006	0.0005	Unknown
Acetophenone	mg/m3	0.02	0.008	0.008	0.003	Unknown
Acrolein	mg/m3	0.002	0.003	0.002	0.003	Lognormal
Acrylonitrile	mg/m3	0.00008	0.0001	0.0001	0.0001	Unknown
Benzene	mg/m3	0.0010	0.002	0.002	0.002	Lognormal
Bis(2-Chloroethyl)ether	mg/m3	0.00003		0.00009	0.00009	Unknown
Bromodichloromethane	mg/m3	0.00003		0.00009	0.00008	Unknown
Bromoform	mg/m3	0.00002		0.00006	0.00006	Unknown
Bromomethane	mg/m3	0.00006	0.00007	0.00007	0.00007	Unknown
Carbon Disulfide	mg/m3	0.002	0.003	0.002	0.003	Lognormal

Table C-3: Ambient Air Statistical Summary for Study Area 3

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Carbon Tetrachloride	mg/m3	0.0002	0.0006	0.0006	0.0006	Normal
Chlorobenzene	mg/m3	0.00009	0.00008	0.00008	0.00007	Unknown
Chloroethane	mg/m3	0.00002		0.00006	0.00006	Unknown
Chloroform	mg/m3	0.00007	0.0001	0.0001	0.0001	Unknown
Chloromethane	mg/m3	0.0004	0.002	0.002	0.002	Unknown
Cyclohexane	mg/m3	0.002	0.003	0.002	0.003	Lognormal
Dibromochloromethane	mg/m3	0.00005		0.0001	0.0001	Unknown
Dibromomethane	mg/m3	0.00007	0.0001	0.0001	0.0001	Unknown
Dichlorodifluoromethane (Freon 12)	mg/m3	0.004	0.004	0.004	0.003	Unknown
Ethylbenzene	mg/m3	0.0007	0.001	0.001	0.002	Normal/Lognormal
Hexane	mg/m3	0.15	0.07	0.07	0.02	Unknown
Isobutyl Alcohol	mg/m3	0.0006	0.0006	0.0006	0.0005	Unknown
Isopropylbenzene	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Methyl Acetate	mg/m3	0.0009	0.0007	0.0007	0.0006	Unknown
Methyl tert-Butyl Ether	mg/m3	0.002	0.003	0.002	0.003	Lognormal
Methylcyclohexane	mg/m3	0.002	0.001	0.001	0.001	Lognormal
Methylene Chloride	mg/m3	0.002	0.002	0.002	0.002	Unknown
Pentachloroethane	mg/m3	0.00007	0.0002	0.0002	0.0001	Unknown
Styrene	mg/m3	0.0007	0.001	0.0007	0.001	Lognormal
Tetrachloroethene	mg/m3	0.001	0.002	0.002	0.002	Lognormal
Toluene	mg/m3	0.004	0.008	0.008	0.009	Normal/Lognormal
Trans-1,4-Dichloro-2-Butene	mg/m3	0.00004		0.00010	0.00009	Unknown
Trichloroethene	mg/m3	0.0002	0.0002	0.0002	0.0003	Unknown
Trichlorofluoromethane	mg/m3	0.0003	0.002	0.002	0.002	Unknown
Vinyl Acetate	mg/m3	0.001	0.0007	0.0007	0.0003	Unknown
Vinyl Chloride	mg/m3	0.00001		0.00004	0.00004	Unknown
Xylenes, Total	mg/m3	0.004	0.007	0.007	0.008	Normal/Lognormal
cis-1,2-Dichloroethene	mg/m3	0.00003	0.00006	0.00006	0.00005	Unknown
cis-1,3-Dichloropropene	mg/m3	0.00006	0.00005	0.00005	0.00003	Unknown
m,p-Xylenes	mg/m3	0.003	0.005	0.005	0.006	Normal/Lognormal
o-Xylene	mg/m3	0.0008	0.002	0.002	0.002	Normal/Lognormal
trans-1,2-Dichloroethene	mg/m3	0.00003	0.00007	0.00007	0.00006	Unknown
trans-1,3-Dichloropropene	mg/m3	0.00008	0.00007	0.00007	0.00005	Unknown

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde	mg/m3	49	91.84	0.0003	0.001	0.0002	0.057	0.007	0.001	
Benzaldehyde	mg/m3	49	83.67	0.00001	0.0007	0.00008	0.008	0.0005	0.0003	
Butyraldehyde	mg/m3	49	77.55	0.00003	0.0001	0.00005	0.002	0.0002	0.0001	0.0003
Crotonaldehyde	mg/m3	49	16.33	0.00001	0.00002	0.00002	0.0003	0.00002	0.000007	0.000007
Formaldehyde	mg/m3	49	95.92	0.002	0.003	0.0003	0.017	0.002	0.002	0.001
Hexaldehyde	mg/m3	49	65.31	0.00002	0.0002	0.00005	0.0007	0.0002	0.0001	0.00001
M-tolualdehyde	mg/m3	49	48.98	0.00001	0.0002	0.00004	0.0005	0.0001	0.00005	0.000007
Methacrylaldehyde	mg/m3	49	42.86	0.00001	0.00001	0.00003	0.0006	0.00007	0.000007	0.000007
N-valeraldehyde	mg/m3	49	61.22	0.00001	0.00001	0.00002	0.0004	0.00007	0.00003	0.000007
Propionaldehyde	mg/m3	49	85.71	0.000007	0.0004	0.00003	0.002	0.0002	0.0001	
Dioxins/Furans										
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	48	68.75	0.0000000000	0.0000000000	0.0000000000	0.0000000006	0.0000000000	0.0000000000	
Inorganics										
Aluminum	mg/m3	48	68.75	0.00001	0.001	0.00004	0.0009	0.0002	0.00010	
Antimony	mg/m3	48	0.00	0.000004	0.00001			0.000003	0.000003	
Arsenic	mg/m3	48	62.50	0.0000002	0.0000005	0.0000003	0.00002	0.000001	0.0000003	
Barium	mg/m3	48	56.25	0.000002	0.0002	0.000003	0.00004	0.000007	0.000004	
Beryllium	mg/m3	48	0.00	0.0000001	0.0000003			0.00000010	0.00000009	
Cadmium (Diet)	mg/m3	48	18.75	0.0000001	0.0000003	0.0000002	0.0000004	0.0000001	0.0000001	
Chromium	mg/m3	48	35.42	0.0000004	0.0000006	0.0000005	0.000010	0.000001	0.0000009	
Cobalt	mg/m3	48	25.00	0.0000001	0.0000005	0.0000001	0.0000005	0.0000001	0.00000007	
Copper	mg/m3	48	0.00	0.0004	0.001			0.0003	0.0003	
Iron	mg/m3	48	0.00	0.009	0.021			0.006	0.006	
Lead	mg/m3	48	81.25	0.000001	0.00001	0.000001	0.00002	0.000004	0.000004	
Manganese (Diet)	mg/m3	48	43.75	0.0000002	0.00002	0.0000005	0.00002	0.000004	0.000003	
Mercury	mg/m3	51	82.35	0.0000001	0.000008	0.0000004	0.000010	0.000003	0.000002	
Nickel	mg/m3	48	0.00	0.0002	0.0005			0.0001	0.0001	
Selenium	mg/m3	48	0.00	0.00004	0.0001			0.00003	0.00003	
Silver	mg/m3	48	0.00	0.00004	0.0001			0.00003	0.00003	
Thallium	mg/m3	48	6.25	0.0000009	0.000003	0.000002	0.000003	0.0000007	0.0000006	
Tin	mg/m3	48	37.50	0.0000002	0.00001	0.0000002	0.000006	0.000001	0.0000008	
Vanadium	mg/m3	48	2.08	0.000009	0.00002	0.00002	0.00002	0.000006	0.000006	

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics										
Zinc	mg/m3	48	0.00	0.002	0.005			0.001	0.001	
Polychlorinated bi-phenyls										
Aroclor 1016	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1221	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1232	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1242	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1248	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1254	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1260	mg/m3	49	0.00	0.0000001	0.00001			0.000006	0.000006	
Pesticides										
4,4-DDD	mg/m3	49	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
4,4-DDE	mg/m3	49	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
4,4-DDT	mg/m3	49	0.00	0.0000009	0.000001			0.0000005	0.0000005	
Aldrin	mg/m3	49	0.00	0.0000010	0.000001			0.0000006	0.0000006	
Dieldrin	mg/m3	49	0.00	0.0000007	0.0000009			0.0000004	0.0000004	
Endosulfan I	mg/m3	49	0.00	0.000001	0.000002			0.0000007	0.0000007	
Endosulfan II	mg/m3	49	0.00	0.0000005	0.0000006			0.0000003	0.0000003	
Endosulfan Sulfate	mg/m3	49	0.00	0.000001	0.000001			0.0000006	0.0000006	
Endrin	mg/m3	49	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
Endrin Aldehyde	mg/m3	49	0.00	0.0000002	0.0000003			0.0000001	0.0000001	
Heptachlor	mg/m3	49	0.00	0.0000006	0.0000007			0.0000003	0.0000003	
Heptachlor Epoxide	mg/m3	49	0.00	0.0000006	0.0000008			0.0000003	0.0000004	
Methoxychlor	mg/m3	49	0.00	0.000002	0.000002			0.000001	0.000001	
Toxaphene	mg/m3	49	0.00	0.0000010	0.0001			0.000005	0.000006	
alpha-BHC	mg/m3	49	0.00	0.0000003	0.0000004			0.0000002	0.0000002	
alpha-Chlordane	mg/m3	49	0.00	0.0000005	0.0000007			0.0000003	0.0000003	
beta-BHC	mg/m3	49	0.00	0.0000002	0.0000002			0.0000009	0.0000009	
delta-BHC	mg/m3	49	0.00	0.0000006	0.0000008			0.0000003	0.0000003	
gamma-BHC (Lindane)	mg/m3	49	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
gamma-Chlordane	mg/m3	49	0.00	0.000001	0.000002			0.0000008	0.0000008	

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
PM-10										
Gravimetrics-PM10	mg/m3	48	100.00			0.006	0.103	0.03	0.03	
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	mg/m3	49	34.69	0.000003	0.000005	0.000003	0.000002	0.000004	0.000002	
1,2,4,5-Tetrachlorobenzene	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	
2,3,4,6-Tetrachlorophenol	mg/m3	49	0.00	0.000003	0.000004			0.000002	0.000002	
2,4,5-Trichlorophenol	mg/m3	49	4.08	0.000008	0.000001	0.000003	0.000003	0.000005	0.000005	
2,4,6-Trichlorophenol	mg/m3	49	2.04	0.000005	0.000007	0.000002	0.000002	0.000003	0.000003	
2,4-Dichlorophenol	mg/m3	49	8.16	0.000005	0.000007	0.000007	0.000002	0.000004	0.000003	
2,4-Dimethylphenol	mg/m3	49	36.73	0.000005	0.000001	0.000006	0.000002	0.000002	0.000003	
2,4-Dinitrophenol	mg/m3	46	0.00	0.000003	0.000003			0.000001	0.000002	
2,4-Dinitrotoluene	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	
2,6-Dichlorophenol	mg/m3	49	6.12	0.000003	0.000003	0.000006	0.000003	0.000002	0.000002	
2,6-Dinitrotoluene	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	
2-Chloronaphthalene	mg/m3	49	2.04	0.000003	0.000003	0.000007	0.000007	0.000002	0.000002	
2-Chlorophenol	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	
2-Methylnaphthalene	mg/m3	49	16.33	0.000003	0.000007	0.000004	0.000002	0.000003	0.000002	
2-Methylphenol (o-Cresol)	mg/m3	49	30.61	0.000003	0.000001	0.000001	0.000001	0.000001	0.000002	
2-Nitrophenol	mg/m3	49	4.08	0.000005	0.000007	0.000006	0.000001	0.000003	0.000003	
3&4-Methylphenol	mg/m3	49	32.65	0.000002	0.000004	0.000002	0.000004	0.000005	0.000001	
3-Nitroaniline	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	
4,6-Dinitro-2-Methylphenol	mg/m3	49	0.00	0.000001	0.000002			0.000007	0.000008	
4-Bromophenylphenylether	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	
4-Chloro-3-Methylphenol	mg/m3	49	8.16	0.000005	0.000007	0.000003	0.000006	0.000006	0.000003	
4-Chloroaniline	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	
4-Nitroaniline	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	
4-Nitrophenol	mg/m3	48	0.00	0.000008	0.000001			0.000004	0.000005	
Acenaphthene	mg/m3	49	2.04	0.000003	0.000003	0.000009	0.000009	0.000002	0.000002	
Acenaphthylene	mg/m3	49	18.37	0.000003	0.000003	0.000004	0.000001	0.000003	0.000002	
Aniline	mg/m3	49	0.00	0.000003	0.000003			0.000002	0.000002	
Anthracene	mg/m3	49	16.33	0.000003	0.000003	0.000003	0.000003	0.000003	0.000002	
Atrazine	mg/m3	49	0.00	0.000003	0.000003			0.000001	0.000002	
Benzo(a)anthracene	mg/m3	49	12.24	0.000003	0.000003	0.000003	0.000002	0.000002	0.000002	

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Semi-Volatile Organic Compounds										
Benzo(a)pyrene	mg/m3	49	4.08	0.0000002	0.0000003	0.0000004	0.000001	0.0000002	0.0000001	
Benzo(b)fluoranthene	mg/m3	49	2.04	0.0000005	0.0000007	0.0000005	0.000005	0.0000004	0.0000003	
Benzo(g,h,i)perylene	mg/m3	49	6.12	0.0000003	0.0000003	0.0000007	0.000003	0.0000002	0.0000002	
Benzo(k)fluoranthene	mg/m3	49	4.08	0.0000005	0.0000007	0.0000007	0.000002	0.0000003	0.0000003	
Bis(2-ethylhexyl)phthalate	mg/m3	49	55.10	0.0000003	0.0001	0.000004	0.006	0.0001	0.00002	
Butylbenzylphthalate	mg/m3	49	8.16	0.0000003	0.000005	0.0000006	0.00008	0.000002	0.0000002	
Carbazole	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	
Chrysene	mg/m3	49	18.37	0.0000003	0.0000003	0.0000004	0.000004	0.0000003	0.0000002	
Di-n-butylphthalate	mg/m3	49	34.69	0.0000003	0.00003	0.000005	0.0002	0.00002	0.000007	
Di-n-octylphthalate	mg/m3	49	2.04	0.0000005	0.0000007	0.000001	0.000001	0.0000003	0.0000003	
Dibenzo(a,h)anthracene	mg/m3	49	0.00	0.0000002	0.0000002			0.0000001	0.0000001	
Dibenzofuran	mg/m3	49	40.82	0.0000003	0.0000003	0.0000004	0.000008	0.000001	0.0000002	
Diethylphthalate	mg/m3	49	32.65	0.0000003	0.00001	0.000002	0.000007	0.000002	0.000002	
Dimethylphthalate	mg/m3	49	24.49	0.0000003	0.0000003	0.0000003	0.000003	0.0000004	0.0000002	
Diphenylamine	mg/m3	49	4.08	0.0000003	0.000005	0.000001	0.000002	0.0000003	0.0000002	
Fluoranthene	mg/m3	49	75.51	0.0000003	0.0000003	0.0000003	0.000004	0.000001	0.0000009	
Fluorene	mg/m3	49	40.82	0.0000003	0.0000004	0.0000003	0.000003	0.0000008	0.0000002	
Hexachlorobenzene	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	
Hexachlorobutadiene	mg/m3	54	25.93	0.0000003	0.002	0.0003	0.002	0.0003	0.0001	0.0001
Hexachlorocyclopentadiene	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	
Hexachloroethane	mg/m3	54	0.00	0.0000003	0.00007			0.00001	0.0000002	0.00004
Indeno(1,2,3-c,d)pyrene	mg/m3	49	0.00	0.000001	0.000002			0.0000007	0.0000008	
Naphthalene	mg/m3	49	32.65	0.0000003	0.000002	0.0000003	0.001	0.00002	0.0000003	
Nitrobenzene	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	
Pentachlorobenzene	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	
Pentachloronitrobenzene	mg/m3	49	0.00	0.0000004	0.0000007			0.0000003	0.0000003	
Pentachlorophenol	mg/m3	49	0.00	0.0000008	0.000001			0.0000004	0.0000005	
Phenanthrene	mg/m3	49	79.59	0.0000003	0.000003	0.0000010	0.00001	0.000004	0.000003	
Phenol	mg/m3	49	26.53	0.0000003	0.000007	0.0000009	0.00001	0.000001	0.0000002	
Pyrene	mg/m3	49	81.63	0.0000003	0.0000003	0.0000003	0.000003	0.0000009	0.0000008	
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	49	18.37	0.0000006	0.0000008	0.0000000004	0.000002	0.0000003	0.0000003	
o-Toluidine	mg/m3	49	0.00	0.0000003	0.0000003			0.0000001	0.0000002	

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	mg/m3	49	4.08	0.0002	0.0002	0.0002	0.0002	0.00009	0.00009	0.00009
1,1,1-Trichloroethane	mg/m3	49	20.41	0.0002	0.0002	0.0002	0.0003	0.0001	0.00008	0.00008
1,1,2,2-Tetrachloroethane	mg/m3	49	22.45	0.00004	0.00004	0.00010	0.0004	0.00006	0.00002	0.00002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	49	89.80	0.00008	0.0002	0.0004	0.003	0.0007	0.0006	0.00004
1,1,2-Trichloroethane	mg/m3	49	0.00	0.00008	0.00008			0.00004	0.00004	0.00004
1,1-Dichloroethane	mg/m3	49	0.00	0.00005	0.00005			0.00003	0.00003	0.00003
1,1-Dichloroethene	mg/m3	49	6.12	0.00010	0.00010	0.0002	0.0002	0.00006	0.00005	0.00005
1,2,3-Trichlorobenzene	mg/m3	46	13.04	0.0004	0.0004	0.001	0.002	0.0004	0.0002	0.0002
1,2,3-Trichloropropane	mg/m3	49	0.00	0.00007	0.00007			0.00004	0.00004	0.00004
1,2,4-Trichlorobenzene	mg/m3	47	23.40	0.0002	0.002	0.0006	0.002	0.0004	0.00010	0.00010
1,2,4-Trimethylbenzene	mg/m3	49	89.80	0.00005	0.0006	0.0003	0.006	0.0008	0.0006	0.00003
1,2-Dibromo-3-Chloropropane	mg/m3	47	2.13	0.00010	0.0003	0.0002	0.0002	0.00006	0.00005	0.00005
1,2-Dibromoethane	mg/m3	49	8.16	0.0001	0.0001	0.0001	0.0002	0.00007	0.00006	0.00006
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	49	6.12	0.0003	0.0003	0.0003	0.0004	0.0001	0.0001	0.0001
1,2-Dichlorobenzene	mg/m3	49	16.33	0.00010	0.0002	0.0001	0.0009	0.00010	0.00005	0.00005
1,2-Dichloroethane	mg/m3	49	12.24	0.00010	0.00010	0.0001	0.002	0.0001	0.00005	0.00005
1,2-Dichloropropane	mg/m3	49	57.14	0.00009	0.0002	0.0002	0.015	0.002	0.0003	0.00005
1,3,5-Trimethylbenzene	mg/m3	49	73.47	0.00005	0.0004	0.00009	0.002	0.0002	0.0002	0.00003
1,3-Butadiene	mg/m3	49	0.00	0.0005	0.0005			0.0002	0.0002	0.0002
1,3-Dichlorobenzene	mg/m3	49	14.29	0.00009	0.0002	0.00009	0.0008	0.00009	0.00005	0.00005
1,4-Dichlorobenzene	mg/m3	48	18.75	0.00009	0.0002	0.0002	0.0007	0.0001	0.00005	0.00005
2-Butanone (methyl ethyl ketone)	mg/m3	49	85.71	0.0003	0.0003	0.0005	0.015	0.002	0.001	0.0002
Acetone	mg/m3	49	95.92	0.001	0.001	0.004	0.094	0.01	0.009	0.0005
Acetonitrile	mg/m3	49	34.69	0.0004	0.0004	0.0004	0.006	0.0006	0.0002	0.0002
Acetophenone	mg/m3	47	27.66	0.001	0.001	0.001	0.054	0.005	0.0005	0.0005
Acrolein	mg/m3	49	61.22	0.0004	0.0004	0.0005	0.005	0.001	0.0009	0.0002
Acrylonitrile	mg/m3	49	4.08	0.0002	0.0002	0.0003	0.0004	0.0001	0.00010	0.00010
Benzene	mg/m3	49	97.96	0.0001	0.0001	0.0003	0.005	0.001	0.0008	0.0006
Bis(2-Chloroethyl)ether	mg/m3	49	0.00	0.0002	0.0002			0.00008	0.00008	0.00008
Bromodichloromethane	mg/m3	49	6.12	0.0002	0.0002	0.0002	0.0007	0.0001	0.00008	0.00008
Bromoform	mg/m3	49	2.04	0.0001	0.0001	0.0003	0.0003	0.00006	0.00006	0.00006
Bromomethane	mg/m3	49	8.16	0.00007	0.00007	0.0001	0.0003	0.00005	0.00004	0.00004
Carbon Disulfide	mg/m3	49	69.39	0.00010	0.0008	0.0001	0.014	0.001	0.0003	0.00005

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Carbon Tetrachloride	mg/m3	49	95.92	0.0001	0.0007	0.0003	0.0010	0.0006	0.0006	
Chlorobenzene	mg/m3	49	14.29	0.00004	0.0004	0.0001	0.0002	0.00005	0.00002	0.00002
Chloroethane	mg/m3	49	0.00	0.0001	0.0001			0.00006	0.00006	0.00006
Chloroform	mg/m3	49	48.98	0.0001	0.0003	0.0001	0.002	0.0002	0.0001	0.00006
Chloromethane	mg/m3	49	93.88	0.00007	0.00007	0.0007	0.015	0.002	0.002	0.00004
Cyclohexane	mg/m3	49	57.14	0.0001	0.0001	0.0002	0.031	0.001	0.0002	0.00006
Dibromochloromethane	mg/m3	49	0.00	0.0002	0.0002			0.0001	0.0001	0.0001
Dibromomethane	mg/m3	49	2.04	0.0002	0.0002	0.0002	0.0002	0.00008	0.00008	0.00008
Dichlorodifluoromethane (Freon 12)	mg/m3	49	91.84	0.0002	0.0002	0.0010	0.004	0.002	0.002	0.00009
Ethylbenzene	mg/m3	49	89.80	0.00003	0.0005	0.0002	0.004	0.0006	0.0005	0.00002
Hexane	mg/m3	49	91.84	0.0002	0.0002	0.0002	0.046	0.006	0.0008	0.00009
Isobutyl Alcohol	mg/m3	49	20.41	0.0005	0.0005	0.0008	0.005	0.0007	0.0002	0.0002
Isopropylbenzene	mg/m3	49	10.20	0.00007	0.00007	0.00009	0.0003	0.00005	0.00004	0.00004
Methyl Acetate	mg/m3	49	16.33	0.0003	0.0003	0.0003	0.0009	0.0002	0.0001	0.0001
Methyl tert-Butyl Ether	mg/m3	49	40.82	0.0002	0.0002	0.0002	0.002	0.0003	0.00009	0.00009
Methylcyclohexane	mg/m3	49	65.31	0.00008	0.00008	0.00010	0.043	0.001	0.0002	0.00004
Methylene Chloride	mg/m3	49	85.71	0.00008	0.00008	0.0003	0.008	0.0006	0.0005	0.00004
Pentachloroethane	mg/m3	49	0.00	0.0003	0.0003			0.0001	0.0001	0.0001
Styrene	mg/m3	49	51.02	0.00007	0.0002	0.0001	0.017	0.0005	0.0001	0.00004
Tetrachloroethene	mg/m3	49	44.90	0.001	0.001	0.001	0.048	0.002	0.0007	0.0007
Toluene	mg/m3	49	97.96	0.0003	0.0003	0.0005	0.054	0.004	0.002	0.002
Trans-1,4-Dichloro-2-Butene	mg/m3	47	0.00	0.0002	0.0002			0.00009	0.00009	0.00009
Trichloroethene	mg/m3	49	20.41	0.00008	0.0003	0.0001	0.0005	0.00008	0.00004	0.00004
Trichlorofluoromethane	mg/m3	49	97.96	0.0003	0.0003	0.0009	0.002	0.002	0.002	0.002
Vinyl Acetate	mg/m3	49	14.29	0.0001	0.0001	0.0002	0.003	0.0003	0.00006	0.00006
Vinyl Chloride	mg/m3	49	0.00	0.00007	0.00007			0.00004	0.00004	0.00004
Xylenes, Total	mg/m3	49	100.00			0.0002	0.015	0.003	0.002	
cis-1,2-Dichloroethene	mg/m3	49	0.00	0.00009	0.00009			0.00005	0.00005	0.00005
cis-1,3-Dichloropropene	mg/m3	49	4.08	0.00004	0.00004	0.00009	0.0001	0.00002	0.00002	0.00002
m,p-Xylenes	mg/m3	49	100.00			0.0002	0.012	0.002	0.002	0.001
o-Xylene	mg/m3	49	89.80	0.00006	0.0008	0.0002	0.004	0.0007	0.0006	0.00003
trans-1,2-Dichloroethene	mg/m3	49	2.04	0.0001	0.0001	0.0002	0.0002	0.00006	0.00006	0.00006
trans-1,3-Dichloropropene	mg/m3	49	4.08	0.00007	0.00007	0.0001	0.0002	0.00004	0.00004	0.00004

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde	mg/m3	0.01	0.01	0.01	0.009	Unknown
Benzaldehyde	mg/m3	0.001	0.0008	0.0008	0.0009	Unknown
Butyraldehyde	mg/m3	0.0003	0.0003	0.0003	0.0004	Unknown
Crotonaldehyde	mg/m3	0.00005	0.00003	0.00003	0.00002	Unknown
Formaldehyde	mg/m3	0.003	0.003	0.003	0.003	Lognormal
Hexaldehyde	mg/m3	0.0002	0.0002	0.0002	0.0004	Unknown
M-tolualdehyde	mg/m3	0.0002	0.0002	0.0002	0.0005	Unknown
Methacrylaldehyde	mg/m3	0.0001	0.00009	0.00009	0.0001	Unknown
N-valeraldehyde	mg/m3	0.00009	0.00009	0.00009	0.0001	Unknown
Propionaldehyde	mg/m3	0.0002	0.0002	0.0002	0.0002	Lognormal
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	0.0000000000	0.0000000000	0.0000000000	0.0000000000	Unknown
Inorganics						
Aluminum	mg/m3	0.0002	0.0003	0.0002	0.0003	Lognormal
Antimony	mg/m3	0.0000005		0.000003	0.000003	Unknown
Arsenic	mg/m3	0.000003	0.000002	0.000002	0.000002	Unknown
Barium	mg/m3	0.00001	0.00001	0.00001	0.000008	Unknown
Beryllium	mg/m3	0.0000002		0.0000010	0.0000010	Unknown
Cadmium (Diet)	mg/m3	0.0000008	0.0000002	0.0000002	0.0000002	Unknown
Chromium	mg/m3	0.000002	0.000002	0.000002	0.000002	Lognormal
Cobalt	mg/m3	0.00000010	0.0000001	0.0000001	0.0000001	Unknown
Copper	mg/m3	0.00005		0.0003	0.0003	Unknown
Iron	mg/m3	0.0009		0.006	0.006	Unknown
Lead	mg/m3	0.000003	0.000006	0.000005	0.000006	Lognormal
Manganese (Diet)	mg/m3	0.000004	0.000007	0.000005	0.000007	Lognormal
Mercury	mg/m3	0.000002	0.000003	0.000003	0.000004	Unknown
Nickel	mg/m3	0.00002		0.0002	0.0002	Unknown
Selenium	mg/m3	0.000005		0.00003	0.00003	Unknown
Silver	mg/m3	0.000005		0.00003	0.00003	Unknown
Thallium	mg/m3	0.0000005	0.0000009	0.0000009	0.0000008	Unknown
Tin	mg/m3	0.000001	0.000002	0.000001	0.000002	Lognormal
Vanadium	mg/m3	0.000002	0.000007	0.000007	0.000006	Unknown

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics						
Zinc	mg/m3	0.0002		0.002	0.002	Unknown
Polychlorinated bi-phenyls						
Aroclor 1016	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1221	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1232	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1242	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1248	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1254	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1260	mg/m3	0.000001		0.000006	0.00001	Unknown
Pesticides						
4,4-DDD	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDE	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDT	mg/m3	0.00000003		0.0000005	0.0000005	Unknown
Aldrin	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Dieldrin	mg/m3	0.00000002		0.0000004	0.0000004	Unknown
Endosulfan I	mg/m3	0.00000004		0.0000007	0.0000007	Unknown
Endosulfan II	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Endosulfan Sulfate	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Endrin	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Endrin Aldehyde	mg/m3	0.00000008		0.0000001	0.0000001	Unknown
Heptachlor	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Heptachlor Epoxide	mg/m3	0.00000002		0.0000004	0.0000004	Unknown
Methoxychlor	mg/m3	0.00000006		0.000001	0.000001	Unknown
Toxaphene	mg/m3	0.00001		0.00006	0.0001	Unknown
alpha-BHC	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
alpha-Chlordane	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
beta-BHC	mg/m3	0.000000005		0.00000009	0.00000009	Unknown
delta-BHC	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
gamma-BHC (Lindane)	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
gamma-Chlordane	mg/m3	0.00000004		0.0000008	0.0000008	Unknown

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
PM-10						
Gravimetrics-PM10	mg/m3	0.02	0.04	0.04	0.04	Lognormal
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	mg/m3	0.0000004	0.0000005	0.0000005	0.0000004	Unknown
1,2,4,5-Tetrachlorobenzene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
2,3,4,6-Tetrachlorophenol	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,4,5-Trichlorophenol	mg/m3	0.0000005	0.0000007	0.0000007	0.0000006	Unknown
2,4,6-Trichlorophenol	mg/m3	0.0000002	0.0000004	0.0000004	0.0000003	Unknown
2,4-Dichlorophenol	mg/m3	0.0000004	0.0000005	0.0000005	0.0000004	Unknown
2,4-Dimethylphenol	mg/m3	0.0000004	0.0000003	0.0000003	0.0000002	Unknown
2,4-Dinitrophenol	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,4-Dinitrotoluene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
2,6-Dichlorophenol	mg/m3	0.0000004	0.0000003	0.0000003	0.0000002	Unknown
2,6-Dinitrotoluene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
2-Chloronaphthalene	mg/m3	0.00000008	0.0000002	0.0000002	0.0000002	Unknown
2-Chlorophenol	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
2-Methylnaphthalene	mg/m3	0.0000004	0.0000004	0.0000004	0.0000003	Unknown
2-Methylphenol (o-Cresol)	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
2-Nitrophenol	mg/m3	0.0000001	0.0000004	0.0000004	0.0000003	Unknown
3&4-Methylphenol	mg/m3	0.0000009	0.0000007	0.0000007	0.0000006	Unknown
3-Nitroaniline	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,6-Dinitro-2-Methylphenol	mg/m3	0.00000005		0.0000008	0.0000008	Unknown
4-Bromophenylphenylether	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4-Chloro-3-Methylphenol	mg/m3	0.0000001	0.0000009	0.0000009	0.0000006	Unknown
4-Chloroaniline	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4-Nitroaniline	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4-Nitrophenol	mg/m3	0.00000003		0.0000005	0.0000005	Unknown
Acenaphthene	mg/m3	0.0000001	0.0000002	0.0000002	0.0000002	Unknown
Acenaphthylene	mg/m3	0.0000003	0.0000003	0.0000003	0.0000003	Unknown
Aniline	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
Anthracene	mg/m3	0.0000005	0.0000005	0.0000005	0.0000003	Unknown
Atrazine	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Benzo(a)anthracene	mg/m3	0.0000003	0.0000003	0.0000003	0.0000002	Unknown
Benzo(a)pyrene	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	mg/m3	0.0000006	0.0000005	0.0000005	0.0000004	Unknown
Benzo(g,h,i)perylene	mg/m3	0.0000004	0.0000003	0.0000003	0.0000002	Unknown
Benzo(k)fluoranthene	mg/m3	0.0000002	0.0000004	0.0000004	0.0000004	Unknown
Bis(2-ethylhexyl)phthalate	mg/m3	0.0008	0.0003	0.0003	0.00009	Unknown
Butylbenzylphthalate	mg/m3	0.00001	0.000004	0.000004	0.0000006	Unknown
Carbazole	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Chrysene	mg/m3	0.0000006	0.0000005	0.0000005	0.0000003	Unknown
Di-n-butylphthalate	mg/m3	0.00003	0.00004	0.00003	0.00004	Lognormal
Di-n-octylphthalate	mg/m3	0.0000002	0.0000004	0.0000004	0.0000003	Unknown
Dibenzo(a,h)anthracene	mg/m3	0.000000007		0.0000001	0.0000001	Unknown
Dibenzofuran	mg/m3	0.000002	0.000001	0.000001	0.000002	Unknown
Diethylphthalate	mg/m3	0.000002	0.000003	0.000003	0.000006	Unknown
Dimethylphthalate	mg/m3	0.0000006	0.0000005	0.0000005	0.0000004	Unknown
Diphenylamine	mg/m3	0.0000004	0.0000004	0.0000004	0.0000003	Unknown
Fluoranthene	mg/m3	0.0000009	0.000001	0.000001	0.000002	Unknown
Fluorene	mg/m3	0.0000009	0.000001	0.000001	0.000001	Unknown
Hexachlorobenzene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Hexachlorobutadiene	mg/m3	0.0004	0.0004	0.0004	0.007	Unknown
Hexachlorocyclopentadiene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Hexachloroethane	mg/m3	0.00002		0.00002	0.0003	Unknown
Indeno(1,2,3-c,d)pyrene	mg/m3	0.00000005		0.0000008	0.0000008	Unknown
Naphthalene	mg/m3	0.0001	0.00006	0.00006	0.000002	Unknown
Nitrobenzene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Pentachlorobenzene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Pentachloronitrobenzene	mg/m3	0.00000004		0.0000003	0.0000003	Unknown
Pentachlorophenol	mg/m3	0.00000003		0.0000005	0.0000005	Unknown
Phenanthrene	mg/m3	0.000004	0.000006	0.000005	0.000006	Lognormal
Phenol	mg/m3	0.000002	0.000002	0.000002	0.000002	Unknown
Pyrene	mg/m3	0.0000008	0.000001	0.000001	0.000001	Unknown
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	0.0000003	0.0000004	0.0000004	0.0000002	Unknown
o-Toluidine	mg/m3	0.00000001		0.0000002	0.0000002	Unknown

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	mg/m3	0.00002	0.0001	0.0001	0.00010	Unknown
1,1,1-Trichloroethane	mg/m3	0.00006	0.0001	0.0001	0.0001	Unknown
1,1,2,2-Tetrachloroethane	mg/m3	0.00009	0.00009	0.00009	0.00008	Unknown
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	0.0004	0.0008	0.0008	0.0010	Unknown
1,1,2-Trichloroethane	mg/m3			0.00004	0.00004	Unknown
1,1-Dichloroethane	mg/m3	0.0000000000		0.00003	0.00003	Unknown
1,1-Dichloroethene	mg/m3	0.00003	0.00006	0.00006	0.00006	Unknown
1,2,3-Trichlorobenzene	mg/m3	0.0005	0.0005	0.0005	0.0004	Unknown
1,2,3-Trichloropropane	mg/m3			0.00004	0.00004	Unknown
1,2,4-Trichlorobenzene	mg/m3	0.0006	0.0006	0.0006	0.0006	Unknown
1,2,4-Trimethylbenzene	mg/m3	0.0010	0.001	0.001	0.001	Unknown
1,2-Dibromo-3-Chloropropane	mg/m3	0.00003	0.00006	0.00006	0.00006	Unknown
1,2-Dibromoethane	mg/m3	0.00003	0.00008	0.00008	0.00007	Unknown
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	0.00005	0.0002	0.0002	0.0002	Unknown
1,2-Dichlorobenzene	mg/m3	0.0002	0.0001	0.0001	0.0001	Unknown
1,2-Dichloroethane	mg/m3	0.0003	0.0002	0.0002	0.00009	Unknown
1,2-Dichloropropane	mg/m3	0.003	0.003	0.003	0.009	Unknown
1,3,5-Trimethylbenzene	mg/m3	0.0003	0.0003	0.0003	0.0004	Unknown
1,3-Butadiene	mg/m3			0.0002	0.0002	Unknown
1,3-Dichlorobenzene	mg/m3	0.0002	0.0001	0.0001	0.00009	Unknown
1,4-Dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0001	Unknown
2-Butanone (methyl ethyl ketone)	mg/m3	0.002	0.002	0.002	0.002	Unknown
Acetone	mg/m3	0.01	0.02	0.02	0.02	Unknown
Acetonitrile	mg/m3	0.001	0.0009	0.0009	0.0007	Unknown
Acetophenone	mg/m3	0.01	0.008	0.008	0.005	Unknown
Acrolein	mg/m3	0.001	0.002	0.002	0.002	Unknown
Acrylonitrile	mg/m3	0.00006	0.0001	0.0001	0.0001	Unknown
Benzene	mg/m3	0.0008	0.001	0.001	0.001	Unknown
Bis(2-Chloroethyl)ether	mg/m3			0.00008	0.00008	Unknown
Bromodichloromethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Bromoform	mg/m3	0.00003	0.00007	0.00007	0.00006	Unknown
Bromomethane	mg/m3	0.00007	0.00007	0.00007	0.00006	Unknown
Carbon Disulfide	mg/m3	0.002	0.002	0.002	0.003	Unknown

Table C-4: Ambient Air Statistical Summary for Study Area 4

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Carbon Tetrachloride	mg/m3	0.0001	0.0006	0.0006	0.0007	Normal
Chlorobenzene	mg/m3	0.00006	0.00006	0.00006	0.00005	Unknown
Chloroethane	mg/m3	0.0000000000		0.00006	0.00006	Unknown
Chloroform	mg/m3	0.0004	0.0003	0.0003	0.0003	Unknown
Chloromethane	mg/m3	0.002	0.002	0.002	0.003	Unknown
Cyclohexane	mg/m3	0.004	0.002	0.002	0.001	Unknown
Dibromochloromethane	mg/m3			0.0001	0.0001	Unknown
Dibromomethane	mg/m3	0.00002	0.00008	0.00008	0.00008	Unknown
Dichlorodifluoromethane (Freon 12)	mg/m3	0.0008	0.002	0.002	0.003	Unknown
Ethylbenzene	mg/m3	0.0007	0.0008	0.0008	0.001	Unknown
Hexane	mg/m3	0.01	0.009	0.009	0.01	Unknown
Isobutyl Alcohol	mg/m3	0.001	0.0009	0.0009	0.0007	Unknown
Isopropylbenzene	mg/m3	0.00006	0.00006	0.00006	0.00005	Unknown
Methyl Acetate	mg/m3	0.0001	0.0002	0.0002	0.0002	Unknown
Methyl tert-Butyl Ether	mg/m3	0.0004	0.0005	0.0005	0.0005	Unknown
Methylcyclohexane	mg/m3	0.006	0.003	0.003	0.0008	Unknown
Methylene Chloride	mg/m3	0.001	0.0009	0.0009	0.0009	Unknown
Pentachloroethane	mg/m3			0.0001	0.0001	Unknown
Styrene	mg/m3	0.002	0.001	0.001	0.0004	Unknown
Tetrachloroethene	mg/m3	0.007	0.004	0.004	0.002	Unknown
Toluene	mg/m3	0.007	0.005	0.005	0.004	Unknown
Trans-1,4-Dichloro-2-Butene	mg/m3	0.0000000000		0.00009	0.00009	Unknown
Trichloroethene	mg/m3	0.0001	0.0001	0.0001	0.00009	Unknown
Trichlorofluoromethane	mg/m3	0.0003	0.002	0.002	0.002	Unknown
Vinyl Acetate	mg/m3	0.0007	0.0004	0.0004	0.0003	Unknown
Vinyl Chloride	mg/m3			0.00004	0.00004	Unknown
Xylenes, Total	mg/m3	0.003	0.004	0.004	0.004	Lognormal
cis-1,2-Dichloroethene	mg/m3	0.0000000000		0.00005	0.00005	Unknown
cis-1,3-Dichloropropene	mg/m3	0.00002	0.00003	0.00003	0.00002	Unknown
m,p-Xylenes	mg/m3	0.002	0.003	0.003	0.003	Unknown
o-Xylene	mg/m3	0.0006	0.0009	0.0009	0.0010	Unknown
trans-1,2-Dichloroethene	mg/m3	0.00002	0.00006	0.00006	0.00006	Unknown
trans-1,3-Dichloropropene	mg/m3	0.00002	0.00005	0.00005	0.00004	Unknown

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde(ethanal);C2H4O	mg/m3	55	94.55	0.001	0.002	0.0002	0.049	0.007	0.002	
Benzaldehyde	mg/m3	49	89.80	0.00001	0.0002	0.0001	0.004	0.0006	0.0004	
Butyraldehyde	mg/m3	49	69.39	0.00003	0.00003	0.00005	0.001	0.0003	0.0002	0.00001
Crotonaldehyde	mg/m3	49	24.49	0.00001	0.00002	0.00004	0.0003	0.00003	0.000007	0.000007
Formaldehyde	mg/m3	49	93.88	0.002	0.003	0.0006	0.008	0.002	0.002	
Hexaldehyde	mg/m3	49	65.31	0.00002	0.0002	0.00003	0.0009	0.0001	0.0001	0.00001
M-tolualdehyde	mg/m3	49	34.69	0.00001	0.0002	0.00003	0.002	0.0001	0.000009	0.000007
Methacrylaldehyde	mg/m3	49	75.51	0.00001	0.00002	0.00002	0.0005	0.0001	0.00007	0.000007
N-valeraldehyde	mg/m3	49	71.43	0.00001	0.00002	0.00002	0.0006	0.0001	0.00006	0.000007
Propionaldehyde	mg/m3	49	85.71	0.000006	0.0006	0.00003	0.0008	0.0002	0.0002	0.0001
Dioxins/Furans										
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	49	95.92	0.0000000000	0.0000000000	0.0000000000	0.000000002	0.0000000002	0.0000000000	
Inorganics										
Aluminum	mg/m3	50	86.00	0.00007	0.002	0.00002	0.003	0.0005	0.0003	
Antimony	mg/m3	50	34.00	0.000005	0.000009	0.000006	0.00004	0.000007	0.000003	
Arsenic	mg/m3	50	68.00	0.0000002	0.000002	0.0000003	0.00002	0.000003	0.000002	
Barium	mg/m3	50	78.00	0.000003	0.00003	0.000004	0.00003	0.00001	0.000010	
Beryllium	mg/m3	50	16.00	0.0000001	0.0000005	0.0000002	0.0000006	0.0000001	0.00000010	
Cadmium (Food)	mg/m3	50	60.00	0.0000002	0.000001	0.0000002	0.000001	0.0000003	0.0000003	
Chromium	mg/m3	50	38.00	0.0000004	0.000010	0.0000008	0.000009	0.000002	0.000002	
Cobalt	mg/m3	50	56.00	0.0000001	0.0000007	0.0000001	0.0000005	0.0000002	0.0000002	
Copper	mg/m3	50	0.00	0.0004	0.0009			0.0003	0.0003	
Iron	mg/m3	50	0.00	0.009	0.018			0.006	0.006	
Lead	mg/m3	50	88.00	0.000001	0.00004	0.000002	0.00005	0.00001	0.00001	
Manganese (food)	mg/m3	50	76.00	0.0000002	0.00003	0.0000007	0.00005	0.00001	0.000008	
Mercury	mg/m3	50	70.00	0.00000005	0.000006	0.000000002	0.00001	0.000002	0.000001	
Nickel	mg/m3	50	0.00	0.0002	0.0005			0.0002	0.0002	
Selenium	mg/m3	50	0.00	0.00004	0.00009			0.00003	0.00003	
Silver	mg/m3	50	0.00	0.00004	0.00009			0.00003	0.00003	
Thallium	mg/m3	50	6.00	0.0000009	0.000003	0.000002	0.000006	0.0000009	0.0000006	
Tin	mg/m3	50	62.00	0.0000002	0.00001	0.0000002	0.00001	0.000003	0.000003	
Vanadium	mg/m3	50	4.00	0.000009	0.00002	0.00001	0.00002	0.000007	0.000006	

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics										
Zinc	mg/m3	50	0.00	0.002	0.005			0.002	0.002	
Polychlorinated bi-phenyls										
Aroclor 1016	mg/m3	49	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1221	mg/m3	49	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1232	mg/m3	49	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1242	mg/m3	49	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1248	mg/m3	49	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1254	mg/m3	49	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Aroclor 1260	mg/m3	49	0.00	0.0000001	0.00002			0.000006	0.000006	0.000006
Pesticides										
4,4? DDD	mg/m3	49	2.04	0.0000004	0.000008	0.000002	0.000002	0.0000003	0.0000002	0.0000002
4,4?-DDE	mg/m3	49	0.00	0.0000004	0.000007			0.0000003	0.0000002	0.0000002
4,4?-DDT	mg/m3	49	0.00	0.0000009	0.00004			0.000001	0.0000005	0.0000005
Aldrin	mg/m3	49	0.00	0.0000010	0.000006			0.0000006	0.0000006	0.0000006
Chlordane	mg/m3	1	0.00	0.000009	0.000009			0.000004	0.000004	
Dieldrin	mg/m3	49	2.04	0.0000007	0.000008	0.000003	0.000003	0.0000005	0.0000004	0.0000004
Endosulfan I	mg/m3	49	0.00	0.000001	0.000006			0.0000008	0.0000007	0.0000007
Endosulfan II	mg/m3	49	0.00	0.0000005	0.000009			0.0000004	0.0000003	0.0000003
Endosulfan sulfate	mg/m3	49	4.08	0.000001	0.000010	0.000008	0.000009	0.000001	0.0000006	0.0000006
Endrin	mg/m3	49	0.00	0.0000004	0.000009			0.0000003	0.0000002	0.0000002
Endrin aldehyde	mg/m3	49	0.00	0.0000002	0.000007			0.0000002	0.0000001	0.0000001
Heptachlor	mg/m3	49	0.00	0.0000005	0.000007			0.0000004	0.0000003	0.0000003
Heptachlor epoxide	mg/m3	49	0.00	0.0000006	0.00001			0.0000005	0.0000004	0.0000004
Methoxychlor	mg/m3	49	0.00	0.000002	0.000009			0.000001	0.000001	0.000001
Toxaphene	mg/m3	49	0.00	0.000001	0.0001			0.000005	0.000006	0.0000006
alpha-BHC	mg/m3	49	0.00	0.0000003	0.000007			0.0000003	0.0000002	0.0000002
alpha-Chlordane	mg/m3	49	0.00	0.0000005	0.000007			0.0000004	0.0000003	0.0000003
beta-BHC	mg/m3	49	0.00	0.0000002	0.000009			0.0000002	0.00000009	0.00000009
delta-BHC	mg/m3	49	0.00	0.0000006	0.000009			0.0000004	0.0000003	0.0000003
gamma-BHC (Lindane)	mg/m3	49	0.00	0.0000004	0.000006			0.0000003	0.0000002	0.0000002
gamma-Chlordane	mg/m3	49	0.00	0.000001	0.000008			0.0000009	0.0000008	0.0000008

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
PM-10										
Gravimetrics-PM10	mg/m3	49	100.00			0.006	0.213	0.06	0.05	
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	mg/m3	49	51.02	0.0000003	0.0000009	0.0000003	0.000006	0.0000008	0.0000004	
1,2,4,5-Tetrachlorobenzene	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
2,3,4,6-Tetrachlorophenol	mg/m3	46	0.00	0.0000003	0.0000005			0.0000002	0.0000002	0.0000002
2,4,5-Trichlorophenol	mg/m3	46	4.35	0.0000008	0.0000001	0.0000006	0.0000007	0.0000007	0.0000005	0.0000005
2,4,6-Trichlorophenol	mg/m3	46	4.35	0.0000005	0.0000008	0.0000006	0.0000009	0.0000006	0.0000003	0.0000003
2,4-Dichlorophenol	mg/m3	47	8.51	0.0000005	0.0000008	0.0000009	0.000001	0.0000008	0.0000003	0.0000003
2,4-Dimethylphenol	mg/m3	49	40.82	0.0000005	0.0000001	0.0000007	0.000005	0.0000004	0.0000004	
2,4-Dinitrophenol	mg/m3	42	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
2,4-Dinitrotoluene	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
2,6-Dichlorophenol	mg/m3	47	10.64	0.0000003	0.0000004	0.0000004	0.0000007	0.0000005	0.0000002	0.0000002
2,6-Dinitrotoluene	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
2-Chloronaphthalene	mg/m3	48	2.08	0.0000003	0.0000004	0.0000001	0.0000001	0.0000002	0.0000002	0.0000002
2-Chlorophenol	mg/m3	46	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
2-Methylnaphthalene	mg/m3	49	26.53	0.0000003	0.0000010	0.0000003	0.0000003	0.0000005	0.0000002	0.0000002
2-Methylphenol (o-Cresol)	mg/m3	47	44.68	0.0000003	0.0000002	0.0000006	0.000006	0.0000004	0.0000002	
2-Nitrophenol	mg/m3	47	8.51	0.0000005	0.0000008	0.0000006	0.0000004	0.0000005	0.0000003	0.0000003
3&4-Methylphenol	mg/m3	47	46.81	0.0000002	0.0000005	0.0000002	0.000001	0.0000001	0.0000002	
3-Nitroaniline	mg/m3	48	2.08	0.0000003	0.0000004	0.0000003	0.0000003	0.0000002	0.0000002	0.0000002
4,6-Dinitro-2-Methylphenol	mg/m3	46	0.00	0.0000001	0.0000002			0.0000008	0.0000008	0.0000008
4-Bromophenylphenylether	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
4-Chloro-3-Methylphenol	mg/m3	46	10.87	0.0000005	0.0000008	0.0000003	0.000002	0.0000001	0.0000003	0.0000003
4-Chloroaniline	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
4-Nitroaniline	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
4-Nitrophenol	mg/m3	43	4.65	0.0000008	0.0000001	0.0000003	0.0000004	0.0000006	0.0000005	0.0000005
Acenaphthene	mg/m3	49	12.24	0.0000003	0.0000004	0.0000008	0.000002	0.0000008	0.0000002	0.0000002
Acenaphthylene	mg/m3	49	46.94	0.0000003	0.0000004	0.0000004	0.000002	0.0000002	0.0000002	
Aniline	mg/m3	47	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
Anthracene	mg/m3	49	32.65	0.0000003	0.0000004	0.0000003	0.0000004	0.0000006	0.0000002	0.0000002
Atrazine	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
Benzo(a)anthracene	mg/m3	49	20.41	0.0000003	0.0000004	0.0000004	0.0000005	0.0000005	0.0000002	0.0000002

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Semi-Volatile Organic Compounds										
Benzo(a)pyrene	mg/m3	49	38.78	0.0000002	0.0000003	0.0000002	0.000004	0.0000005	0.0000001	0.0000001
Benzo(b)fluoranthene	mg/m3	49	10.20	0.0000005	0.0000008	0.0000009	0.000003	0.0000005	0.0000003	0.0000003
Benzo(g,h,i)perylene	mg/m3	49	18.37	0.0000003	0.0000004	0.0000009	0.000003	0.0000005	0.0000002	0.0000002
Benzo(k)fluoranthene	mg/m3	49	16.33	0.0000005	0.0000008	0.0000006	0.000003	0.0000005	0.0000003	0.0000003
Bis(2-ethylhexyl)phthalate	mg/m3	49	48.98	0.000004	0.00009	0.000004	0.00005	0.00002	0.00001	
Butylbenzylphthalate	mg/m3	48	14.58	0.0000003	0.00001	0.000002	0.00001	0.000001	0.0000002	0.0000002
Carbazole	mg/m3	48	2.08	0.0000003	0.0000004	0.0000003	0.0000003	0.0000002	0.0000002	0.0000002
Chrysene	mg/m3	50	54.00	0.0000003	0.0000004	0.0000003	0.000007	0.0000009	0.0000003	
Di-n-butylphthalate	mg/m3	49	42.86	0.0000003	0.0002	0.000008	0.0002	0.00002	0.00001	
Di-n-octylphthalate	mg/m3	48	2.08	0.0000005	0.0000008	0.000002	0.000002	0.0000004	0.0000003	0.0000003
Dibenzo(a,h)anthracene	mg/m3	49	2.04	0.0000002	0.0000003	0.000001	0.000001	0.0000001	0.0000001	0.0000001
Dibenzofuran	mg/m3	48	62.50	0.0000003	0.0000004	0.0000004	0.00002	0.000003	0.0000009	
Diethylphthalate	mg/m3	49	34.69	0.0000003	0.00004	0.000002	0.0002	0.000007	0.000003	
Dimethylphthalate	mg/m3	48	16.67	0.0000003	0.0000004	0.0000003	0.0000009	0.0000002	0.0000002	0.0000002
Diphenylamine	mg/m3	48	2.08	0.0000003	0.000003	0.0000006	0.0000006	0.0000003	0.0000002	0.0000002
Fluoranthene	mg/m3	50	94.00	0.0000003	0.0000003	0.0000006	0.00001	0.000003	0.000002	
Fluorene	mg/m3	49	63.27	0.0000003	0.0000009	0.0000004	0.00002	0.000002	0.0000009	
Hexachlorobenzene	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
Hexachlorobutadiene	mg/m3	63	28.57	0.0000003	0.002	0.0002	0.002	0.0003	0.0001	0.0001
Hexachlorocyclopentadiene	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
Hexachloroethane	mg/m3	63	3.17	0.0000003	0.0005	0.0003	0.0005	0.00003	0.0000002	0.00004
Indeno(1,2,3-c,d)pyrene	mg/m3	49	6.12	0.000001	0.000002	0.000001	0.000004	0.0000009	0.0000008	0.0000008
Naphthalene	mg/m3	55	41.82	0.0000003	0.0002	0.0000003	0.0007	0.00005	0.0000006	0.0001
Nitrobenzene	mg/m3	48	4.17	0.0000003	0.0000004	0.0000003	0.0000006	0.0000002	0.0000002	0.0000002
Pentachlorobenzene	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
Pentachloronitrobenzene	mg/m3	48	0.00	0.0000004	0.0000008			0.0000003	0.0000003	0.0000002
Pentachlorophenol	mg/m3	46	0.00	0.0000008	0.000001			0.0000005	0.0000005	0.0000005
Phenanthrene	mg/m3	50	94.00	0.000001	0.000003	0.0000010	0.00005	0.000009	0.000007	
Phenol	mg/m3	46	39.13	0.0000003	0.000004	0.000001	0.00008	0.000006	0.0000003	
Pyrene	mg/m3	50	90.00	0.0000003	0.0000003	0.0000005	0.000010	0.000002	0.000002	
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	50	60.00	0.0000006	0.0000009	0.0000000003	0.000005	0.0000007	0.0000004	
o-Toluidine	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	mg/m3	55	5.45	0.0002	0.0008	0.0002	0.0004	0.0001	0.00009	0.00009
1,1,1-trichloroethane	mg/m3	55	25.45	0.0002	0.0002	0.0002	0.0003	0.0001	0.00008	0.00008
1,1,2,2-tetrachloroethane	mg/m3	55	18.18	0.00004	0.0002	0.0002	0.0004	0.00007	0.00002	0.00002
1,1,2-trichloro-1,2,2-trifluoroethane (Freon	mg/m3	55	89.09	0.00008	0.0008	0.0004	0.001	0.0007	0.0007	0.00004
1,1,2-trichloroethane	mg/m3	55	3.64	0.00008	0.0006	0.0001	0.0002	0.00005	0.00004	0.00004
1,1-dichloroethane	mg/m3	55	7.27	0.00005	0.00010	0.00007	0.0002	0.00003	0.00003	0.00003
1,1-dichloroethene	mg/m3	55	9.09	0.00010	0.0002	0.0001	0.0003	0.00006	0.00005	0.00005
1,2,3-Trichlorobenzene	mg/m3	52	13.46	0.0004	0.004	0.0004	0.005	0.0005	0.0002	0.0002
1,2,3-Trichloropropane	mg/m3	55	1.82	0.00007	0.0007	0.0004	0.0004	0.00005	0.00004	0.00004
1,2,4-Trimethylbenzene	mg/m3	55	85.45	0.00005	0.0003	0.0002	0.003	0.0006	0.0006	0.00003
1,2,4-trichlorobenzene	mg/m3	53	28.30	0.0002	0.002	0.0003	0.007	0.0007	0.0002	0.00010
1,2-Dibromo-3-Chloropropane	mg/m3	51	5.88	0.00010	0.00010	0.0003	0.0006	0.00007	0.00005	0.00005
1,2-Dibromoethane	mg/m3	55	9.09	0.0001	0.001	0.0002	0.0003	0.00008	0.00006	0.00006
1,2-dichloro-1,1,2,2-tetrafluoroethane (Freon	mg/m3	55	9.09	0.0002	0.0003	0.0003	0.0005	0.0002	0.0001	0.0001
1,2-dichlorobenzene	mg/m3	55	25.45	0.00010	0.0003	0.0002	0.0010	0.0001	0.00005	0.00005
1,2-dichloroethane	mg/m3	55	27.27	0.00010	0.0002	0.0001	0.0004	0.00009	0.00005	0.00005
1,2-dichloropropane	mg/m3	55	72.73	0.00009	0.0002	0.0002	0.026	0.002	0.0004	0.00005
1,3,5-Trimethylbenzene	mg/m3	55	69.09	0.00005	0.0003	0.00005	0.0009	0.0002	0.0002	0.00003
1,3-Butadiene	mg/m3	54	7.41	0.0005	0.0005	0.0005	0.0008	0.0003	0.0002	0.0002
1,3-dichlorobenzene	mg/m3	55	25.45	0.00009	0.0003	0.0001	0.0009	0.0001	0.00005	0.00005
1,4-dichlorobenzene	mg/m3	54	25.93	0.00009	0.001	0.0001	0.001	0.0002	0.00005	0.00005
2-butanone (methyl ethyl ketone)	mg/m3	55	92.73	0.0003	0.0003	0.0003	0.014	0.002	0.001	0.0002
Acetone	mg/m3	55	100.00			0.004	0.049	0.01	0.01	0.02
Acetonitrile	mg/m3	55	52.73	0.0004	0.0007	0.0004	0.004	0.0006	0.0004	0.0002
Acetophenone	mg/m3	52	25.00	0.001	0.001	0.001	0.059	0.004	0.0005	0.0005
Acrolein	mg/m3	55	67.27	0.0004	0.002	0.0004	0.008	0.002	0.001	0.0002
Acrylonitrile	mg/m3	55	7.27	0.0002	0.0007	0.0003	0.0006	0.0001	0.00010	0.00010
Benzene	mg/m3	55	96.36	0.0002	0.0004	0.0003	0.008	0.001	0.001	0.001
Bis(2-Chloroethyl)ether;C4H8Cl2O	mg/m3	55	0.00	0.0002	0.0002			0.00008	0.00008	0.00008
Bromodichloromethane	mg/m3	55	12.73	0.0002	0.002	0.0002	0.0007	0.0001	0.00008	0.00008
Bromoform	mg/m3	55	1.82	0.0001	0.0006	0.0002	0.0002	0.00006	0.00006	0.00006
Bromomethane	mg/m3	55	20.00	0.00007	0.0002	0.0001	0.0009	0.00008	0.00004	0.00004
Carbon disulfide	mg/m3	55	72.73	0.00010	0.0010	0.0001	0.052	0.002	0.0004	0.00005

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Carbon tetrachloride	mg/m3	55	94.55	0.0005	0.0007	0.0003	0.001	0.0006	0.0006	0.0008
Chlorobenzene	mg/m3	55	21.82	0.00004	0.0004	0.0001	0.0003	0.00006	0.00002	0.00002
Chloroethane	mg/m3	55	7.27	0.00010	0.0001	0.0001	0.0003	0.00006	0.00006	0.00006
Chloroform	mg/m3	55	34.55	0.00010	0.0002	0.0001	0.0003	0.0001	0.00006	0.00006
Chloromethane	mg/m3	55	98.18	0.00007	0.00007	0.0008	0.006	0.002	0.002	0.001
Cyclohexane	mg/m3	55	72.73	0.0001	0.0001	0.0001	0.007	0.0008	0.0004	0.00006
Dibromochloromethane	mg/m3	55	1.82	0.0002	0.002	0.0003	0.0003	0.0001	0.0001	0.0001
Dibromomethane	mg/m3	55	9.09	0.0002	0.002	0.0002	0.0005	0.0001	0.00008	0.00008
Dichlorodifluoromethane (Freon 12)	mg/m3	55	100.00			0.001	0.008	0.002	0.002	0.002
Ethylbenzene	mg/m3	55	87.27	0.00003	0.0009	0.0001	0.004	0.0006	0.0004	0.00002
Hexane;C6H14	mg/m3	55	83.64	0.0002	0.0002	0.0003	12.838	0.24	0.0006	0.00009
Isobutyl Alcohol	mg/m3	54	18.52	0.0005	0.0005	0.0008	0.014	0.0008	0.0002	0.0002
Isopropylbenzene	mg/m3	55	12.73	0.00007	0.0006	0.0001	0.0004	0.00007	0.00004	0.00004
Methyl acetate	mg/m3	55	36.36	0.0003	0.0003	0.0003	0.002	0.0003	0.0001	0.0001
Methyl tert-Butyl Ether	mg/m3	55	45.45	0.0002	0.0005	0.0002	0.002	0.0004	0.00009	0.00009
Methylcyclohexane	mg/m3	54	46.30	0.00008	0.00008	0.0001	0.009	0.0004	0.00004	0.00004
Methylene chloride	mg/m3	55	94.55	0.00008	0.00008	0.0002	0.011	0.001	0.0006	0.00004
Pentachloroethane	mg/m3	55	1.82	0.0003	0.0006	0.0004	0.0004	0.0001	0.0001	0.0001
Styrene	mg/m3	55	61.82	0.00007	0.0005	0.0001	0.002	0.0003	0.0002	0.00004
Tetrachloroethene	mg/m3	55	47.27	0.001	0.001	0.001	0.015	0.002	0.0007	0.0007
Toluene	mg/m3	55	96.36	0.0004	0.001	0.0005	0.019	0.003	0.003	0.003
Trans-1,4-Dichloro-2-Butene	mg/m3	52	1.92	0.0002	0.0002	0.0003	0.0003	0.00009	0.00009	0.00009
Trichloroethene	mg/m3	55	29.09	0.00008	0.0003	0.0001	0.0007	0.0001	0.00004	0.00004
Trichlorofluoromethane	mg/m3	55	100.00			0.0009	0.003	0.002	0.002	0.002
Vinyl Acetate	mg/m3	54	14.81	0.0001	0.0001	0.0001	0.004	0.0004	0.00006	0.00006
Vinyl chloride	mg/m3	55	1.82	0.00007	0.00010	0.0002	0.0002	0.00004	0.00004	0.00004
Xylenes, Total	mg/m3	55	98.18	0.001	0.001	0.0005	0.016	0.003	0.002	
cis-1,2-dichloroethene	mg/m3	55	3.64	0.00009	0.0002	0.0001	0.0004	0.00005	0.00005	0.00005
cis-1,3-dichloropropene	mg/m3	55	27.27	0.00004	0.00010	0.00010	0.002	0.0002	0.00002	0.00002
m,p-Xylenes	mg/m3	55	98.18	0.0009	0.0009	0.0003	0.012	0.002	0.001	0.002
o-Xylene	mg/m3	55	90.91	0.00006	0.0005	0.0001	0.004	0.0007	0.0005	0.00003
trans-1,2-dichloroethene	mg/m3	55	5.45	0.0001	0.0002	0.0001	0.0002	0.00006	0.00006	0.00006
trans-1,3-dichloropropene	mg/m3	55	21.82	0.00007	0.0002	0.0001	0.002	0.0002	0.00004	0.00004

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde(ethanal);C2H4O	mg/m3	0.01	0.01	0.010	0.01	Lognormal
Benzaldehyde	mg/m3	0.0008	0.0008	0.0008	0.001	Unknown
Butyraldehyde	mg/m3	0.0003	0.0004	0.0004	0.0008	Unknown
Crotonaldehyde	mg/m3	0.00006	0.00005	0.00005	0.00004	Unknown
Formaldehyde	mg/m3	0.001	0.003	0.003	0.003	Lognormal
Hexaldehyde	mg/m3	0.0001	0.0002	0.0002	0.0003	Unknown
M-tolualdehyde	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Methacrylaldehyde	mg/m3	0.0001	0.0002	0.0002	0.0003	Unknown
N-valeraldehyde	mg/m3	0.0001	0.0001	0.0001	0.0003	Unknown
Propionaldehyde	mg/m3	0.0002	0.0002	0.0002	0.0003	Unknown
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	0.0000000003	0.0000000003	0.0000000002	0.0000000003	Lognormal
Inorganics						
Aluminum	mg/m3	0.0006	0.0008	0.0006	0.0008	Lognormal
Antimony	mg/m3	0.000007	0.000008	0.000008	0.000007	Unknown
Arsenic	mg/m3	0.000004	0.000004	0.000004	0.000007	Unknown
Barium	mg/m3	0.000007	0.00001	0.00001	0.00001	Unknown
Beryllium	mg/m3	0.00000010	0.0000002	0.0000002	0.0000001	Unknown
Cadmium (Food)	mg/m3	0.0000002	0.0000004	0.0000004	0.0000004	Unknown
Chromium	mg/m3	0.000002	0.000003	0.000003	0.000003	Unknown
Cobalt	mg/m3	0.0000001	0.0000002	0.0000002	0.0000003	Unknown
Copper	mg/m3	0.00004		0.0003	0.0003	Lognormal
Iron	mg/m3	0.0009		0.006	0.006	Lognormal
Lead	mg/m3	0.00001	0.00002	0.00002	0.00002	Unknown
Manganese (food)	mg/m3	0.00001	0.00002	0.00002	0.00003	Unknown
Mercury	mg/m3	0.000002	0.000003	0.000003	0.000008	Unknown
Nickel	mg/m3	0.00002		0.0002	0.0002	Lognormal
Selenium	mg/m3	0.000005		0.00003	0.00003	Lognormal
Silver	mg/m3	0.000005		0.00003	0.00003	Lognormal
Thallium	mg/m3	0.000001	0.000001	0.000001	0.0000009	Unknown
Tin	mg/m3	0.000002	0.000004	0.000004	0.000005	Unknown
Vanadium	mg/m3	0.000002	0.000007	0.000007	0.000007	Unknown

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics						
Zinc	mg/m3	0.0002		0.002	0.002	Lognormal
Polychlorinated bi-phenyls						
Aroclor 1016	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1221	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1232	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1242	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1248	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1254	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1260	mg/m3	0.000001		0.000006	0.00001	Unknown
Pesticides						
4,4? DDD	mg/m3	0.0000006	0.0000005	0.0000005	0.0000003	Unknown
4,4?-DDE	mg/m3	0.0000005		0.0000004	0.0000003	Unknown
4,4?-DDT	mg/m3	0.0000003		0.0000002	0.0000001	Unknown
Aldrin	mg/m3	0.0000004		0.0000007	0.0000007	Unknown
Chlordane	mg/m3					Unknown
Dieldrin	mg/m3	0.0000006	0.0000007	0.0000007	0.0000006	Unknown
Endosulfan I	mg/m3	0.0000004		0.0000009	0.0000008	Unknown
Endosulfan II	mg/m3	0.0000006		0.0000005	0.0000004	Unknown
Endosulfan sulfate	mg/m3	0.0000002	0.0000001	0.0000001	0.0000001	Unknown
Endrin	mg/m3	0.0000006		0.0000005	0.0000003	Unknown
Endrin aldehyde	mg/m3	0.0000005		0.0000003	0.0000002	Unknown
Heptachlor	mg/m3	0.0000005		0.0000005	0.0000004	Unknown
Heptachlor epoxide	mg/m3	0.0000007		0.0000006	0.0000004	Unknown
Methoxychlor	mg/m3	0.0000005		0.0000001	0.0000001	Unknown
Toxaphene	mg/m3	0.0000002		0.0000005	0.0000002	Unknown
alpha-BHC	mg/m3	0.0000005		0.0000004	0.0000002	Unknown
alpha-Chlordane	mg/m3	0.0000005		0.0000005	0.0000004	Unknown
beta-BHC	mg/m3	0.0000007		0.0000003	0.0000001	Unknown
delta-BHC	mg/m3	0.0000006		0.0000006	0.0000004	Unknown
gamma-BHC (Lindane)	mg/m3	0.0000004		0.0000004	0.0000003	Unknown
gamma-Chlordane	mg/m3	0.0000004		0.0000010	0.0000009	Unknown

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
PM-10						
Gravimetrics-PM10	mg/m3	0.04	0.07	0.07	0.07	Lognormal
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	mg/m3	0.000001	0.000001	0.000001	0.000001	Unknown
1,2,4,5-Tetrachlorobenzene	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
2,3,4,6-Tetrachlorophenol	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
2,4,5-Trichlorophenol	mg/m3	0.000001	0.000001	0.000001	0.0000007	Unknown
2,4,6-Trichlorophenol	mg/m3	0.000002	0.000001	0.000001	0.0000005	Unknown
2,4-Dichlorophenol	mg/m3	0.000002	0.000001	0.000001	0.0000007	Unknown
2,4-Dimethylphenol	mg/m3	0.000009	0.000006	0.000006	0.000006	Unknown
2,4-Dinitrophenol	mg/m3	0.0000001		0.000002	0.000002	Unknown
2,4-Dinitrotoluene	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
2,6-Dichlorophenol	mg/m3	0.000001	0.0000007	0.0000007	0.0000004	Unknown
2,6-Dinitrotoluene	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
2-Chloronaphthalene	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
2-Chlorophenol	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
2-Methylnaphthalene	mg/m3	0.0000008	0.0000007	0.0000007	0.0000006	Unknown
2-Methylphenol (o-Cresol)	mg/m3	0.000001	0.000007	0.000007	0.000008	Unknown
2-Nitrophenol	mg/m3	0.0000007	0.0000006	0.0000006	0.0000005	Unknown
3&4-Methylphenol	mg/m3	0.000003	0.000002	0.000002	0.000002	Unknown
3-Nitroaniline	mg/m3	0.0000004	0.0000003	0.0000003	0.0000002	Unknown
4,6-Dinitro-2-Methylphenol	mg/m3	0.0000008		0.0000008	0.0000008	Unknown
4-Bromophenylphenylether	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
4-Chloro-3-Methylphenol	mg/m3	0.000003	0.000002	0.000002	0.0000010	Unknown
4-Chloroaniline	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
4-Nitroaniline	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
4-Nitrophenol	mg/m3	0.0000007	0.0000008	0.0000008	0.0000006	Unknown
Acenaphthene	mg/m3	0.000003	0.000002	0.000002	0.0000005	Unknown
Acenaphthylene	mg/m3	0.000003	0.000002	0.000002	0.000002	Unknown
Aniline	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
Anthracene	mg/m3	0.0000009	0.0000008	0.0000008	0.0000008	Unknown
Atrazine	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
Benzo(a)anthracene	mg/m3	0.0000009	0.0000007	0.0000007	0.0000005	Unknown
Benzo(a)pyrene	mg/m3	0.0000008	0.0000007	0.0000007	0.0000006	Unknown

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	mg/m3	0.0000006	0.0000006	0.0000006	0.0000005	Unknown
Benzo(g,h,i)perylene	mg/m3	0.0000007	0.0000006	0.0000006	0.0000005	Unknown
Benzo(k)fluoranthene	mg/m3	0.0000005	0.0000006	0.0000006	0.0000006	Unknown
Bis(2-ethylhexyl)phthalate	mg/m3	0.00001	0.00002	0.00002	0.00002	Lognormal
Butylbenzylphthalate	mg/m3	0.000003	0.000002	0.000002	0.000001	Unknown
Carbazole	mg/m3	0.00000003	0.0000002	0.0000002	0.0000002	Unknown
Chrysene	mg/m3	0.000001	0.000001	0.000001	0.000001	Unknown
Di-n-butylphthalate	mg/m3	0.00003	0.00005	0.00003	0.00005	Lognormal
Di-n-octylphthalate	mg/m3	0.0000003	0.0000004	0.0000004	0.0000004	Unknown
Dibenzo(a,h)anthracene	mg/m3	0.0000001	0.0000002	0.0000002	0.0000001	Unknown
Dibenzofuran	mg/m3	0.000005	0.000004	0.000004	0.000006	Unknown
Diethylphthalate	mg/m3	0.00002	0.00001	0.00001	0.00001	Unknown
Dimethylphthalate	mg/m3	0.0000002	0.0000003	0.0000003	0.0000003	Unknown
Diphenylamine	mg/m3	0.0000003	0.0000003	0.0000003	0.0000003	Unknown
Fluoranthene	mg/m3	0.000003	0.000003	0.000003	0.000004	Unknown
Fluorene	mg/m3	0.000003	0.000003	0.000003	0.000004	Unknown
Hexachlorobenzene	mg/m3	0.00000002		0.0000002	0.0000002	Unknown
Hexachlorobutadiene	mg/m3	0.0003	0.0004	0.0004	0.01	Unknown
Hexachlorocyclopentadiene	mg/m3	0.00000002		0.0000002	0.0000002	Unknown
Hexachloroethane	mg/m3	0.00008	0.00005	0.00005	0.0007	Unknown
Indeno(1,2,3-c,d)pyrene	mg/m3	0.0000005	0.000001	0.000001	0.0000009	Unknown
Naphthalene	mg/m3	0.0001	0.00008	0.00008	0.00007	Unknown
Nitrobenzene	mg/m3	0.00000007	0.0000002	0.0000002	0.0000002	Unknown
Pentachlorobenzene	mg/m3	0.00000002		0.0000002	0.0000002	Unknown
Pentachloronitrobenzene	mg/m3	0.00000005		0.0000003	0.0000003	Unknown
Pentachlorophenol	mg/m3	0.00000005		0.0000005	0.0000005	Unknown
Phenanthrene	mg/m3	0.000009	0.00001	0.00001	0.00001	Lognormal
Phenol	mg/m3	0.00002	0.000010	0.000010	0.00001	Unknown
Pyrene	mg/m3	0.000002	0.000003	0.000003	0.000004	Unknown
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	0.000001	0.0000009	0.0000009	0.00007	Unknown
o-Toluidine	mg/m3	0.00000002		0.0000002	0.0000002	Unknown

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	mg/m3	0.00007	0.0001	0.0001	0.0001	Unknown
1,1,1-trichloroethane	mg/m3	0.00007	0.0001	0.0001	0.0001	Unknown
1,1,2,2-tetrachloroethane	mg/m3	0.0001	0.00010	0.00010	0.00008	Unknown
1,1,2-trichloro-1,2,2-trifluoroethane (Freon	mg/m3	0.0002	0.0007	0.0007	0.0010	Unknown
1,1,2-trichloroethane	mg/m3	0.00004	0.00006	0.00006	0.00005	Unknown
1,1-dichloroethane	mg/m3	0.00003	0.00004	0.00004	0.00004	Unknown
1,1-dichloroethene	mg/m3	0.00004	0.00007	0.00007	0.00006	Unknown
1,2,3-Trichlorobenzene	mg/m3	0.001	0.0008	0.0008	0.0005	Unknown
1,2,3-Trichloropropane	mg/m3	0.00006	0.00006	0.00006	0.00005	Unknown
1,2,4-Trimethylbenzene	mg/m3	0.0005	0.0007	0.0007	0.001	Unknown
1,2,4-trichlorobenzene	mg/m3	0.001	0.001	0.001	0.0009	Unknown
1,2-Dibromo-3-Chloropropane	mg/m3	0.00009	0.00009	0.00009	0.00007	Unknown
1,2-Dibromoethane	mg/m3	0.00008	0.0001	0.0001	0.00009	Unknown
1,2-dichloro-1,1,2,2-tetrafluoroethane (Freon	mg/m3	0.00007	0.0002	0.0002	0.0002	Unknown
1,2-dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
1,2-dichloroethane	mg/m3	0.00007	0.0001	0.0001	0.0001	Unknown
1,2-dichloropropane	mg/m3	0.004	0.007	0.003	0.007	Lognormal
1,3,5-Trimethylbenzene	mg/m3	0.0002	0.0003	0.0002	0.0003	Lognormal
1,3-Butadiene	mg/m3	0.0001	0.0003	0.0003	0.0003	Unknown
1,3-dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0001	Unknown
1,4-dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
2-butanone (methyl ethyl ketone)	mg/m3	0.002	0.003	0.003	0.003	Lognormal
Acetone	mg/m3	0.009	0.02	0.02	0.02	Lognormal
Acetonitrile	mg/m3	0.0008	0.0008	0.0008	0.0007	Unknown
Acetophenone	mg/m3	0.01	0.007	0.007	0.004	Unknown
Acrolein	mg/m3	0.002	0.003	0.002	0.003	Lognormal
Acrylonitrile	mg/m3	0.00010	0.0002	0.0002	0.0001	Unknown
Benzene	mg/m3	0.001	0.002	0.002	0.002	Lognormal
Bis(2-Chloroethyl)ether;C4H8Cl2O	mg/m3	0.000003		0.00008	0.00008	Unknown
Bromodichloromethane	mg/m3	0.0002	0.0002	0.0002	0.0001	Unknown
Bromoform	mg/m3	0.00004	0.00007	0.00007	0.00007	Unknown
Bromomethane	mg/m3	0.0001	0.0001	0.0001	0.00009	Unknown
Carbon disulfide	mg/m3	0.007	0.005	0.004	0.005	Lognormal

Table C-5: Ambient Air Statistical Summary for Study Area 5

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Carbon tetrachloride	mg/m3	0.0002	0.0007	0.0007	0.0007	Unknown
Chlorobenzene	mg/m3	0.00007	0.00008	0.00008	0.00008	Unknown
Chloroethane	mg/m3	0.00004	0.00007	0.00007	0.00007	Unknown
Chloroform	mg/m3	0.00008	0.0001	0.0001	0.0001	Unknown
Chloromethane	mg/m3	0.0008	0.002	0.002	0.002	Unknown
Cyclohexane	mg/m3	0.001	0.001	0.001	0.001	Lognormal
Dibromochloromethane	mg/m3	0.0001	0.0002	0.0002	0.0001	Unknown
Dibromomethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Dichlorodifluoromethane (Freon 12)	mg/m3	0.0009	0.003	0.003	0.003	Unknown
Ethylbenzene	mg/m3	0.0006	0.0007	0.0007	0.001	Unknown
Hexane;C6H14	mg/m3	1.73	0.63	0.63	0.02	Unknown
Isobutyl Alcohol	mg/m3	0.002	0.001	0.001	0.0008	Unknown
Isopropylbenzene	mg/m3	0.00008	0.00008	0.00008	0.00007	Unknown
Methyl acetate	mg/m3	0.0003	0.0004	0.0004	0.0004	Unknown
Methyl tert-Butyl Ether	mg/m3	0.0004	0.0005	0.0005	0.0005	Unknown
Methylcyclohexane	mg/m3	0.001	0.0006	0.0006	0.0004	Unknown
Methylene chloride	mg/m3	0.002	0.001	0.001	0.001	Unknown
Pentachloroethane	mg/m3	0.00005	0.0001	0.0001	0.0001	Unknown
Styrene	mg/m3	0.0004	0.0006	0.0004	0.0006	Lognormal
Tetrachloroethene	mg/m3	0.002	0.003	0.003	0.003	Unknown
Toluene	mg/m3	0.003	0.004	0.004	0.004	Unknown
Trans-1,4-Dichloro-2-Butene	mg/m3	0.00004	0.00010	0.00010	0.00009	Unknown
Trichloroethene	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Trichlorofluoromethane	mg/m3	0.0004	0.002	0.002	0.002	Unknown
Vinyl Acetate	mg/m3	0.0009	0.0006	0.0006	0.0003	Unknown
Vinyl chloride	mg/m3	0.00002	0.00004	0.00004	0.00004	Unknown
Xylenes, Total	mg/m3	0.003	0.003	0.003	0.003	Lognormal
cis-1,2-dichloroethene	mg/m3	0.00004	0.00006	0.00006	0.00005	Unknown
cis-1,3-dichloropropene	mg/m3	0.0004	0.0003	0.0003	0.0002	Unknown
m,p-Xylenes	mg/m3	0.002	0.003	0.003	0.003	Lognormal
o-Xylene	mg/m3	0.0006	0.0008	0.0008	0.0010	Unknown
trans-1,2-dichloroethene	mg/m3	0.00003	0.00007	0.00007	0.00007	Unknown
trans-1,3-dichloropropene	mg/m3	0.0003	0.0002	0.0002	0.0002	Unknown

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde	mg/m3	56	98.21	0.002	0.002	0.0005	0.050	0.007	0.002	
Benzaldehyde	mg/m3	49	91.84	0.00001	0.0003	0.0001	0.001	0.0005	0.0005	
Butyraldehyde	mg/m3	49	73.47	0.00003	0.00003	0.00009	0.001	0.0003	0.0002	0.00001
Crotonaldehyde	mg/m3	49	14.29	0.00001	0.00004	0.00003	0.0003	0.00003	0.000007	0.000007
Formaldehyde	mg/m3	49	91.84	0.002	0.003	0.0007	0.009	0.003	0.002	
Hexaldehyde	mg/m3	49	75.51	0.00002	0.0002	0.00007	0.001	0.0004	0.0002	0.0007
M-tolualdehyde	mg/m3	49	61.22	0.00001	0.0001	0.00004	0.001	0.0003	0.0002	0.000007
Methacrylaldehyde	mg/m3	49	71.43	0.00001	0.00002	0.00003	0.0005	0.0001	0.0001	0.000007
N-valeraldehyde	mg/m3	49	79.59	0.00001	0.00002	0.00002	0.0007	0.0002	0.0001	0.000007
Propionaldehyde	mg/m3	49	87.76	0.00008	0.0007	0.00007	0.001	0.0002	0.0002	
Dioxins/Furans										
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	49	100.00			0.0000000000	0.000000003	0.000000001	0.000000004	
Inorganics										
Aluminum	mg/m3	50	82.00	0.00002	0.0006	0.00004	0.002	0.0004	0.0003	
Antimony	mg/m3	50	50.00	0.000004	0.000008	0.000005	0.00004	0.000009	0.000005	
Arsenic	mg/m3	50	70.00	0.0000002	0.000001	0.0000003	0.00004	0.000002	0.0000009	
Barium	mg/m3	50	84.00	0.000002	0.0002	0.000004	0.00003	0.00001	0.00001	
Beryllium	mg/m3	50	2.00	0.0000001	0.0000002	0.0000002	0.0000002	0.00000009	0.00000009	
Cadmium (Food)	mg/m3	50	78.00	0.0000001	0.0000007	0.0000002	0.000008	0.0000006	0.0000004	
Chromium	mg/m3	50	50.00	0.0000003	0.000009	0.0000006	0.00001	0.000003	0.000002	
Cobalt	mg/m3	50	68.00	0.00000010	0.0000008	0.0000001	0.000002	0.0000003	0.0000002	
Copper	mg/m3	50	0.00	0.0004	0.0008			0.0003	0.0003	
Iron	mg/m3	50	0.00	0.008	0.015			0.006	0.006	
Lead	mg/m3	50	88.00	0.000001	0.00002	0.000003	0.00008	0.00002	0.00002	
Manganese (food)	mg/m3	50	76.00	0.0000002	0.00002	0.000002	0.00005	0.00001	0.00001	
Mercury	mg/m3	50	72.00	0.0000007	0.000002	0.000000003	0.000007	0.000003	0.000002	
Nickel	mg/m3	50	0.00	0.0002	0.0004			0.0001	0.0001	
Selenium	mg/m3	50	0.00	0.00004	0.00008			0.00003	0.00003	
Silver	mg/m3	50	0.00	0.00004	0.00008			0.00003	0.00003	
Thallium	mg/m3	50	8.00	0.0000009	0.000002	0.000001	0.000008	0.0000008	0.0000006	
Tin	mg/m3	50	64.00	0.0000002	0.000007	0.000001	0.00001	0.000004	0.000003	
Vanadium	mg/m3	50	0.00	0.000008	0.00002			0.000006	0.000006	

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics										
Zinc	mg/m3	50	0.00	0.002	0.004			0.001	0.001	
Polychlorinated bi-phenyls										
Aroclor 1016	mg/m3	50	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1221	mg/m3	50	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1232	mg/m3	50	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1242	mg/m3	50	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1248	mg/m3	50	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1254	mg/m3	50	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Aroclor 1260	mg/m3	50	0.00	0.0000001	0.00001			0.000006	0.000006	0.000006
Pesticides										
4,4? DDD	mg/m3	50	0.00	0.000000004	0.000008			0.0000003	0.0000002	0.0000002
4,4?-DDE	mg/m3	50	0.00	0.000000005	0.000007			0.0000003	0.0000002	0.0000002
4,4?-DDT	mg/m3	50	0.00	0.000000009	0.00001			0.0000006	0.0000005	0.0000005
Aldrin	mg/m3	50	0.00	0.00000001	0.000006			0.0000006	0.0000006	0.0000006
Chlordane	mg/m3	1	0.00	0.000008	0.000008			0.000004	0.000004	
Dieldrin	mg/m3	50	0.00	0.000000008	0.000008			0.0000005	0.0000004	0.0000004
Endosulfan I	mg/m3	50	4.00	0.00000001	0.000006	0.000002	0.000002	0.0000008	0.0000007	0.0000007
Endosulfan II	mg/m3	50	0.00	0.000000005	0.000009			0.0000003	0.0000003	0.0000003
Endosulfan sulfate	mg/m3	50	0.00	0.00000001	0.000010			0.0000007	0.0000006	0.0000006
Endrin	mg/m3	50	0.00	0.000000004	0.000009			0.0000003	0.0000002	0.0000002
Endrin aldehyde	mg/m3	50	0.00	0.000000003	0.000007			0.0000002	0.0000001	0.0000001
Heptachlor	mg/m3	50	0.00	0.000000006	0.000007			0.0000004	0.0000003	0.0000003
Heptachlor epoxide	mg/m3	50	0.00	0.000000006	0.00001			0.0000004	0.0000004	0.0000004
Methoxychlor	mg/m3	50	0.00	0.00000002	0.000009			0.000001	0.000001	0.000001
Toxaphene	mg/m3	50	0.00	0.0000010	0.0001			0.00005	0.00006	0.00006
alpha-BHC	mg/m3	50	0.00	0.000000003	0.000007			0.0000002	0.0000002	0.0000002
alpha-Chlordane	mg/m3	50	0.00	0.0000005	0.000007			0.0000003	0.0000003	0.0000003
beta-BHC	mg/m3	50	0.00	0.000000002	0.000009			0.0000002	0.0000009	0.0000009
delta-BHC	mg/m3	50	0.00	0.000000006	0.000008			0.0000004	0.0000003	0.0000003
gamma-BHC (Lindane)	mg/m3	50	0.00	0.000000005	0.000006			0.0000003	0.0000002	0.0000002
gamma-Chlordane	mg/m3	50	0.00	0.000001	0.000008			0.0000009	0.0000008	0.0000008

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
PM-10										
Gravimetrics-PM10	mg/m3	49	100.00			0.011	0.197	0.06	0.05	
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	mg/m3	49	69.39	0.0000002	0.0000009	0.0000003	0.000009	0.000001	0.0000007	
1,2,4,5-Tetrachlorobenzene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
2,3,4,6-Tetrachlorophenol	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	0.0000002
2,4,5-Trichlorophenol	mg/m3	48	4.17	0.0000007	0.0000009	0.0000002	0.000005	0.0000006	0.0000005	0.0000005
2,4,6-Trichlorophenol	mg/m3	48	2.08	0.0000005	0.0000006	0.0000006	0.000006	0.0000004	0.0000003	0.0000003
2,4-Dichlorophenol	mg/m3	48	14.58	0.0000005	0.0000006	0.0000006	0.000007	0.0000006	0.0000003	0.0000003
2,4-Dimethylphenol	mg/m3	49	48.98	0.0000005	0.0000003	0.0000008	0.000004	0.000004	0.0000008	0.0000003
2,4-Dinitrophenol	mg/m3	44	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
2,4-Dinitrotoluene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
2,6-Dichlorophenol	mg/m3	48	8.33	0.0000002	0.0000003	0.0000004	0.000006	0.0000003	0.0000002	0.0000002
2,6-Dinitrotoluene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
2-Chloronaphthalene	mg/m3	48	2.08	0.0000002	0.0000003	0.0000003	0.0000003	0.0000002	0.0000002	0.0000002
2-Chlorophenol	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
2-Methylnaphthalene	mg/m3	50	40.00	0.0000002	0.0000001	0.0000004	0.000001	0.0000008	0.0000002	0.0000002
2-Methylphenol (o-Cresol)	mg/m3	49	40.82	0.0000002	0.0000001	0.0000001	0.000004	0.0000004	0.0000002	0.0000002
2-Nitrophenol	mg/m3	48	8.33	0.0000005	0.0000006	0.0000007	0.000003	0.0000004	0.0000003	0.0000003
3&4-Methylphenol	mg/m3	48	60.42	0.0000002	0.0000005	0.0000002	0.000009	0.000001	0.0000003	0.0000001
3-Nitroaniline	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
4,6-Dinitro-2-Methylphenol	mg/m3	48	0.00	0.0000001	0.0000002			0.0000007	0.0000008	0.0000008
4-Bromophenylphenylether	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
4-Chloro-3-Methylphenol	mg/m3	48	2.08	0.0000005	0.0000006	0.0000002	0.000002	0.0000003	0.0000003	0.0000003
4-Chloroaniline	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
4-Nitroaniline	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
4-Nitrophenol	mg/m3	45	8.89	0.0000007	0.0000009	0.0000002	0.000008	0.0000008	0.0000005	0.0000005
Acenaphthene	mg/m3	49	28.57	0.0000002	0.0000003	0.0000003	0.000002	0.0000004	0.0000002	0.0000002
Acenaphthylene	mg/m3	49	59.18	0.0000002	0.0000003	0.0000005	0.000002	0.0000002	0.0000006	
Aniline	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
Anthracene	mg/m3	50	50.00	0.0000003	0.0000003	0.0000003	0.000004	0.0000007	0.0000002	0.0000002
Atrazine	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
Benzo(a)anthracene	mg/m3	50	22.00	0.0000002	0.0000003	0.0000005	0.000003	0.0000004	0.0000002	0.0000002

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Semi-Volatile Organic Compounds										
Benzo(a)pyrene	mg/m3	50	28.00	0.0000002	0.0000003	0.0000003	0.00002	0.0000009	0.0000001	0.0000001
Benzo(b)fluoranthene	mg/m3	49	12.24	0.0000005	0.0000006	0.0000004	0.000004	0.0000004	0.0000003	0.0000003
Benzo(g,h,i)perylene	mg/m3	50	30.00	0.0000003	0.0000003	0.0000003	0.000002	0.0000005	0.0000002	0.0000002
Benzo(k)fluoranthene	mg/m3	50	18.00	0.0000005	0.0000006	0.00000010	0.000003	0.0000004	0.0000003	0.0000003
Bis(2-ethylhexyl)phthalate	mg/m3	49	42.86	0.0000003	0.000005	0.000003	0.00004	0.00001	0.000009	
Butylbenzylphthalate	mg/m3	48	4.17	0.0000003	0.000004	0.0000004	0.000009	0.0000004	0.0000002	0.0000002
Carbazole	mg/m3	48	10.42	0.0000003	0.0000003	0.0000003	0.0000007	0.0000002	0.0000002	0.0000002
Chrysene	mg/m3	50	62.00	0.0000003	0.0000003	0.0000004	0.000007	0.000001	0.0000006	0.0000002
Di-n-butylphthalate	mg/m3	49	44.90	0.0000003	0.000007	0.000009	0.0002	0.00003	0.00001	
Di-n-octylphthalate	mg/m3	48	0.00	0.0000005	0.0000006			0.0000003	0.0000003	0.0000003
Dibenzo(a,h)anthracene	mg/m3	49	4.08	0.0000002	0.0000002	0.0000006	0.0000008	0.0000001	0.0000001	0.0000001
Dibenzofuran	mg/m3	49	69.39	0.0000002	0.0000003	0.0000006	0.00002	0.000003	0.000001	
Diethylphthalate	mg/m3	49	40.82	0.0000010	0.000009	0.000002	0.00004	0.000004	0.000003	
Dimethylphthalate	mg/m3	48	43.75	0.0000002	0.0000008	0.0000004	0.000004	0.0000005	0.0000002	0.0000002
Diphenylamine	mg/m3	48	16.67	0.0000003	0.000003	0.0000006	0.000001	0.0000003	0.0000002	0.0000002
Fluoranthene	mg/m3	50	100.00			0.0000007	0.00003	0.000004	0.000003	
Fluorene	mg/m3	50	90.00	0.0000002	0.000001	0.0000005	0.00001	0.000002	0.000001	
Hexachlorobenzene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
Hexachlorobutadiene	mg/m3	61	26.23	0.0000003	0.002	0.0003	0.002	0.0004	0.0001	0.0001
Hexachlorocyclopentadiene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
Hexachloroethane	mg/m3	61	1.64	0.0000002	0.0005	0.0003	0.0003	0.00003	0.0000002	0.00004
Indeno(1,2,3-c,d)pyrene	mg/m3	50	8.00	0.000001	0.000002	0.000002	0.000003	0.0000009	0.0000008	0.0000008
Naphthalene	mg/m3	56	41.07	0.0000003	0.0003	0.0000004	0.0005	0.00005	0.0000006	
Nitrobenzene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
Pentachlorobenzene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002
Pentachloronitrobenzene	mg/m3	49	0.00	0.0000004	0.0000007			0.0000003	0.0000003	0.0000002
Pentachlorophenol	mg/m3	48	0.00	0.0000007	0.0000009			0.0000004	0.0000005	0.0000005
Phenanthrene	mg/m3	50	100.00			0.000003	0.00003	0.00001	0.000009	
Phenol	mg/m3	49	40.82	0.0000003	0.000004	0.000002	0.00008	0.000006	0.000001	0.0000002
Pyrene	mg/m3	50	100.00			0.0000006	0.00002	0.000003	0.000002	
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	50	62.00	0.0000006	0.0000007	0.0000000004	0.00002	0.000001	0.0000004	0.0000004
o-Toluidine	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000002

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	mg/m3	56	8.93	0.0002	0.0008	0.0002	0.006	0.0002	0.00009	0.00009
1,1,1-Trichloroethane	mg/m3	56	30.36	0.0002	0.0006	0.0002	0.0004	0.0001	0.00008	0.00008
1,1,2,2-Tetrachloroethane	mg/m3	56	26.79	0.00004	0.0002	0.0001	0.0006	0.0001	0.00002	0.00002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	56	87.50	0.00008	0.0008	0.0004	0.001	0.0006	0.0007	0.00004
1,1,2-Trichloroethane	mg/m3	56	1.79	0.00008	0.0006	0.0004	0.0004	0.00005	0.00004	0.00004
1,1-Dichloroethane	mg/m3	56	5.36	0.00005	0.0002	0.0001	0.0002	0.00003	0.00003	0.00003
1,1-Dichloroethene	mg/m3	56	7.14	0.00010	0.0004	0.0001	0.0002	0.00006	0.00005	0.00005
1,2,3-Trichlorobenzene	mg/m3	52	17.31	0.0004	0.004	0.0004	0.003	0.0004	0.0002	0.0002
1,2,3-Trichloropropane	mg/m3	56	1.79	0.00007	0.0007	0.0002	0.0002	0.00005	0.00004	0.00004
1,2,4-Trichlorobenzene	mg/m3	54	24.07	0.0002	0.003	0.0003	0.003	0.0006	0.0002	0.00010
1,2,4-Trimethylbenzene	mg/m3	56	92.86	0.00005	0.0010	0.0002	0.005	0.0008	0.0007	0.0008
1,2-Dibromo-3-Chloropropane	mg/m3	51	9.80	0.00010	0.0004	0.0002	0.0004	0.00008	0.00005	0.00005
1,2-Dibromoethane	mg/m3	56	3.57	0.0001	0.001	0.0002	0.0004	0.00008	0.00006	0.00006
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	56	1.79	0.0002	0.001	0.0003	0.0003	0.0001	0.0001	0.0001
1,2-Dichlorobenzene	mg/m3	56	32.14	0.00010	0.0004	0.0002	0.005	0.0003	0.00005	0.00005
1,2-Dichloroethane	mg/m3	56	16.07	0.00010	0.0004	0.00010	0.0003	0.00008	0.00005	0.00005
1,2-Dichloropropane	mg/m3	56	73.21	0.00009	0.0007	0.0002	0.017	0.002	0.0007	0.00005
1,3,5-Trimethylbenzene	mg/m3	56	69.64	0.00005	0.0005	0.00007	0.002	0.0003	0.0002	0.00003
1,3-Butadiene	mg/m3	55	5.45	0.0005	0.002	0.0006	0.0008	0.0003	0.0002	0.0002
1,3-Dichlorobenzene	mg/m3	56	32.14	0.00009	0.0004	0.0001	0.004	0.0002	0.00005	0.00005
1,4-Dichlorobenzene	mg/m3	55	34.55	0.00009	0.001	0.0001	0.006	0.0003	0.00005	0.00005
2-Butanone (methyl ethyl ketone)	mg/m3	56	96.43	0.0006	0.001	0.0001	0.010	0.002	0.002	0.001
Acetone	mg/m3	56	98.21	0.001	0.001	0.006	0.049	0.02	0.01	0.01
Acetonitrile	mg/m3	56	48.21	0.0004	0.002	0.0004	0.002	0.0006	0.0004	0.0002
Acetophenone	mg/m3	53	26.42	0.001	0.004	0.001	0.032	0.003	0.0005	0.0005
Acrolein	mg/m3	56	57.14	0.0004	0.002	0.0004	0.007	0.002	0.001	0.0002
Acrylonitrile	mg/m3	56	8.93	0.0002	0.0008	0.0002	0.0006	0.0001	0.00010	0.00010
Benzene	mg/m3	56	100.00			0.0004	0.006	0.002	0.001	0.001
Bis(2-Chloroethyl)ether	mg/m3	56	0.00	0.0002	0.0006			0.00008	0.00008	0.00008
Bromodichloromethane	mg/m3	56	3.57	0.0002	0.002	0.0002	0.0003	0.0001	0.00008	0.00008
Bromoform	mg/m3	56	1.79	0.0001	0.0006	0.0003	0.0003	0.00007	0.00006	0.00006
Bromomethane	mg/m3	56	10.71	0.00007	0.0002	0.0001	0.0005	0.00006	0.00004	0.00004
Carbon Disulfide	mg/m3	56	76.79	0.00010	0.0009	0.0001	0.025	0.002	0.0004	0.00005

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Carbon Tetrachloride	mg/m3	56	89.29	0.0005	0.0008	0.0004	0.0009	0.0006	0.0006	0.0006
Chlorobenzene	mg/m3	56	21.43	0.00004	0.0004	0.0001	0.0005	0.00008	0.00002	0.00002
Chloroethane	mg/m3	56	3.57	0.00010	0.0004	0.0002	0.0003	0.00007	0.00006	0.00006
Chloroform	mg/m3	56	46.43	0.00010	0.0004	0.0001	0.001	0.0002	0.0001	0.00006
Chloromethane	mg/m3	56	96.43	0.00007	0.00007	0.0010	0.010	0.002	0.002	0.002
Cyclohexane	mg/m3	56	82.14	0.0001	0.0004	0.0002	0.013	0.001	0.0007	0.00006
Dibromochloromethane	mg/m3	56	3.57	0.0002	0.002	0.0003	0.0004	0.0002	0.0001	0.0001
Dibromomethane	mg/m3	56	8.93	0.0002	0.002	0.0002	0.0003	0.0001	0.00008	0.00008
Dichlorodifluoromethane (Freon 12)	mg/m3	56	100.00			0.001	0.009	0.003	0.002	0.002
Ethylbenzene	mg/m3	56	94.64	0.0006	0.0007	0.0002	0.005	0.0009	0.0007	0.0008
Hexane	mg/m3	56	89.29	0.0002	0.0006	0.0002	18.936	0.35	0.0007	0.00009
Isobutyl Alcohol	mg/m3	55	18.18	0.0005	0.002	0.0009	0.011	0.001	0.0002	0.0002
Isopropylbenzene	mg/m3	56	16.07	0.00007	0.0006	0.0001	0.0004	0.00007	0.00004	0.00004
Methyl Acetate	mg/m3	56	57.14	0.0003	0.001	0.0003	0.001	0.0004	0.0004	0.0001
Methyl tert-Butyl Ether	mg/m3	56	46.43	0.0002	0.0007	0.0003	0.002	0.0004	0.0002	0.00009
Methylcyclohexane	mg/m3	55	52.73	0.00008	0.0003	0.0001	0.011	0.0006	0.0001	0.00004
Methylene Chloride	mg/m3	56	92.86	0.00008	0.00008	0.0004	0.015	0.001	0.0008	0.00004
Pentachloroethane	mg/m3	56	1.79	0.0003	0.001	0.0003	0.0003	0.0001	0.0001	0.0001
Styrene	mg/m3	56	75.00	0.00007	0.0006	0.0002	0.005	0.0007	0.0005	0.00004
Tetrachloroethene	mg/m3	56	64.29	0.001	0.005	0.001	0.016	0.003	0.002	0.0007
Toluene	mg/m3	56	100.00			0.0005	0.030	0.004	0.004	0.003
Trans-1,4-Dichloro-2-Butene	mg/m3	53	0.00	0.0002	0.0007			0.00009	0.00009	0.00009
Trichloroethene	mg/m3	56	35.71	0.00008	0.0004	0.00010	0.0004	0.0001	0.00004	0.00004
Trichlorofluoromethane	mg/m3	56	100.00			0.001	0.003	0.002	0.002	0.002
Vinyl Acetate	mg/m3	55	14.55	0.0001	0.0004	0.0002	0.012	0.0005	0.00006	0.00006
Vinyl Chloride	mg/m3	56	0.00	0.00007	0.0003			0.00004	0.00004	0.00004
Xylenes, Total	mg/m3	56	100.00			0.0007	0.022	0.004	0.003	
cis-1,2-Dichloroethene	mg/m3	56	3.57	0.00009	0.0004	0.0002	0.0003	0.00006	0.00005	0.00005
cis-1,3-Dichloropropene	mg/m3	56	19.64	0.00004	0.0002	0.0001	0.003	0.0002	0.00002	0.00002
m,p-Xylenes	mg/m3	56	100.00			0.0005	0.017	0.003	0.002	0.002
o-Xylene	mg/m3	56	96.43	0.0008	0.0010	0.0002	0.006	0.0009	0.0007	
trans-1,2-Dichloroethene	mg/m3	56	3.57	0.0001	0.0004	0.0001	0.0002	0.00006	0.00006	0.00006
trans-1,3-Dichloropropene	mg/m3	56	21.43	0.00007	0.0003	0.0001	0.003	0.0003	0.00004	0.00004

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde	mg/m3	0.01	0.010	0.010	0.009	Unknown
Benzaldehyde	mg/m3	0.0004	0.0006	0.0006	0.001	Unknown
Butyraldehyde	mg/m3	0.0003	0.0004	0.0004	0.0008	Unknown
Crotonaldehyde	mg/m3	0.00006	0.00004	0.00004	0.00002	Unknown
Formaldehyde	mg/m3	0.002	0.003	0.003	0.003	Lognormal
Hexaldehyde	mg/m3	0.0004	0.0004	0.0004	0.0009	Unknown
M-tolualdehyde	mg/m3	0.0003	0.0004	0.0004	0.002	Unknown
Methacrylaldehyde	mg/m3	0.0001	0.0002	0.0002	0.0004	Unknown
N-valeraldehyde	mg/m3	0.0002	0.0002	0.0002	0.0004	Unknown
Propionaldehyde	mg/m3	0.0002	0.0003	0.0003	0.0003	Lognormal
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	0.00000004	0.00000003	0.00000002	0.00000003	Lognormal
Inorganics						
Aluminum	mg/m3	0.0003	0.0006	0.0005	0.0006	Lognormal
Antimony	mg/m3	0.000010	0.00001	0.00001	0.00001	Unknown
Arsenic	mg/m3	0.000006	0.000004	0.000004	0.000003	Unknown
Barium	mg/m3	0.00002	0.00002	0.00002	0.00002	Lognormal
Beryllium	mg/m3	0.0000002	0.0000010	0.0000010	0.0000010	Unknown
Cadmium (Food)	mg/m3	0.000001	0.0000008	0.0000009	0.0000008	Lognormal
Chromium	mg/m3	0.000003	0.000005	0.000004	0.000005	Lognormal
Cobalt	mg/m3	0.0000004	0.0000004	0.0000004	0.0000005	Unknown
Copper	mg/m3	0.00004		0.0003	0.0003	Normal/Lognormal
Iron	mg/m3	0.0008		0.006	0.006	Normal/Lognormal
Lead	mg/m3	0.00002	0.00003	0.00003	0.00004	Unknown
Manganese (food)	mg/m3	0.00001	0.00002	0.00002	0.00003	Unknown
Mercury	mg/m3	0.000002	0.000003	0.000003	0.000006	Unknown
Nickel	mg/m3	0.00002		0.0001	0.0001	Normal/Lognormal
Selenium	mg/m3	0.000004		0.00003	0.00003	Normal/Lognormal
Silver	mg/m3	0.000004		0.00003	0.00003	Normal/Lognormal
Thallium	mg/m3	0.000001	0.000001	0.000001	0.0000008	Unknown
Tin	mg/m3	0.000004	0.000005	0.000005	0.000007	Unknown
Vanadium	mg/m3	0.0000008		0.000006	0.000006	Normal/Lognormal

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics						
Zinc	mg/m3	0.0002		0.001	0.001	Normal/Lognormal
Polychlorinated bi-phenyls						
Aroclor 1016	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1221	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1232	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1242	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1248	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1254	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1260	mg/m3	0.000002		0.000006	0.00001	Unknown
Pesticides						
4,4? DDD	mg/m3	0.0000005		0.0000004	0.0000004	Unknown
4,4?-DDE	mg/m3	0.0000005		0.0000004	0.0000004	Unknown
4,4?-DDT	mg/m3	0.0000007		0.0000007	0.0000008	Unknown
Aldrin	mg/m3	0.0000004		0.0000007	0.0000008	Unknown
Chlordane	mg/m3					Unknown
Dieldrin	mg/m3	0.0000005		0.0000006	0.0000006	Unknown
Endosulfan I	mg/m3	0.0000004	0.0000009	0.0000009	0.000001	Unknown
Endosulfan II	mg/m3	0.0000006		0.0000005	0.0000004	Unknown
Endosulfan sulfate	mg/m3	0.0000006		0.0000008	0.0000009	Unknown
Endrin	mg/m3	0.0000006		0.0000004	0.0000004	Unknown
Endrin aldehyde	mg/m3	0.0000005		0.0000003	0.0000002	Unknown
Heptachlor	mg/m3	0.0000005		0.0000005	0.0000005	Unknown
Heptachlor epoxide	mg/m3	0.0000007		0.0000006	0.0000006	Unknown
Methoxychlor	mg/m3	0.0000005		0.000001	0.000001	Unknown
Toxaphene	mg/m3	0.00002		0.00005	0.0002	Unknown
alpha-BHC	mg/m3	0.0000005		0.0000004	0.0000003	Unknown
alpha-Chlordane	mg/m3	0.0000004		0.0000005	0.0000003	Unknown
beta-BHC	mg/m3	0.0000006		0.0000003	0.0000002	Unknown
delta-BHC	mg/m3	0.0000006		0.0000005	0.0000005	Unknown
gamma-BHC (Lindane)	mg/m3	0.0000004		0.0000004	0.0000004	Unknown
gamma-Chlordane	mg/m3	0.0000004		0.0000010	0.0000009	Unknown

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
PM-10						
Gravimetrics-PM10	mg/m3	0.04	0.07	0.07	0.07	Lognormal
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	mg/m3	0.000002	0.000002	0.000002	0.000002	Lognormal
1,2,4,5-Tetrachlorobenzene	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
2,3,4,6-Tetrachlorophenol	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,4,5-Trichlorophenol	mg/m3	0.0000007	0.0000007	0.0000007	0.0000006	Unknown
2,4,6-Trichlorophenol	mg/m3	0.0000009	0.0000006	0.0000006	0.0000004	Unknown
2,4-Dichlorophenol	mg/m3	0.000001	0.0000008	0.0000008	0.0000006	Unknown
2,4-Dimethylphenol	mg/m3	0.000007	0.000006	0.000006	0.000007	Unknown
2,4-Dinitrophenol	mg/m3	0.0000009		0.000002	0.000002	Unknown
2,4-Dinitrotoluene	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
2,6-Dichlorophenol	mg/m3	0.0000009	0.0000006	0.0000006	0.0000003	Unknown
2,6-Dinitrotoluene	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
2-Chloronaphthalene	mg/m3	0.00000003	0.0000002	0.0000002	0.0000002	Unknown
2-Chlorophenol	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
2-Methylnaphthalene	mg/m3	0.000002	0.000001	0.000001	0.0000010	Unknown
2-Methylphenol (o-Cresol)	mg/m3	0.000010	0.000007	0.000007	0.000010	Unknown
2-Nitrophenol	mg/m3	0.0000005	0.0000005	0.0000005	0.0000004	Unknown
3&4-Methylphenol	mg/m3	0.00002	0.00002	0.00002	0.00002	Unknown
3-Nitroaniline	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
4,6-Dinitro-2-Methylphenol	mg/m3	0.00000004		0.0000008	0.0000008	Unknown
4-Bromophenylphenylether	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
4-Chloro-3-Methylphenol	mg/m3	0.0000003	0.0000004	0.0000004	0.0000004	Unknown
4-Chloroaniline	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
4-Nitroaniline	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
4-Nitrophenol	mg/m3	0.000001	0.000001	0.000001	0.0000008	Unknown
Acenaphthene	mg/m3	0.0000005	0.0000005	0.0000005	0.0000004	Unknown
Acenaphthylene	mg/m3	0.000004	0.000003	0.000003	0.000004	Unknown
Aniline	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
Anthracene	mg/m3	0.0000009	0.0000009	0.0000009	0.0000010	Unknown
Atrazine	mg/m3	0.00000009		0.0000002	0.0000002	Unknown
Benzo(a)anthracene	mg/m3	0.0000006	0.0000006	0.0000006	0.0000005	Unknown
Benzo(a)pyrene	mg/m3	0.000003	0.000002	0.000002	0.0000008	Unknown

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	mg/m3	0.0000005	0.0000005	0.0000005	0.0000004	Unknown
Benzo(g,h,i)perylene	mg/m3	0.0000006	0.0000006	0.0000006	0.0000006	Unknown
Benzo(k)fluoranthene	mg/m3	0.0000005	0.0000006	0.0000006	0.0000005	Unknown
Bis(2-ethylhexyl)phthalate	mg/m3	0.000009	0.00001	0.00001	0.00004	Unknown
Butylbenzylphthalate	mg/m3	0.000001	0.0000007	0.0000007	0.0000003	Unknown
Carbazole	mg/m3	0.0000001	0.0000002	0.0000002	0.0000002	Unknown
Chrysene	mg/m3	0.000001	0.000001	0.000001	0.000002	Unknown
Di-n-butylphthalate	mg/m3	0.00004	0.00004	0.00004	0.00008	Unknown
Di-n-octylphthalate	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Dibenzo(a,h)anthracene	mg/m3	0.0000001	0.0000002	0.0000002	0.0000001	Unknown
Dibenzofuran	mg/m3	0.000005	0.000004	0.000004	0.000007	Unknown
Diethylphthalate	mg/m3	0.000006	0.000006	0.000006	0.000005	Unknown
Dimethylphthalate	mg/m3	0.0000006	0.0000006	0.0000006	0.0000006	Unknown
Diphenylamine	mg/m3	0.0000004	0.0000004	0.0000004	0.0000004	Unknown
Fluoranthene	mg/m3	0.000005	0.000005	0.000005	0.000005	Lognormal
Fluorene	mg/m3	0.000002	0.000003	0.000003	0.000004	Unknown
Hexachlorobenzene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
Hexachlorobutadiene	mg/m3	0.0005	0.0005	0.0005	0.008	Unknown
Hexachlorocyclopentadiene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
Hexachloroethane	mg/m3	0.00005	0.00004	0.00004	0.0008	Unknown
Indeno(1,2,3-c,d)pyrene	mg/m3	0.0000005	0.0000010	0.0000010	0.0000009	Unknown
Naphthalene	mg/m3	0.0001	0.00008	0.00008	0.00009	Unknown
Nitrobenzene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
Pentachlorobenzene	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
Pentachloronitrobenzene	mg/m3	0.00000004		0.0000003	0.0000003	Unknown
Pentachlorophenol	mg/m3	0.00000003		0.0000005	0.0000005	Unknown
Phenanthrene	mg/m3	0.000008	0.00001	0.00001	0.00001	Lognormal
Phenol	mg/m3	0.00001	0.000010	0.000010	0.00002	Unknown
Pyrene	mg/m3	0.000003	0.000004	0.000004	0.000004	Lognormal
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	0.000003	0.000002	0.000002	0.0002	Unknown
o-Toluidine	mg/m3	0.000000009		0.0000002	0.0000002	Unknown

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	mg/m3	0.0007	0.0004	0.0004	0.0002	Unknown
1,1,1-Trichloroethane	mg/m3	0.00008	0.0001	0.0001	0.0001	Unknown
1,1,2,2-Tetrachloroethane	mg/m3	0.0002	0.0001	0.0001	0.0001	Unknown
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	0.0002	0.0007	0.0007	0.0009	Unknown
1,1,2-Trichloroethane	mg/m3	0.00007	0.00007	0.00007	0.00005	Unknown
1,1-Dichloroethane	mg/m3	0.00003	0.00004	0.00004	0.00004	Unknown
1,1-Dichloroethene	mg/m3	0.00003	0.00007	0.00007	0.00006	Unknown
1,2,3-Trichlorobenzene	mg/m3	0.0006	0.0006	0.0006	0.0005	Unknown
1,2,3-Trichloropropane	mg/m3	0.00005	0.00006	0.00006	0.00005	Unknown
1,2,4-Trichlorobenzene	mg/m3	0.0007	0.0009	0.0008	0.0009	Lognormal
1,2,4-Trimethylbenzene	mg/m3	0.0007	0.0010	0.0010	0.001	Unknown
1,2-Dibromo-3-Chloropropane	mg/m3	0.00008	0.00010	0.00010	0.00009	Unknown
1,2-Dibromoethane	mg/m3	0.00008	0.00010	0.00010	0.00008	Unknown
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	0.00006	0.0002	0.0002	0.0001	Unknown
1,2-Dichlorobenzene	mg/m3	0.0008	0.0005	0.0005	0.0003	Unknown
1,2-Dichloroethane	mg/m3	0.00007	0.00009	0.00009	0.00009	Unknown
1,2-Dichloropropane	mg/m3	0.003	0.006	0.003	0.006	Lognormal
1,3,5-Trimethylbenzene	mg/m3	0.0003	0.0003	0.0003	0.0004	Unknown
1,3-Butadiene	mg/m3	0.0001	0.0003	0.0003	0.0003	Unknown
1,3-Dichlorobenzene	mg/m3	0.0006	0.0004	0.0004	0.0003	Unknown
1,4-Dichlorobenzene	mg/m3	0.0008	0.0005	0.0005	0.0004	Unknown
2-Butanone (methyl ethyl ketone)	mg/m3	0.002	0.003	0.003	0.003	Unknown
Acetone	mg/m3	0.009	0.02	0.02	0.02	Unknown
Acetonitrile	mg/m3	0.0005	0.0007	0.0007	0.0007	Lognormal
Acetophenone	mg/m3	0.006	0.004	0.004	0.003	Unknown
Acrolein	mg/m3	0.002	0.003	0.002	0.003	Lognormal
Acrylonitrile	mg/m3	0.00009	0.0002	0.0002	0.0001	Unknown
Benzene	mg/m3	0.001	0.002	0.002	0.002	Lognormal
Bis(2-Chloroethyl)ether	mg/m3	0.00003		0.00009	0.00009	Unknown
Bromodichloromethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Bromoform	mg/m3	0.00005	0.00008	0.00008	0.00007	Unknown
Bromomethane	mg/m3	0.00008	0.00008	0.00008	0.00006	Unknown
Carbon Disulfide	mg/m3	0.004	0.003	0.002	0.003	Lognormal

Table C-6: Ambient Air Statistical Summary for Study Area 6

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Carbon Tetrachloride	mg/m3	0.0002	0.0007	0.0007	0.0007	Normal/Lognormal
Chlorobenzene	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Chloroethane	mg/m3	0.00005	0.00008	0.00008	0.00007	Unknown
Chloroform	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Chloromethane	mg/m3	0.001	0.002	0.002	0.002	Unknown
Cyclohexane	mg/m3	0.002	0.002	0.002	0.002	Lognormal
Dibromochloromethane	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Dibromomethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Dichlorodifluoromethane (Freon 12)	mg/m3	0.001	0.003	0.003	0.003	Unknown
Ethylbenzene	mg/m3	0.0007	0.001	0.001	0.001	Lognormal
Hexane	mg/m3	2.53	0.92	0.92	0.02	Unknown
Isobutyl Alcohol	mg/m3	0.002	0.001	0.001	0.001	Unknown
Isopropylbenzene	mg/m3	0.00008	0.00009	0.00009	0.00008	Unknown
Methyl Acetate	mg/m3	0.0003	0.0005	0.0004	0.0005	Lognormal
Methyl tert-Butyl Ether	mg/m3	0.0004	0.0005	0.0005	0.0005	Unknown
Methylcyclohexane	mg/m3	0.002	0.001	0.001	0.0007	Unknown
Methylene Chloride	mg/m3	0.002	0.002	0.002	0.002	Unknown
Pentachloroethane	mg/m3	0.00006	0.0002	0.0002	0.0001	Unknown
Styrene	mg/m3	0.0008	0.001	0.0009	0.001	Lognormal
Tetrachloroethene	mg/m3	0.003	0.004	0.004	0.004	Lognormal
Toluene	mg/m3	0.004	0.005	0.005	0.005	Unknown
Trans-1,4-Dichloro-2-Butene	mg/m3	0.00004		0.00010	0.00009	Unknown
Trichloroethene	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Trichlorofluoromethane	mg/m3	0.0003	0.002	0.002	0.002	Unknown
Vinyl Acetate	mg/m3	0.002	0.0009	0.0009	0.0004	Unknown
Vinyl Chloride	mg/m3	0.00001		0.00004	0.00004	Unknown
Xylenes, Total	mg/m3	0.003	0.005	0.005	0.004	Unknown
cis-1,2-Dichloroethene	mg/m3	0.00005	0.00007	0.00007	0.00006	Unknown
cis-1,3-Dichloropropene	mg/m3	0.0006	0.0004	0.0004	0.0002	Unknown
m,p-Xylenes	mg/m3	0.003	0.004	0.004	0.003	Unknown
o-Xylene	mg/m3	0.0008	0.001	0.001	0.001	Unknown
trans-1,2-Dichloroethene	mg/m3	0.00003	0.00007	0.00007	0.00007	Unknown
trans-1,3-Dichloropropene	mg/m3	0.0006	0.0004	0.0004	0.0002	Unknown

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde	mg/m3	51	100.00			0.0004	0.047	0.005	0.002	0.0009
Benzaldehyde	mg/m3	48	97.92	0.00001	0.00001	0.0001	0.002	0.0007	0.0006	
Butyraldehyde	mg/m3	48	77.08	0.00003	0.00003	0.00007	0.002	0.0004	0.0003	0.00001
Crotonaldehyde	mg/m3	48	20.83	0.00001	0.00002	0.00004	0.0003	0.00003	0.000007	0.000007
Formaldehyde	mg/m3	49	87.76	0.0002	0.004	0.0008	0.012	0.003	0.003	
Hexaldehyde	mg/m3	48	75.00	0.00002	0.0002	0.00007	0.0008	0.0002	0.0002	
M-tolualdehyde	mg/m3	48	60.42	0.00001	0.0002	0.00002	0.001	0.0003	0.0001	0.000007
Methacrylaldehyde	mg/m3	49	83.67	0.00001	0.00001	0.00002	0.0010	0.0003	0.0002	
N-valeraldehyde	mg/m3	48	89.58	0.00001	0.00001	0.00003	0.0008	0.0002	0.0001	
Propionaldehyde	mg/m3	48	93.75	0.0003	0.0005	0.00003	0.001	0.0004	0.0003	
Dioxins/Furans										
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	48	97.92	0.0000000000	0.0000000000	0.0000000000	0.000000002	0.0000000004	0.0000000002	
Inorganics										
Aluminum	mg/m3	47	82.98	0.00003	0.001	0.00006	0.002	0.0005	0.0003	
Antimony	mg/m3	47	51.06	0.000004	0.000007	0.000006	0.00002	0.000007	0.000006	
Arsenic	mg/m3	47	74.47	0.0000002	0.000002	0.0000003	0.000007	0.000001	0.0000009	
Barium	mg/m3	47	85.11	0.000002	0.0002	0.000003	0.0001	0.00002	0.00001	
Beryllium	mg/m3	47	4.26	0.0000001	0.0000003	0.0000002	0.0000002	0.00000009	0.00000009	
Cadmium (Diet)	mg/m3	47	78.72	0.0000002	0.0000008	0.0000002	0.000005	0.0000007	0.0000004	
Chromium	mg/m3	47	48.94	0.0000003	0.00001	0.0000007	0.00002	0.000003	0.000002	
Cobalt	mg/m3	47	70.21	0.0000001	0.0000003	0.0000001	0.000001	0.0000003	0.0000002	
Copper	mg/m3	47	2.13	0.0003	0.003	0.005	0.005	0.0004	0.0003	
Iron	mg/m3	47	0.00	0.006	0.014			0.006	0.006	
Lead	mg/m3	47	87.23	0.000001	0.00003	0.000004	0.0002	0.00002	0.00002	
Manganese (Diet)	mg/m3	47	76.60	0.0000001	0.00002	0.000002	0.00003	0.00001	0.00001	
Mercury	mg/m3	50	76.00	0.00000007	0.000004	0.0000001	0.00002	0.000003	0.000002	
Nickel	mg/m3	47	0.00	0.0002	0.0003			0.0001	0.0001	
Selenium	mg/m3	47	0.00	0.00003	0.00007			0.00003	0.00003	
Silver	mg/m3	47	0.00	0.00003	0.00007			0.00003	0.00003	
Thallium	mg/m3	47	12.77	0.0000006	0.000006	0.000001	0.000003	0.0000008	0.0000006	
Tin	mg/m3	47	74.47	0.0000001	0.00001	0.000001	0.00001	0.000004	0.000004	
Vanadium	mg/m3	47	2.13	0.000006	0.00001	0.00001	0.00001	0.000006	0.000006	

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics										
Zinc	mg/m3	47	0.00	0.002	0.003			0.001	0.001	
Polychlorinated bi-phenyls										
Aroclor 1016	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1221	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1232	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1242	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1248	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1254	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1260	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Pesticides										
4,4-DDD	mg/m3	48	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
4,4-DDE	mg/m3	48	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
4,4-DDT	mg/m3	48	0.00	0.0000009	0.00004			0.0000009	0.0000005	
Aldrin	mg/m3	48	0.00	0.000001	0.000001			0.0000006	0.0000006	
Dieldrin	mg/m3	48	2.08	0.0000007	0.0000009	0.000009	0.000009	0.0000006	0.0000004	
Endosulfan I	mg/m3	48	4.17	0.000001	0.000001	0.000001	0.000002	0.0000007	0.0000007	
Endosulfan II	mg/m3	48	0.00	0.0000005	0.0000006			0.0000003	0.0000003	
Endosulfan Sulfate	mg/m3	48	2.08	0.000001	0.000001	0.00003	0.00003	0.000001	0.0000006	
Endrin	mg/m3	48	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
Endrin Aldehyde	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000001	
Heptachlor	mg/m3	48	0.00	0.0000006	0.0000007			0.0000003	0.0000003	
Heptachlor Epoxide	mg/m3	48	0.00	0.0000006	0.0000007			0.0000003	0.0000004	
Methoxychlor	mg/m3	48	0.00	0.000002	0.000002			0.000001	0.000001	
Toxaphene	mg/m3	48	0.00	0.0000010	0.0001			0.00005	0.00006	
alpha-BHC	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	
alpha-Chlordane	mg/m3	48	0.00	0.0000005	0.0000006			0.0000003	0.0000003	
beta-BHC	mg/m3	48	0.00	0.0000002	0.0000002			0.0000009	0.0000009	
delta-BHC	mg/m3	48	0.00	0.0000006	0.0000007			0.0000003	0.0000003	
gamma-BHC (Lindane)	mg/m3	48	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
gamma-Chlordane	mg/m3	48	0.00	0.000001	0.000002			0.0000008	0.0000008	

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
PM-10										
Gravimetrics-PM10	mg/m3	47	100.00			0.006	0.226	0.06	0.05	
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	mg/m3	49	67.35	0.000002	0.000001	0.000004	0.000008	0.000001	0.000008	
1,2,4,5-Tetrachlorobenzene	mg/m3	49	0.00	0.000002	0.000004			0.000001	0.000002	0.000002
2,3,4,6-Tetrachlorophenol	mg/m3	49	0.00	0.000003	0.000004			0.000002	0.000002	0.000002
2,4,5-Trichlorophenol	mg/m3	49	2.04	0.000007	0.000001	0.000003	0.000003	0.000005	0.000005	0.000005
2,4,6-Trichlorophenol	mg/m3	49	2.04	0.000005	0.000007	0.000003	0.000003	0.000004	0.000003	0.000003
2,4-Dichlorophenol	mg/m3	49	8.16	0.000005	0.000007	0.000002	0.000004	0.000005	0.000003	0.000003
2,4-Dimethylphenol	mg/m3	49	59.18	0.000005	0.000004	0.000008	0.0001	0.00001	0.00002	
2,4-Dinitrophenol	mg/m3	46	0.00	0.000002	0.000004			0.00001	0.00002	0.00002
2,4-Dinitrotoluene	mg/m3	49	0.00	0.000002	0.000004			0.000001	0.000002	0.000002
2,6-Dichlorophenol	mg/m3	49	12.24	0.000002	0.000004	0.000006	0.000003	0.000003	0.000002	0.000002
2,6-Dinitrotoluene	mg/m3	49	2.04	0.000002	0.000004	0.000002	0.000002	0.000002	0.000002	0.000002
2-Chloronaphthalene	mg/m3	49	0.00	0.000002	0.000004			0.000001	0.000002	0.000002
2-Chlorophenol	mg/m3	49	0.00	0.000002	0.000004			0.000001	0.000002	0.000002
2-Methylnaphthalene	mg/m3	49	46.94	0.000002	0.000007	0.000004	0.000006	0.000008	0.000003	
2-Methylphenol (o-Cresol)	mg/m3	49	53.06	0.000002	0.000002	0.000006	0.00008	0.00007	0.00002	
2-Nitrophenol	mg/m3	49	8.16	0.000005	0.000007	0.000007	0.000001	0.000004	0.000003	0.000003
3&4-Methylphenol	mg/m3	49	61.22	0.000002	0.000004	0.000002	0.0002	0.00003	0.00005	
3-Nitroaniline	mg/m3	49	0.00	0.000002	0.000004			0.000001	0.000002	0.000002
4,6-Dinitro-2-Methylphenol	mg/m3	49	0.00	0.000001	0.000002			0.000007	0.000008	0.000008
4-Bromophenylphenylether	mg/m3	49	0.00	0.000002	0.000004			0.000001	0.000002	0.000002
4-Chloro-3-Methylphenol	mg/m3	49	4.08	0.000005	0.000007	0.000006	0.00001	0.000006	0.000003	0.000003
4-Chloroaniline	mg/m3	49	4.08	0.000002	0.000004	0.000003	0.000006	0.000002	0.000002	0.000002
4-Nitroaniline	mg/m3	49	0.00	0.000002	0.000004			0.000001	0.000002	0.000002
4-Nitrophenol	mg/m3	48	4.17	0.000007	0.000001	0.000009	0.000003	0.000005	0.000005	0.000005
Acenaphthene	mg/m3	49	14.29	0.000002	0.000004	0.000007	0.000002	0.000003	0.000002	0.000002
Acenaphthylene	mg/m3	49	61.22	0.000002	0.000004	0.000004	0.00002	0.000003	0.000009	
Aniline	mg/m3	49	2.04	0.000002	0.000004	0.000001	0.000001	0.000002	0.000002	0.000002
Anthracene	mg/m3	49	73.47	0.000002	0.000003	0.000003	0.00001	0.000003	0.000002	
Atrazine	mg/m3	49	0.00	0.000002	0.000004			0.000001	0.000002	0.000002
Benzo(a)anthracene	mg/m3	49	63.27	0.000002	0.000003	0.000003	0.000009	0.000002	0.000008	

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Semi-Volatile Organic Compounds										
Benzo(a)pyrene	mg/m3	49	73.47	0.0000002	0.0000002	0.0000003	0.000006	0.000001	0.0000008	
Benzo(b)fluoranthene	mg/m3	49	30.61	0.0000005	0.0000007	0.0000005	0.000006	0.0000008	0.0000003	0.0000003
Benzo(g,h,i)perylene	mg/m3	49	69.39	0.0000002	0.0000003	0.0000004	0.000006	0.000001	0.000001	0.0000002
Benzo(k)fluoranthene	mg/m3	49	42.86	0.0000005	0.0000007	0.0000005	0.000006	0.000001	0.0000003	0.0000003
Bis(2-ethylhexyl)phthalate	mg/m3	49	59.18	0.0000003	0.0001	0.000005	0.0002	0.00003	0.00002	
Butylbenzylphthalate	mg/m3	49	10.20	0.0000003	0.00002	0.000001	0.0004	0.000009	0.0000002	0.0000002
Carbazole	mg/m3	49	12.24	0.0000002	0.0000004	0.0000003	0.000001	0.0000002	0.0000002	0.0000002
Chrysene	mg/m3	49	81.63	0.0000003	0.0000003	0.0000003	0.00001	0.000002	0.000001	
Di-n-butylphthalate	mg/m3	49	40.82	0.0000003	0.00003	0.000008	0.00009	0.00002	0.00001	
Di-n-octylphthalate	mg/m3	49	4.08	0.0000005	0.0000007	0.000002	0.000005	0.0000004	0.0000003	0.0000003
Dibenzo(a,h)anthracene	mg/m3	49	4.08	0.0000002	0.0000003	0.0000007	0.000006	0.0000002	0.0000001	0.0000001
Dibenzofuran	mg/m3	49	75.51	0.0000002	0.0000004	0.0000004	0.00003	0.000004	0.000002	
Diethylphthalate	mg/m3	49	34.69	0.0000003	0.00001	0.000003	0.00005	0.000005	0.000003	
Dimethylphthalate	mg/m3	49	28.57	0.0000002	0.0000004	0.0000004	0.000003	0.0000004	0.0000002	
Diphenylamine	mg/m3	49	8.16	0.0000003	0.000002	0.0000003	0.000001	0.0000002	0.0000002	0.0000002
Fluoranthene	mg/m3	49	100.00			0.000001	0.00002	0.000007	0.000005	
Fluorene	mg/m3	49	85.71	0.0000003	0.0000006	0.0000003	0.00002	0.000004	0.000003	
Hexachlorobenzene	mg/m3	49	0.00	0.0000002	0.0000004			0.0000001	0.0000002	0.0000002
Hexachlorobutadiene	mg/m3	57	26.32	0.0000003	0.002	0.0003	0.002	0.0004	0.0001	0.0001
Hexachlorocyclopentadiene	mg/m3	49	0.00	0.0000002	0.0000004			0.0000001	0.0000002	0.0000002
Hexachloroethane	mg/m3	57	1.75	0.0000002	0.00007	0.0003	0.0003	0.00002	0.0000002	0.00004
Indeno(1,2,3-c,d)pyrene	mg/m3	49	34.69	0.000001	0.000002	0.000001	0.000006	0.000001	0.0000008	0.0000008
Naphthalene	mg/m3	50	44.00	0.0000003	0.0002	0.0000005	0.001	0.00003	0.0000007	0.0001
Nitrobenzene	mg/m3	49	2.04	0.0000002	0.0000004	0.000002	0.000002	0.0000002	0.0000002	0.0000002
Pentachlorobenzene	mg/m3	49	0.00	0.0000002	0.0000004			0.0000001	0.0000002	0.0000002
Pentachloronitrobenzene	mg/m3	48	0.00	0.0000004	0.0000007			0.0000003	0.0000003	
Pentachlorophenol	mg/m3	49	0.00	0.0000007	0.000001			0.0000004	0.0000005	0.0000005
Phenanthrene	mg/m3	49	100.00			0.000005	0.00007	0.00002	0.00002	
Phenol	mg/m3	49	53.06	0.0000003	0.00004	0.000001	0.0001	0.000009	0.000003	
Pyrene	mg/m3	49	100.00			0.0000008	0.00002	0.000006	0.000004	
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	49	85.71	0.0000006	0.0000007	0.0000000006	0.00001	0.000002	0.0000009	
o-Toluidine	mg/m3	49	2.04	0.0000002	0.0000004	0.000002	0.000002	0.0000002	0.0000002	0.0000002

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	mg/m3	51	9.80	0.0002	0.0002	0.0002	0.0002	0.0001	0.00009	0.00009
1,1,1-Trichloroethane	mg/m3	51	23.53	0.0002	0.0002	0.0002	0.0004	0.0001	0.00008	0.00008
1,1,2,2-Tetrachloroethane	mg/m3	51	21.57	0.00004	0.00004	0.0001	0.0004	0.00008	0.00002	0.00002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	mg/m3	51	90.20	0.00008	0.00008	0.0002	0.001	0.0006	0.0007	0.00004
1,1,2-Trichloroethane	mg/m3	51	0.00	0.00008	0.00008			0.00004	0.00004	0.00004
1,1-Dichloroethane	mg/m3	51	1.96	0.00005	0.00005	0.0002	0.0002	0.00003	0.00003	0.00003
1,1-Dichloroethene	mg/m3	51	3.92	0.00010	0.00010	0.0002	0.0002	0.00006	0.00005	0.00005
1,2,3-Trichlorobenzene	mg/m3	48	4.17	0.0004	0.0004	0.002	0.002	0.0003	0.0002	0.0002
1,2,3-Trichloropropane	mg/m3	51	1.96	0.00007	0.00007	0.0002	0.0002	0.00004	0.00004	0.00004
1,2,4-Trichlorobenzene	mg/m3	48	27.08	0.0002	0.003	0.0003	0.003	0.0005	0.00010	0.00010
1,2,4-Trimethylbenzene	mg/m3	51	94.12	0.00005	0.0008	0.0002	0.007	0.001	0.001	0.001
1,2-Dibromo-3-Chloropropane	mg/m3	48	14.58	0.00010	0.00010	0.0002	0.0003	0.00008	0.00005	0.00005
1,2-Dibromoethane	mg/m3	51	0.00	0.0001	0.0001			0.00006	0.00006	0.00006
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon)	mg/m3	51	5.88	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0001
1,2-Dichlorobenzene	mg/m3	51	27.45	0.00010	0.0002	0.0001	0.0009	0.0002	0.00005	0.00005
1,2-Dichloroethane	mg/m3	51	17.65	0.00010	0.00010	0.0001	0.0003	0.00008	0.00005	0.00005
1,2-Dichloropropane	mg/m3	51	74.51	0.00009	0.0005	0.0004	0.027	0.003	0.001	0.00005
1,3,5-Trimethylbenzene	mg/m3	51	78.43	0.00005	0.0006	0.0001	0.002	0.0004	0.0003	0.00003
1,3-Butadiene	mg/m3	51	11.76	0.0005	0.0005	0.0007	0.002	0.0003	0.0002	0.0002
1,3-Dichlorobenzene	mg/m3	51	29.41	0.00009	0.0004	0.00010	0.0009	0.0002	0.00005	0.00005
1,4-Dichlorobenzene	mg/m3	49	34.69	0.00009	0.0002	0.0002	0.001	0.0002	0.00005	0.00005
2-Butanone (methyl ethyl ketone)	mg/m3	51	92.16	0.0003	0.0003	0.0004	0.008	0.002	0.002	0.0002
Acetone	mg/m3	51	100.00			0.005	0.049	0.02	0.02	0.01
Acetonitrile	mg/m3	51	49.02	0.0004	0.0004	0.0004	0.002	0.0005	0.0002	0.0002
Acetophenone	mg/m3	48	31.25	0.001	0.001	0.001	0.104	0.006	0.0005	0.0005
Acrolein	mg/m3	51	72.55	0.0004	0.0004	0.0005	0.010	0.003	0.002	0.0002
Acrylonitrile	mg/m3	51	13.73	0.0002	0.0002	0.0002	0.0004	0.0001	0.00010	0.00010
Benzene	mg/m3	51	100.00			0.0006	0.010	0.002	0.002	0.001
Bis(2-Chloroethyl)ether	mg/m3	51	0.00	0.0002	0.0002			0.00008	0.00008	0.00008
Bromodichloromethane	mg/m3	51	3.92	0.0002	0.0002	0.0002	0.0005	0.00009	0.00008	0.00008
Bromoform	mg/m3	51	1.96	0.0001	0.0001	0.0003	0.0003	0.00006	0.00006	0.00006
Bromomethane	mg/m3	51	5.88	0.00007	0.00007	0.0001	0.0003	0.00005	0.00004	0.00004
Carbon Disulfide	mg/m3	51	80.39	0.00010	0.0009	0.0001	0.018	0.001	0.0004	0.00005

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Carbon Tetrachloride	mg/m3	51	90.20	0.0007	0.0008	0.0003	0.001	0.0006	0.0006	0.0006
Chlorobenzene	mg/m3	51	15.69	0.00004	0.0004	0.00006	0.0004	0.00006	0.00002	0.00002
Chloroethane	mg/m3	51	1.96	0.0001	0.0001	0.0002	0.0002	0.00006	0.00006	0.00006
Chloroform	mg/m3	51	41.18	0.0001	0.0002	0.0001	0.001	0.0001	0.00006	0.00006
Chloromethane	mg/m3	51	94.12	0.00007	0.00007	0.0005	0.012	0.002	0.002	0.002
Cyclohexane	mg/m3	51	84.31	0.0001	0.0001	0.0002	0.009	0.001	0.0009	0.00006
Dibromochloromethane	mg/m3	51	3.92	0.0002	0.0002	0.0003	0.0004	0.0001	0.0001	0.0001
Dibromomethane	mg/m3	51	9.80	0.0002	0.0002	0.0002	0.0002	0.00009	0.00008	0.00008
Dichlorodifluoromethane (Freon 12)	mg/m3	51	96.08	0.0002	0.0002	0.001	0.006	0.002	0.002	0.00009
Ethylbenzene	mg/m3	51	94.12	0.0006	0.0009	0.0001	0.003	0.001	0.0009	0.001
Hexane	mg/m3	51	98.04	0.0002	0.0002	0.0003	0.031	0.003	0.001	0.001
Isobutyl Alcohol	mg/m3	51	23.53	0.0005	0.0005	0.0005	0.006	0.0008	0.0002	0.0002
Isopropylbenzene	mg/m3	51	23.53	0.00007	0.00007	0.0001	0.0005	0.00008	0.00004	0.00004
Methyl Acetate	mg/m3	51	52.94	0.0003	0.0003	0.0003	0.002	0.0006	0.0004	0.0001
Methyl tert-Butyl Ether	mg/m3	51	52.94	0.0002	0.0002	0.0003	0.002	0.0006	0.0005	0.00009
Methylcyclohexane	mg/m3	51	66.67	0.00008	0.00008	0.0001	0.015	0.0007	0.0003	0.00004
Methylene Chloride	mg/m3	51	96.08	0.00008	0.00008	0.0003	0.032	0.002	0.0009	0.00004
Pentachloroethane	mg/m3	51	0.00	0.0003	0.0003			0.0001	0.0001	0.0001
Styrene	mg/m3	51	80.39	0.00007	0.0007	0.0002	0.010	0.001	0.0009	0.00004
Tetrachloroethene	mg/m3	51	62.75	0.001	0.005	0.001	0.006	0.002	0.002	0.0007
Toluene	mg/m3	51	100.00			0.001	0.016	0.006	0.005	0.003
Trans-1,4-Dichloro-2-Butene	mg/m3	49	0.00	0.0002	0.0002			0.00009	0.00009	0.00009
Trichloroethene	mg/m3	51	29.41	0.00008	0.00008	0.0001	0.0004	0.0001	0.00004	0.00004
Trichlorofluoromethane	mg/m3	51	100.00			0.0006	0.003	0.002	0.002	0.002
Vinyl Acetate	mg/m3	51	9.80	0.0001	0.0001	0.002	0.003	0.0003	0.00006	0.00006
Vinyl Chloride	mg/m3	51	1.96	0.00007	0.00007	0.0002	0.0002	0.00004	0.00004	0.00004
Xylenes, Total	mg/m3	51	100.00			0.0007	0.017	0.005	0.004	
cis-1,2-Dichloroethene	mg/m3	51	3.92	0.00009	0.00009	0.0002	0.001	0.00008	0.00005	0.00005
cis-1,3-Dichloropropene	mg/m3	51	9.80	0.00004	0.00004	0.0002	0.001	0.00008	0.00002	0.00002
m,p-Xylenes	mg/m3	51	100.00			0.0005	0.013	0.004	0.003	
o-Xylene	mg/m3	51	94.12	0.00006	0.001	0.0002	0.004	0.001	0.001	0.001
trans-1,2-Dichloroethene	mg/m3	51	3.92	0.0001	0.0001	0.0001	0.0002	0.00006	0.00006	0.00006
trans-1,3-Dichloropropene	mg/m3	51	11.76	0.00007	0.00007	0.0001	0.001	0.00010	0.00004	0.00004

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde	mg/m3	0.010	0.007	0.007	0.006	Unknown
Benzaldehyde	mg/m3	0.0004	0.0008	0.0008	0.001	Unknown
Butyraldehyde	mg/m3	0.0005	0.0006	0.0006	0.001	Unknown
Crotonaldehyde	mg/m3	0.00005	0.00004	0.00004	0.00003	Unknown
Formaldehyde	mg/m3	0.003	0.004	0.004	0.004	Unknown
Hexaldehyde	mg/m3	0.0002	0.0002	0.0002	0.0004	Unknown
M-tolualdehyde	mg/m3	0.0003	0.0003	0.0003	0.001	Unknown
Methacrylaldehyde	mg/m3	0.0002	0.0003	0.0003	0.0008	Unknown
N-valeraldehyde	mg/m3	0.0002	0.0002	0.0002	0.0003	Unknown
Propionaldehyde	mg/m3	0.0004	0.0005	0.0005	0.0005	Lognormal
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	0.0000000005	0.0000000005	0.0000000005	0.000000001	Unknown
Inorganics						
Aluminum	mg/m3	0.0004	0.0007	0.0006	0.0007	Lognormal
Antimony	mg/m3	0.000005	0.000008	0.000008	0.000008	Unknown
Arsenic	mg/m3	0.000002	0.000002	0.000002	0.000002	Unknown
Barium	mg/m3	0.00002	0.00002	0.00002	0.00002	Unknown
Beryllium	mg/m3	0.00000002	0.00000010	0.00000010	0.00000010	Unknown
Cadmium (Diet)	mg/m3	0.0000009	0.0000008	0.0000009	0.0000008	Lognormal
Chromium	mg/m3	0.000003	0.000004	0.000004	0.000004	Lognormal
Cobalt	mg/m3	0.0000002	0.0000004	0.0000004	0.0000004	Unknown
Copper	mg/m3	0.0007	0.0006	0.0006	0.0004	Unknown
Iron	mg/m3	0.0007		0.006	0.006	Normal
Lead	mg/m3	0.00003	0.00003	0.00003	0.00004	Unknown
Manganese (Diet)	mg/m3	0.000008	0.00001	0.00001	0.00003	Unknown
Mercury	mg/m3	0.000003	0.000004	0.000004	0.000005	Unknown
Nickel	mg/m3	0.00002		0.0001	0.0001	Normal
Selenium	mg/m3	0.000003		0.00003	0.00003	Normal
Silver	mg/m3	0.000003		0.00003	0.00003	Normal
Thallium	mg/m3	0.0000006	0.0000009	0.0000009	0.0000009	Unknown
Tin	mg/m3	0.000003	0.000005	0.000005	0.000008	Unknown
Vanadium	mg/m3	0.000001	0.000006	0.000006	0.000006	Unknown

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics						
Zinc	mg/m3	0.0002		0.001	0.001	Normal
Polychlorinated bi-phenyls						
Aroclor 1016	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1221	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1232	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1242	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1248	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1254	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1260	mg/m3	0.000001		0.000006	0.00001	Unknown
Pesticides						
4,4-DDD	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDE	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDT	mg/m3	0.0000003		0.0000002	0.0000007	Unknown
Aldrin	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Dieldrin	mg/m3	0.0000001	0.0000009	0.0000009	0.0000005	Unknown
Endosulfan I	mg/m3	0.0000003	0.0000008	0.0000008	0.0000008	Unknown
Endosulfan II	mg/m3	0.00000001		0.0000003	0.0000003	Unknown
Endosulfan Sulfate	mg/m3	0.0000004	0.0000002	0.0000002	0.0000009	Unknown
Endrin	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Endrin Aldehyde	mg/m3	0.000000007		0.0000001	0.0000001	Unknown
Heptachlor	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Heptachlor Epoxide	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Methoxychlor	mg/m3	0.00000005		0.0000001	0.0000001	Unknown
Toxaphene	mg/m3	0.0000001		0.0000005	0.0000001	Unknown
alpha-BHC	mg/m3	0.000000009		0.0000002	0.0000002	Unknown
alpha-Chlordane	mg/m3	0.00000001		0.0000003	0.0000003	Unknown
beta-BHC	mg/m3	0.000000004		0.00000009	0.00000009	Unknown
delta-BHC	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
gamma-BHC (Lindane)	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
gamma-Chlordane	mg/m3	0.00000004		0.0000008	0.0000008	Unknown

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
PM-10						
Gravimetrics-PM10	mg/m3	0.03	0.07	0.07	0.07	Unknown
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	mg/m3	0.000001	0.000002	0.000001	0.000002	Lognormal
1,2,4,5-Tetrachlorobenzene	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,3,4,6-Tetrachlorophenol	mg/m3	0.0000002		0.0000002	0.0000002	Unknown
2,4,5-Trichlorophenol	mg/m3	0.0000004	0.0000006	0.0000006	0.0000005	Unknown
2,4,6-Trichlorophenol	mg/m3	0.0000004	0.0000005	0.0000005	0.0000004	Unknown
2,4-Dichlorophenol	mg/m3	0.0000007	0.0000007	0.0000007	0.0000005	Unknown
2,4-Dimethylphenol	mg/m3	0.000002	0.000002	0.000002	0.000004	Unknown
2,4-Dinitrophenol	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,4-Dinitrotoluene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
2,6-Dichlorophenol	mg/m3	0.0000006	0.0000005	0.0000005	0.0000003	Unknown
2,6-Dinitrotoluene	mg/m3	0.0000003	0.0000003	0.0000003	0.0000002	Unknown
2-Chloronaphthalene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
2-Chlorophenol	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
2-Methylnaphthalene	mg/m3	0.0000001	0.0000001	0.0000001	0.0000001	Unknown
2-Methylphenol (o-Cresol)	mg/m3	0.000002	0.000001	0.000001	0.000003	Unknown
2-Nitrophenol	mg/m3	0.0000002	0.0000004	0.0000004	0.0000004	Unknown
3&4-Methylphenol	mg/m3	0.000005	0.000004	0.000004	0.000007	Unknown
3-Nitroaniline	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,6-Dinitro-2-Methylphenol	mg/m3	0.00000007		0.0000008	0.0000008	Unknown
4-Bromophenylphenylether	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4-Chloro-3-Methylphenol	mg/m3	0.0000002	0.0000001	0.0000001	0.0000004	Unknown
4-Chloroaniline	mg/m3	0.00000007	0.0000002	0.0000002	0.0000002	Unknown
4-Nitroaniline	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4-Nitrophenol	mg/m3	0.0000003	0.0000006	0.0000006	0.0000005	Unknown
Acenaphthene	mg/m3	0.0000004	0.0000004	0.0000004	0.0000003	Unknown
Acenaphthylene	mg/m3	0.0000005	0.0000004	0.0000004	0.0000009	Unknown
Aniline	mg/m3	0.0000001	0.0000002	0.0000002	0.0000002	Unknown
Anthracene	mg/m3	0.0000003	0.0000004	0.0000004	0.0000007	Unknown
Atrazine	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Benzo(a)anthracene	mg/m3	0.0000002	0.0000002	0.0000002	0.0000003	Unknown
Benzo(a)pyrene	mg/m3	0.0000001	0.0000002	0.0000002	0.0000003	Unknown

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	mg/m3	0.000001	0.000001	0.000001	0.0000009	Unknown
Benzo(g,h,i)perylene	mg/m3	0.000001	0.000002	0.000002	0.000002	Unknown
Benzo(k)fluoranthene	mg/m3	0.000001	0.000001	0.000001	0.000001	Unknown
Bis(2-ethylhexyl)phthalate	mg/m3	0.00004	0.00004	0.00004	0.00005	Unknown
Butylbenzylphthalate	mg/m3	0.00006	0.00002	0.00002	0.000002	Unknown
Carbazole	mg/m3	0.0000003	0.0000003	0.0000003	0.0000002	Unknown
Chrysene	mg/m3	0.000002	0.000003	0.000003	0.000004	Unknown
Di-n-butylphthalate	mg/m3	0.00002	0.00002	0.00002	0.00004	Unknown
Di-n-octylphthalate	mg/m3	0.0000007	0.0000006	0.0000006	0.0000004	Unknown
Dibenzo(a,h)anthracene	mg/m3	0.0000008	0.0000004	0.0000004	0.0000002	Unknown
Dibenzofuran	mg/m3	0.000006	0.000006	0.000006	0.00001	Unknown
Diethylphthalate	mg/m3	0.000009	0.000007	0.000007	0.00001	Unknown
Dimethylphthalate	mg/m3	0.0000005	0.0000005	0.0000005	0.0000004	Unknown
Diphenylamine	mg/m3	0.0000003	0.0000003	0.0000003	0.0000003	Unknown
Fluoranthene	mg/m3	0.000005	0.000009	0.000008	0.000009	Lognormal
Fluorene	mg/m3	0.000005	0.000005	0.000005	0.000009	Unknown
Hexachlorobenzene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Hexachlorobutadiene	mg/m3	0.0005	0.0005	0.0005	0.01	Unknown
Hexachlorocyclopentadiene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Hexachloroethane	mg/m3	0.00005	0.00003	0.00003	0.0005	Unknown
Indeno(1,2,3-c,d)pyrene	mg/m3	0.000001	0.000002	0.000002	0.000002	Unknown
Naphthalene	mg/m3	0.0002	0.00008	0.00008	0.00001	Unknown
Nitrobenzene	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
Pentachlorobenzene	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Pentachloronitrobenzene	mg/m3	0.00000004		0.0000003	0.0000003	Unknown
Pentachlorophenol	mg/m3	0.00000004		0.0000005	0.0000005	Unknown
Phenanthrene	mg/m3	0.00002	0.00003	0.00003	0.00003	Lognormal
Phenol	mg/m3	0.00002	0.00001	0.00001	0.00004	Unknown
Pyrene	mg/m3	0.000005	0.000008	0.000008	0.000008	Lognormal
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	0.000002	0.000002	0.000002	0.00003	Unknown
o-Toluidine	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	mg/m3	0.00004	0.0001	0.0001	0.0001	Unknown
1,1,1-Trichloroethane	mg/m3	0.00007	0.0001	0.0001	0.0001	Unknown
1,1,2,2-Tetrachloroethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	0.0003	0.0007	0.0007	0.001	Unknown
1,1,2-Trichloroethane	mg/m3			0.00004	0.00004	Unknown
1,1-Dichloroethane	mg/m3	0.00003	0.00004	0.00004	0.00003	Unknown
1,1-Dichloroethene	mg/m3	0.00003	0.00006	0.00006	0.00006	Unknown
1,2,3-Trichlorobenzene	mg/m3	0.0004	0.0004	0.0004	0.0003	Unknown
1,2,3-Trichloropropane	mg/m3	0.00002	0.00004	0.00004	0.00004	Unknown
1,2,4-Trichlorobenzene	mg/m3	0.0007	0.0007	0.0007	0.0008	Unknown
1,2,4-Trimethylbenzene	mg/m3	0.001	0.001	0.001	0.002	Unknown
1,2-Dibromo-3-Chloropropane	mg/m3	0.00009	0.0001	0.0001	0.00009	Unknown
1,2-Dibromoethane	mg/m3			0.00006	0.00006	Unknown
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	0.00004	0.0001	0.0001	0.0001	Unknown
1,2-Dichlorobenzene	mg/m3	0.0003	0.0002	0.0002	0.0002	Unknown
1,2-Dichloroethane	mg/m3	0.00006	0.00009	0.00009	0.00008	Unknown
1,2-Dichloropropane	mg/m3	0.005	0.01	0.004	0.01	Lognormal
1,3,5-Trimethylbenzene	mg/m3	0.0003	0.0004	0.0004	0.0007	Unknown
1,3-Butadiene	mg/m3	0.0003	0.0004	0.0004	0.0004	Unknown
1,3-Dichlorobenzene	mg/m3	0.0003	0.0002	0.0002	0.0002	Unknown
1,4-Dichlorobenzene	mg/m3	0.0003	0.0003	0.0003	0.0003	Unknown
2-Butanone (methyl ethyl ketone)	mg/m3	0.001	0.003	0.003	0.003	Unknown
Acetone	mg/m3	0.009	0.02	0.02	0.02	Normal/Lognormal
Acetonitrile	mg/m3	0.0004	0.0006	0.0006	0.0006	Unknown
Acetophenone	mg/m3	0.02	0.01	0.01	0.006	Unknown
Acrolein	mg/m3	0.002	0.005	0.003	0.005	Lognormal
Acrylonitrile	mg/m3	0.00007	0.0001	0.0001	0.0001	Unknown
Benzene	mg/m3	0.002	0.003	0.003	0.003	Lognormal
Bis(2-Chloroethyl)ether	mg/m3			0.00008	0.00008	Unknown
Bromodichloromethane	mg/m3	0.00007	0.0001	0.0001	0.00009	Unknown
Bromoform	mg/m3	0.00003	0.00007	0.00007	0.00006	Unknown
Bromomethane	mg/m3	0.00005	0.00006	0.00006	0.00005	Unknown
Carbon Disulfide	mg/m3	0.003	0.002	0.002	0.002	Lognormal

Table C-7: Ambient Air Statistical Summary for Study Area 7

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Carbon Tetrachloride	mg/m3	0.0002	0.0007	0.0007	0.0007	Unknown
Chlorobenzene	mg/m3	0.00009	0.00008	0.00008	0.00006	Unknown
Chloroethane	mg/m3	0.00002	0.00006	0.00006	0.00006	Unknown
Chloroform	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Chloromethane	mg/m3	0.002	0.002	0.002	0.003	Unknown
Cyclohexane	mg/m3	0.001	0.002	0.002	0.002	Lognormal
Dibromochloromethane	mg/m3	0.00005	0.0001	0.0001	0.0001	Unknown
Dibromomethane	mg/m3	0.00004	0.00010	0.00010	0.00010	Unknown
Dichlorodifluoromethane (Freon 12)	mg/m3	0.0009	0.003	0.003	0.003	Unknown
Ethylbenzene	mg/m3	0.0006	0.001	0.001	0.001	Lognormal
Hexane	mg/m3	0.005	0.004	0.004	0.004	Lognormal
Isobutyl Alcohol	mg/m3	0.001	0.001	0.001	0.0008	Unknown
Isopropylbenzene	mg/m3	0.0001	0.0001	0.0001	0.00009	Unknown
Methyl Acetate	mg/m3	0.0006	0.0008	0.0007	0.0008	Lognormal
Methyl tert-Butyl Ether	mg/m3	0.0005	0.0007	0.0007	0.001	Normal
Methylcyclohexane	mg/m3	0.002	0.001	0.001	0.001	Lognormal
Methylene Chloride	mg/m3	0.005	0.003	0.003	0.002	Unknown
Pentachloroethane	mg/m3			0.0001	0.0001	Unknown
Styrene	mg/m3	0.002	0.003	0.002	0.003	Lognormal
Tetrachloroethene	mg/m3	0.001	0.003	0.002	0.003	Lognormal
Toluene	mg/m3	0.003	0.006	0.006	0.006	Lognormal
Trans-1,4-Dichloro-2-Butene	mg/m3	0.0000000000		0.00009	0.00009	Unknown
Trichloroethene	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Trichlorofluoromethane	mg/m3	0.0004	0.002	0.002	0.002	Unknown
Vinyl Acetate	mg/m3	0.0008	0.0005	0.0005	0.0002	Unknown
Vinyl Chloride	mg/m3	0.00002	0.00004	0.00004	0.00004	Unknown
Xylenes, Total	mg/m3	0.003	0.006	0.006	0.006	Lognormal
cis-1,2-Dichloroethene	mg/m3	0.0002	0.0001	0.0001	0.00007	Unknown
cis-1,3-Dichloropropene	mg/m3	0.0002	0.0001	0.0001	0.00006	Unknown
m,p-Xylenes	mg/m3	0.002	0.004	0.004	0.004	Lognormal
o-Xylene	mg/m3	0.0008	0.001	0.001	0.002	Unknown
trans-1,2-Dichloroethene	mg/m3	0.00003	0.00007	0.00007	0.00006	Unknown
trans-1,3-Dichloropropene	mg/m3	0.0003	0.0002	0.0002	0.00009	Unknown

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde	mg/m3	62	93.55	0.0006	0.001	0.0001	0.061	0.010	0.002	
Benzaldehyde	mg/m3	49	89.80	0.00001	0.002	0.0001	0.041	0.002	0.0005	
Butyraldehyde	mg/m3	49	73.47	0.00003	0.00003	0.00005	0.002	0.0003	0.0002	0.00001
Crotonaldehyde	mg/m3	49	18.37	0.00001	0.00002	0.00003	0.0006	0.00004	0.000007	0.000007
Formaldehyde	mg/m3	49	93.88	0.002	0.003	0.00006	0.016	0.002	0.002	
Hexaldehyde	mg/m3	49	71.43	0.00002	0.0002	0.00006	0.002	0.0002	0.0001	0.00001
M-tolualdehyde	mg/m3	49	34.69	0.00001	0.0002	0.00003	0.002	0.0001	0.00001	0.000007
Methacrylaldehyde	mg/m3	49	61.22	0.00001	0.00002	0.00002	0.006	0.0003	0.00006	0.000007
N-valeraldehyde	mg/m3	49	73.47	0.00001	0.00002	0.00001	0.002	0.0002	0.00007	0.000007
Propionaldehyde	mg/m3	49	83.67	0.000007	0.0006	0.00004	0.001	0.0002	0.0001	0.000003
Dioxins/Furans										
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	49	93.88	0.0000000000	0.0000000000	0.0000000000	0.0000000003	0.0000000004	0.0000000001	
Inorganics										
Aluminum	mg/m3	49	83.67	0.0003	0.002	0.00002	0.002	0.0006	0.0004	
Antimony	mg/m3	49	34.69	0.000005	0.000009	0.000007	0.00007	0.000008	0.000003	
Arsenic	mg/m3	49	55.10	0.0000002	0.000001	0.0000003	0.000006	0.0000008	0.0000004	
Barium	mg/m3	49	79.59	0.000003	0.0002	0.000003	0.00004	0.00001	0.00001	
Beryllium	mg/m3	49	4.08	0.0000001	0.0000004	0.0000002	0.0000003	0.0000001	0.00000009	
Cadmium (Diet)	mg/m3	49	48.98	0.0000002	0.000001	0.0000002	0.000002	0.0000004	0.0000002	
Chromium	mg/m3	49	36.73	0.0000004	0.00001	0.0000008	0.000006	0.000002	0.000002	
Cobalt	mg/m3	49	57.14	0.0000001	0.0000008	0.0000001	0.0000006	0.0000002	0.0000002	
Copper	mg/m3	49	0.00	0.0005	0.0009			0.0003	0.0003	
Iron	mg/m3	49	0.00	0.009	0.017			0.006	0.006	
Lead	mg/m3	49	89.80	0.000001	0.00005	0.000001	0.0001	0.00002	0.00001	
Manganese (Diet)	mg/m3	49	77.55	0.0000002	0.00005	0.0000009	0.00004	0.00001	0.000009	
Mercury	mg/m3	49	83.67	0.0000007	0.00001	0.0000008	0.00001	0.000003	0.000002	
Nickel	mg/m3	49	0.00	0.0002	0.0004			0.0002	0.0001	
Selenium	mg/m3	49	0.00	0.00005	0.00009			0.00003	0.00003	
Silver	mg/m3	49	0.00	0.00005	0.00009			0.00003	0.00003	
Thallium	mg/m3	49	10.20	0.0000009	0.000003	0.000001	0.000007	0.0000009	0.0000006	
Tin	mg/m3	49	61.22	0.0000002	0.00002	0.0000003	0.00001	0.000003	0.000002	
Vanadium	mg/m3	49	2.04	0.000009	0.00002	0.00002	0.00002	0.000006	0.000006	

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics										
Zinc	mg/m3	49	0.00	0.002	0.004			0.002	0.001	
Polychlorinated bi-phenyls										
Aroclor 1016	mg/m3	48	0.00	0.0000001	0.00002			0.000006	0.000006	
Aroclor 1221	mg/m3	48	0.00	0.0000001	0.00002			0.000006	0.000006	
Aroclor 1232	mg/m3	48	0.00	0.0000001	0.00002			0.000006	0.000006	
Aroclor 1242	mg/m3	48	0.00	0.0000001	0.00002			0.000006	0.000006	
Aroclor 1248	mg/m3	48	0.00	0.0000001	0.00002			0.000006	0.000006	
Aroclor 1254	mg/m3	48	0.00	0.0000001	0.00002			0.000006	0.000006	
Aroclor 1260	mg/m3	48	0.00	0.0000001	0.00002			0.000006	0.000006	
Pesticides										
4,4-DDD	mg/m3	48	2.08	0.0000004	0.0000006	0.000004	0.000004	0.0000003	0.0000002	
4,4-DDE	mg/m3	48	0.00	0.0000004	0.0000006			0.0000002	0.0000002	
4,4-DDT	mg/m3	48	0.00	0.0000008	0.00002			0.0000007	0.0000005	
Aldrin	mg/m3	48	0.00	0.0000010	0.000002			0.0000006	0.0000006	
Dieldrin	mg/m3	48	2.08	0.0000007	0.000001	0.000005	0.000005	0.0000005	0.0000004	
Endosulfan I	mg/m3	48	0.00	0.000001	0.000002			0.0000007	0.0000007	
Endosulfan II	mg/m3	48	0.00	0.0000005	0.0000007			0.0000003	0.0000003	
Endosulfan Sulfate	mg/m3	48	0.00	0.000001	0.000002			0.0000006	0.0000006	
Endrin	mg/m3	48	0.00	0.0000004	0.0000006			0.0000002	0.0000002	
Endrin Aldehyde	mg/m3	48	0.00	0.0000002	0.0000004			0.0000001	0.0000001	
Heptachlor	mg/m3	48	0.00	0.0000005	0.0000009			0.0000003	0.0000003	
Heptachlor Epoxide	mg/m3	48	0.00	0.0000006	0.0000009			0.0000003	0.0000004	
Methoxychlor	mg/m3	48	0.00	0.000002	0.000003			0.000001	0.000001	
Toxaphene	mg/m3	48	0.00	0.0000010	0.0001			0.000005	0.000006	
alpha-BHC	mg/m3	48	0.00	0.0000003	0.0000005			0.0000002	0.0000002	
alpha-Chlordane	mg/m3	48	0.00	0.0000005	0.0000008			0.0000003	0.0000003	
beta-BHC	mg/m3	48	0.00	0.0000002	0.0000002			0.0000009	0.0000009	
delta-BHC	mg/m3	48	0.00	0.0000006	0.0000009			0.0000003	0.0000003	
gamma-BHC (Lindane)	mg/m3	48	0.00	0.0000004	0.0000006			0.0000002	0.0000002	
gamma-Chlordane	mg/m3	48	0.00	0.000001	0.000002			0.0000008	0.0000008	

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
PM-10										
Gravimetrics-PM10	mg/m3	49	100.00			0.006	0.207	0.05	0.05	
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	mg/m3	49	53.06	0.000003	0.000002	0.000003	0.000003	0.000007	0.000004	
1,2,4,5-Tetrachlorobenzene	mg/m3	48	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
2,3,4,6-Tetrachlorophenol	mg/m3	47	0.00	0.000003	0.000004			0.000002	0.000002	
2,4,5-Trichlorophenol	mg/m3	47	2.13	0.000007	0.000010	0.000002	0.000002	0.000005	0.000005	
2,4,6-Trichlorophenol	mg/m3	47	2.13	0.000005	0.000006	0.000006	0.000006	0.000004	0.000003	
2,4-Dichlorophenol	mg/m3	47	4.26	0.000005	0.000006	0.000002	0.000002	0.000004	0.000003	
2,4-Dimethylphenol	mg/m3	47	46.81	0.000005	0.000006	0.000006	0.000006	0.000004	0.000003	
2,4-Dinitrophenol	mg/m3	45	0.00	0.000002	0.000003			0.000001	0.000002	
2,4-Dinitrotoluene	mg/m3	48	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
2,6-Dichlorophenol	mg/m3	47	4.26	0.000002	0.000001	0.000001	0.000002	0.000002	0.000002	
2,6-Dinitrotoluene	mg/m3	48	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
2-Chloronaphthalene	mg/m3	48	2.08	0.000002	0.000003	0.000005	0.000005	0.000002	0.000002	0.000001
2-Chlorophenol	mg/m3	47	0.00	0.000002	0.000003			0.000001	0.000002	
2-Methylnaphthalene	mg/m3	48	25.00	0.000003	0.000002	0.000004	0.000003	0.000004	0.000002	0.000001
2-Methylphenol (o-Cresol)	mg/m3	47	38.30	0.000002	0.000003	0.000004	0.000006	0.000004	0.000002	
2-Nitrophenol	mg/m3	47	14.89	0.000005	0.000006	0.000005	0.000003	0.000005	0.000003	
3&4-Methylphenol	mg/m3	47	70.21	0.000002	0.000007	0.000002	0.0001	0.00002	0.000004	
3-Nitroaniline	mg/m3	48	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
4,6-Dinitro-2-Methylphenol	mg/m3	47	0.00	0.000001	0.000002			0.000007	0.000008	
4-Bromophenylphenylether	mg/m3	48	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
4-Chloro-3-Methylphenol	mg/m3	47	2.13	0.000005	0.000006	0.000003	0.000003	0.000004	0.000003	
4-Chloroaniline	mg/m3	48	0.00	0.000002	0.000005			0.000001	0.000002	0.000001
4-Nitroaniline	mg/m3	48	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
4-Nitrophenol	mg/m3	46	8.70	0.000007	0.000010	0.000010	0.000003	0.000006	0.000005	
Acenaphthene	mg/m3	48	6.25	0.000002	0.000003	0.000007	0.000001	0.000002	0.000002	0.000001
Acenaphthylene	mg/m3	49	34.69	0.000002	0.000003	0.000004	0.000008	0.000007	0.000002	0.000001
Aniline	mg/m3	49	4.08	0.000002	0.000009	0.000006	0.000001	0.000003	0.000002	0.000001
Anthracene	mg/m3	48	35.42	0.000002	0.000003	0.000003	0.000005	0.000008	0.000002	
Atrazine	mg/m3	48	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
Benzo(a)anthracene	mg/m3	48	16.67	0.000002	0.000003	0.000004	0.000004	0.000004	0.000002	

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Semi-Volatile Organic Compounds										
Benzo(a)pyrene	mg/m3	48	14.58	0.0000002	0.0000003	0.0000003	0.000003	0.0000004	0.0000001	
Benzo(b)fluoranthene	mg/m3	48	4.17	0.0000005	0.0000006	0.000001	0.000003	0.0000004	0.0000003	0.0000003
Benzo(g,h,i)perylene	mg/m3	48	14.58	0.0000002	0.0000003	0.0000007	0.000002	0.0000003	0.0000002	
Benzo(k)fluoranthene	mg/m3	48	8.33	0.0000005	0.0000006	0.0000008	0.000004	0.0000005	0.0000003	0.0000003
Bis(2-ethylhexyl)phthalate	mg/m3	49	53.06	0.0000003	0.0006	0.000003	0.0005	0.00004	0.00001	
Butylbenzylphthalate	mg/m3	48	6.25	0.0000002	0.00003	0.0000007	0.000005	0.0000006	0.0000002	0.0000001
Carbazole	mg/m3	48	6.25	0.0000002	0.0000003	0.0000004	0.0000008	0.0000002	0.0000002	0.0000001
Chrysene	mg/m3	48	41.67	0.0000003	0.0000003	0.0000003	0.000005	0.0000007	0.0000002	
Di-n-butylphthalate	mg/m3	49	34.69	0.0000003	0.00003	0.000005	0.00009	0.00001	0.000005	
Di-n-octylphthalate	mg/m3	48	0.00	0.0000005	0.0000006			0.0000003	0.0000003	0.0000003
Dibenzo(a,h)anthracene	mg/m3	48	0.00	0.0000002	0.0000002			0.0000001	0.0000001	0.00000010
Dibenzofuran	mg/m3	49	57.14	0.0000002	0.0000003	0.0000003	0.00002	0.000002	0.0000006	
Diethylphthalate	mg/m3	48	41.67	0.0000003	0.00006	0.000003	0.00002	0.000005	0.000003	
Dimethylphthalate	mg/m3	48	27.08	0.0000003	0.0000003	0.0000003	0.0000006	0.0000002	0.0000002	
Diphenylamine	mg/m3	48	12.50	0.0000003	0.000001	0.0000004	0.000003	0.0000003	0.0000002	
Fluoranthene	mg/m3	49	97.96	0.0000003	0.0000003	0.0000004	0.000010	0.000002	0.000002	
Fluorene	mg/m3	48	60.42	0.0000002	0.0000007	0.0000003	0.00001	0.000002	0.0000007	
Hexachlorobenzene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001
Hexachlorobutadiene	mg/m3	67	29.85	0.0000003	0.002	0.0002	0.002	0.0003	0.0002	0.0001
Hexachlorocyclopentadiene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001
Hexachloroethane	mg/m3	67	1.49	0.0000002	0.0007	0.0003	0.0003	0.00003	0.00004	0.00004
Indeno(1,2,3-c,d)pyrene	mg/m3	48	8.33	0.000001	0.000002	0.000001	0.000002	0.0000008	0.0000008	
Naphthalene	mg/m3	61	31.15	0.0000003	0.0004	0.0000003	0.0008	0.00004	0.0000005	0.0001
Nitrobenzene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001
Pentachlorobenzene	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001
Pentachloronitrobenzene	mg/m3	48	0.00	0.0000004	0.0000009			0.0000003	0.0000003	
Pentachlorophenol	mg/m3	47	0.00	0.0000007	0.0000010			0.0000004	0.0000005	
Phenanthrene	mg/m3	49	91.84	0.000002	0.000004	0.000002	0.00004	0.000009	0.000006	
Phenol	mg/m3	48	37.50	0.0000003	0.000003	0.0000009	0.00008	0.000005	0.0000005	
Pyrene	mg/m3	49	97.96	0.0000003	0.0000003	0.0000006	0.000009	0.000002	0.000002	
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	48	41.67	0.0000006	0.0000007	0.0000000003	0.000003	0.0000005	0.0000003	
o-Toluidine	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	mg/m3	61	3.28	0.0002	0.002	0.0002	0.0002	0.0001	0.00009	0.00009
1,1,1-Trichloroethane	mg/m3	61	39.34	0.0002	0.002	0.0002	0.001	0.0002	0.00008	0.00008
1,1,2,2-Tetrachloroethane	mg/m3	61	21.31	0.00004	0.0004	0.0002	0.0009	0.00009	0.00002	0.00002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon)	mg/m3	61	90.16	0.00008	0.0008	0.0004	0.001	0.0007	0.0007	0.00004
1,1,2-Trichloroethane	mg/m3	61	4.92	0.00008	0.0008	0.00010	0.0003	0.00006	0.00004	0.00004
1,1-Dichloroethane	mg/m3	61	16.39	0.00005	0.0005	0.00009	0.0002	0.00005	0.00003	0.00003
1,1-Dichloroethene	mg/m3	61	11.48	0.00010	0.001	0.0001	0.0002	0.00008	0.00005	0.00005
1,2,3-Trichlorobenzene	mg/m3	58	12.07	0.0004	0.004	0.0005	0.005	0.0005	0.0002	0.0002
1,2,3-Trichloropropane	mg/m3	61	1.64	0.00007	0.0007	0.0007	0.0007	0.00005	0.00004	0.00004
1,2,4-Trichlorobenzene	mg/m3	59	27.12	0.0002	0.002	0.0005	0.015	0.0009	0.0002	0.00010
1,2,4-Trimethylbenzene	mg/m3	61	83.61	0.00005	0.0007	0.00005	0.014	0.0009	0.0005	0.00003
1,2-Dibromo-3-Chloropropane	mg/m3	58	3.45	0.00010	0.001	0.0003	0.0003	0.00008	0.00005	0.00005
1,2-Dibromoethane	mg/m3	61	13.11	0.0001	0.001	0.0002	0.0005	0.0001	0.00006	0.00006
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon)	mg/m3	61	6.56	0.0003	0.003	0.0003	0.0006	0.0002	0.0001	0.0001
1,2-Dichlorobenzene	mg/m3	61	26.23	0.00010	0.0008	0.0001	0.007	0.0003	0.00005	0.00005
1,2-Dichloroethane	mg/m3	61	29.51	0.00010	0.001	0.0001	0.0004	0.0001	0.00005	0.00005
1,2-Dichloropropane	mg/m3	61	65.57	0.00009	0.0004	0.0001	0.081	0.003	0.0005	0.00005
1,3,5-Trimethylbenzene	mg/m3	61	73.77	0.00005	0.0003	0.00008	0.005	0.0003	0.0002	0.00003
1,3-Butadiene	mg/m3	61	4.92	0.0005	0.005	0.0007	0.0008	0.0003	0.0002	0.0002
1,3-Dichlorobenzene	mg/m3	61	24.59	0.00009	0.0009	0.00009	0.001	0.0001	0.00005	0.00005
1,4-Dichlorobenzene	mg/m3	60	33.33	0.00009	0.0009	0.00009	0.001	0.0002	0.00010	0.00005
2-Butanone (methyl ethyl ketone)	mg/m3	61	90.16	0.000007	0.003	0.0001	0.006	0.002	0.002	0.0002
Acetone	mg/m3	61	95.08	0.001	0.011	0.004	0.103	0.02	0.01	0.01
Acetonitrile	mg/m3	61	59.02	0.0004	0.004	0.0004	0.016	0.001	0.0005	0.0002
Acetophenone	mg/m3	59	25.42	0.001	0.010	0.001	0.031	0.003	0.0005	0.0005
Acrolein	mg/m3	61	62.30	0.0004	0.004	0.0004	0.006	0.001	0.0007	0.0002
Acrylonitrile	mg/m3	61	6.56	0.0002	0.002	0.0003	0.0009	0.0002	0.00010	0.00010
Benzene	mg/m3	61	100.00			0.0001	0.454	0.009	0.001	0.0008
Bis(2-Chloroethyl)ether	mg/m3	61	0.00	0.0002	0.002			0.0001	0.00008	0.00008
Bromodichloromethane	mg/m3	61	11.48	0.0002	0.002	0.0002	0.0004	0.0001	0.00008	0.00008
Bromoform	mg/m3	61	4.92	0.0001	0.001	0.0002	0.0003	0.00008	0.00006	0.00006
Bromomethane	mg/m3	61	24.59	0.00007	0.0007	0.0001	0.0003	0.00009	0.00004	0.00004
Carbon Disulfide	mg/m3	61	75.41	0.00010	0.001	0.0001	0.018	0.001	0.0003	0.00005

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Carbon Tetrachloride	mg/m3	61	91.80	0.0006	0.001	0.0002	0.0010	0.0006	0.0006	0.0006
Chlorobenzene	mg/m3	61	29.51	0.00004	0.0004	0.00006	0.001	0.0001	0.00002	0.00002
Chloroethane	mg/m3	61	9.84	0.0001	0.001	0.0001	0.0002	0.00008	0.00006	0.00006
Chloroform	mg/m3	61	47.54	0.0001	0.001	0.0001	0.002	0.0002	0.0001	0.00006
Chloromethane	mg/m3	61	95.08	0.00007	0.0006	0.0009	0.094	0.003	0.002	0.001
Cyclohexane	mg/m3	61	60.66	0.0001	0.001	0.0002	0.797	0.01	0.0004	0.00006
Dibromochloromethane	mg/m3	61	8.20	0.0002	0.002	0.0003	0.0005	0.0002	0.0001	0.0001
Dibromomethane	mg/m3	61	3.28	0.0002	0.002	0.0002	0.0002	0.00010	0.00008	0.00008
Dichlorodifluoromethane (Freon 12)	mg/m3	61	98.36	0.0002	0.0002	0.001	0.037	0.003	0.002	0.002
Ethylbenzene	mg/m3	61	91.80	0.0002	0.0008	0.0001	0.027	0.001	0.0004	0.0002
Hexane	mg/m3	61	93.44	0.0002	0.0002	0.0002	5.880	0.10	0.0009	0.00009
Isobutyl Alcohol	mg/m3	61	13.11	0.0005	0.005	0.0005	0.016	0.0009	0.0002	0.0002
Isopropylbenzene	mg/m3	61	14.75	0.00007	0.0007	0.00008	0.005	0.0001	0.00004	0.00004
Methyl Acetate	mg/m3	61	42.62	0.0003	0.003	0.0003	0.002	0.0004	0.0001	0.0001
Methyl tert-Butyl Ether	mg/m3	61	42.62	0.0002	0.002	0.0002	0.005	0.0005	0.00009	0.00009
Methylcyclohexane	mg/m3	61	52.46	0.00008	0.0008	0.00008	0.640	0.01	0.0001	0.00004
Methylene Chloride	mg/m3	61	93.44	0.00008	0.00008	0.0001	0.016	0.001	0.0007	0.00004
Pentachloroethane	mg/m3	61	0.00	0.0003	0.003			0.0002	0.0001	0.0001
Styrene	mg/m3	61	68.85	0.00007	0.0007	0.0001	0.002	0.0004	0.0003	0.00004
Tetrachloroethene	mg/m3	61	50.82	0.001	0.004	0.002	0.057	0.003	0.002	0.0007
Toluene	mg/m3	61	100.00			0.0002	0.618	0.01	0.002	0.001
Trans-1,4-Dichloro-2-Butene	mg/m3	59	0.00	0.0002	0.002			0.0001	0.00009	0.00009
Trichloroethene	mg/m3	61	34.43	0.00008	0.0008	0.00009	0.001	0.0001	0.00004	0.00004
Trichlorofluoromethane	mg/m3	61	95.08	0.0003	0.003	0.0009	0.004	0.002	0.002	0.002
Vinyl Acetate	mg/m3	61	11.48	0.0001	0.001	0.0005	0.005	0.0004	0.00006	0.00006
Vinyl Chloride	mg/m3	61	1.64	0.00007	0.0007	0.00010	0.00010	0.00005	0.00004	0.00004
Xylenes, Total	mg/m3	61	96.72	0.001	0.002	0.0003	0.099	0.004	0.002	
cis-1,2-Dichloroethene	mg/m3	61	4.92	0.00009	0.0009	0.0001	0.0002	0.00006	0.00005	0.00005
cis-1,3-Dichloropropene	mg/m3	61	29.51	0.00004	0.0004	0.0001	0.0009	0.0001	0.00002	0.00002
m,p-Xylenes	mg/m3	61	93.44	0.0002	0.001	0.0004	0.071	0.003	0.001	0.002
o-Xylene	mg/m3	61	91.80	0.00006	0.0004	0.0002	0.028	0.001	0.0005	0.00003
trans-1,2-Dichloroethene	mg/m3	61	6.56	0.0001	0.001	0.0001	0.0002	0.00008	0.00006	0.00006
trans-1,3-Dichloropropene	mg/m3	61	22.95	0.00007	0.0007	0.0001	0.0009	0.0001	0.00004	0.00004

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde	mg/m3	0.02	0.02	0.01	0.02	Lognormal
Benzaldehyde	mg/m3	0.006	0.003	0.003	0.003	Unknown
Butyraldehyde	mg/m3	0.0004	0.0004	0.0004	0.0006	Unknown
Crotonaldehyde	mg/m3	0.00010	0.00006	0.00006	0.00004	Unknown
Formaldehyde	mg/m3	0.002	0.003	0.003	0.003	Unknown
Hexaldehyde	mg/m3	0.0004	0.0003	0.0003	0.0005	Unknown
M-tolualdehyde	mg/m3	0.0003	0.0002	0.0002	0.0003	Unknown
Methacrylaldehyde	mg/m3	0.0009	0.0005	0.0005	0.0006	Unknown
N-valeraldehyde	mg/m3	0.0003	0.0002	0.0002	0.0004	Unknown
Propionaldehyde	mg/m3	0.0002	0.0003	0.0003	0.0005	Unknown
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	0.000000007	0.000000001	0.000000006	0.000000001	Lognormal
Inorganics						
Aluminum	mg/m3	0.0006	0.0009	0.0007	0.0009	Lognormal
Antimony	mg/m3	0.00001	0.00001	0.00001	0.000009	Unknown
Arsenic	mg/m3	0.000001	0.000001	0.000001	0.000001	Unknown
Barium	mg/m3	0.00002	0.00002	0.00002	0.00002	Lognormal
Beryllium	mg/m3	0.0000004	0.0000001	0.0000001	0.0000001	Unknown
Cadmium (Diet)	mg/m3	0.0000004	0.0000005	0.0000005	0.0000005	Unknown
Chromium	mg/m3	0.000002	0.000003	0.000002	0.000003	Lognormal
Cobalt	mg/m3	0.0000002	0.0000003	0.0000003	0.0000003	Unknown
Copper	mg/m3	0.00004		0.0003	0.0003	Lognormal
Iron	mg/m3	0.0008		0.006	0.006	Lognormal
Lead	mg/m3	0.00003	0.00003	0.00003	0.00003	Lognormal
Manganese (Diet)	mg/m3	0.000009	0.00001	0.00001	0.00002	Unknown
Mercury	mg/m3	0.000003	0.000004	0.000004	0.000004	Lognormal
Nickel	mg/m3	0.00002		0.0002	0.0002	Lognormal
Selenium	mg/m3	0.000004		0.00003	0.00003	Lognormal
Silver	mg/m3	0.000004		0.00003	0.00003	Lognormal
Thallium	mg/m3	0.0000009	0.000001	0.000001	0.0000009	Unknown
Tin	mg/m3	0.000003	0.000006	0.000004	0.000006	Lognormal
Vanadium	mg/m3	0.000002	0.000007	0.000007	0.000007	Unknown

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics						
Zinc	mg/m3	0.0002		0.002	0.002	Lognormal
Polychlorinated bi-phenyls						
Aroclor 1016	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1221	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1232	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1242	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1248	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1254	mg/m3	0.000002		0.000006	0.00001	Unknown
Aroclor 1260	mg/m3	0.000002		0.000006	0.00001	Unknown
Pesticides						
4,4-DDD	mg/m3	0.0000005	0.0000004	0.0000004	0.0000003	Unknown
4,4-DDE	mg/m3	0.00000002		0.0000002	0.0000002	Unknown
4,4-DDT	mg/m3	0.000002		0.000001	0.0000007	Unknown
Aldrin	mg/m3	0.00000004		0.0000006	0.0000006	Unknown
Dieldrin	mg/m3	0.0000007	0.0000007	0.0000007	0.0000005	Unknown
Endosulfan I	mg/m3	0.00000005		0.0000007	0.0000007	Unknown
Endosulfan II	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Endosulfan Sulfate	mg/m3	0.00000005		0.0000006	0.0000006	Unknown
Endrin	mg/m3	0.00000002		0.0000002	0.0000002	Unknown
Endrin Aldehyde	mg/m3	0.00000001		0.0000001	0.0000001	Unknown
Heptachlor	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Heptachlor Epoxide	mg/m3	0.00000003		0.0000004	0.0000004	Unknown
Methoxychlor	mg/m3	0.00000008		0.000001	0.000001	Unknown
Toxaphene	mg/m3	0.00002		0.00005	0.0001	Unknown
alpha-BHC	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
alpha-Chlordane	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
beta-BHC	mg/m3	0.000000007		0.00000009	0.00000009	Unknown
delta-BHC	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
gamma-BHC (Lindane)	mg/m3	0.00000002		0.0000002	0.0000002	Unknown
gamma-Chlordane	mg/m3	0.00000006		0.0000008	0.0000008	Unknown

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
PM-10						
Gravimetrics-PM10	mg/m3	0.04	0.07	0.06	0.07	Lognormal
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	mg/m3	0.0000008	0.0000009	0.0000009	0.0000010	Unknown
1,2,4,5-Tetrachlorobenzene	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
2,3,4,6-Tetrachlorophenol	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,4,5-Trichlorophenol	mg/m3	0.0000002	0.0000005	0.0000005	0.0000005	Unknown
2,4,6-Trichlorophenol	mg/m3	0.0000008	0.0000006	0.0000006	0.0000004	Unknown
2,4-Dichlorophenol	mg/m3	0.0000003	0.0000004	0.0000004	0.0000004	Unknown
2,4-Dimethylphenol	mg/m3	0.000001	0.000007	0.000007	0.000007	Unknown
2,4-Dinitrophenol	mg/m3	0.00000010		0.000002	0.000002	Unknown
2,4-Dinitrotoluene	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
2,6-Dichlorophenol	mg/m3	0.0000004	0.0000003	0.0000003	0.0000002	Unknown
2,6-Dinitrotoluene	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
2-Chloronaphthalene	mg/m3	0.00000006	0.0000002	0.0000002	0.0000002	Unknown
2-Chlorophenol	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
2-Methylnaphthalene	mg/m3	0.0000005	0.0000005	0.0000005	0.0000005	Unknown
2-Methylphenol (o-Cresol)	mg/m3	0.000010	0.000006	0.000006	0.000009	Unknown
2-Nitrophenol	mg/m3	0.0000006	0.0000006	0.0000006	0.0000005	Unknown
3&4-Methylphenol	mg/m3	0.00003	0.00002	0.00002	0.00003	Unknown
3-Nitroaniline	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
4,6-Dinitro-2-Methylphenol	mg/m3	0.00000005		0.0000007	0.0000007	Unknown
4-Bromophenylphenylether	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
4-Chloro-3-Methylphenol	mg/m3	0.0000005	0.0000005	0.0000005	0.0000004	Unknown
4-Chloroaniline	mg/m3	0.00000002		0.0000002	0.0000002	Unknown
4-Nitroaniline	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
4-Nitrophenol	mg/m3	0.0000006	0.0000008	0.0000008	0.0000006	Unknown
Acenaphthene	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
Acenaphthylene	mg/m3	0.000001	0.000001	0.000001	0.0000008	Unknown
Aniline	mg/m3	0.0000007	0.0000004	0.0000004	0.0000002	Unknown
Anthracene	mg/m3	0.000001	0.000001	0.000001	0.0000010	Unknown
Atrazine	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
Benzo(a)anthracene	mg/m3	0.0000008	0.0000006	0.0000006	0.0000005	Unknown
Benzo(a)pyrene	mg/m3	0.0000007	0.0000005	0.0000005	0.0000004	Unknown

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	mg/m3	0.0000004	0.0000005	0.0000005	0.0000004	Unknown
Benzo(g,h,i)perylene	mg/m3	0.0000005	0.0000004	0.0000004	0.0000004	Unknown
Benzo(k)fluoranthene	mg/m3	0.0000007	0.0000006	0.0000006	0.0000005	Unknown
Bis(2-ethylhexyl)phthalate	mg/m3	0.00008	0.00006	0.00006	0.00009	Unknown
Butylbenzylphthalate	mg/m3	0.000002	0.000001	0.000001	0.0000004	Unknown
Carbazole	mg/m3	0.0000001	0.0000002	0.0000002	0.0000002	Unknown
Chrysene	mg/m3	0.000001	0.000001	0.000001	0.000001	Unknown
Di-n-butylphthalate	mg/m3	0.00002	0.00002	0.00002	0.00004	Unknown
Di-n-octylphthalate	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Dibenzo(a,h)anthracene	mg/m3	0.000000007		0.0000001	0.0000001	Unknown
Dibenzofuran	mg/m3	0.000004	0.000003	0.000003	0.000005	Unknown
Diethylphthalate	mg/m3	0.000006	0.000007	0.000007	0.00001	Unknown
Dimethylphthalate	mg/m3	0.0000001	0.0000003	0.0000003	0.0000002	Unknown
Diphenylamine	mg/m3	0.0000005	0.0000004	0.0000004	0.0000004	Unknown
Fluoranthene	mg/m3	0.000002	0.000003	0.000003	0.000003	Lognormal
Fluorene	mg/m3	0.000003	0.000002	0.000002	0.000003	Unknown
Hexachlorobenzene	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
Hexachlorobutadiene	mg/m3	0.0004	0.0004	0.0004	0.007	Unknown
Hexachlorocyclopentadiene	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
Hexachloroethane	mg/m3	0.00006	0.00004	0.00004	0.0009	Unknown
Indeno(1,2,3-c,d)pyrene	mg/m3	0.0000004	0.0000009	0.0000009	0.0000009	Unknown
Naphthalene	mg/m3	0.0001	0.00007	0.00007	0.0002	Unknown
Nitrobenzene	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
Pentachlorobenzene	mg/m3	0.000000010		0.0000001	0.0000001	Unknown
Pentachloronitrobenzene	mg/m3	0.00000004		0.0000003	0.0000003	Unknown
Pentachlorophenol	mg/m3	0.00000003		0.0000004	0.0000004	Unknown
Phenanthrene	mg/m3	0.000009	0.00001	0.00001	0.00001	Lognormal
Phenol	mg/m3	0.00001	0.000009	0.000009	0.00001	Unknown
Pyrene	mg/m3	0.000002	0.000003	0.000003	0.000003	Lognormal
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	0.0000008	0.0000007	0.0000007	0.00006	Unknown
o-Toluidine	mg/m3	0.000000010		0.0000001	0.0000001	Unknown

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
1,1,1-Trichloroethane	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
1,1,2,2-Tetrachloroethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	0.0002	0.0007	0.0007	0.0009	Unknown
1,1,2-Trichloroethane	mg/m3	0.00007	0.00007	0.00007	0.00006	Unknown
1,1-Dichloroethane	mg/m3	0.00006	0.00007	0.00007	0.00006	Unknown
1,1-Dichloroethene	mg/m3	0.00008	0.00010	0.00010	0.00008	Unknown
1,2,3-Trichlorobenzene	mg/m3	0.0009	0.0007	0.0007	0.0005	Unknown
1,2,3-Trichloropropane	mg/m3	0.00009	0.00007	0.00007	0.00005	Unknown
1,2,4-Trichlorobenzene	mg/m3	0.002	0.001	0.001	0.001	Unknown
1,2,4-Trimethylbenzene	mg/m3	0.002	0.001	0.001	0.001	Unknown
1,2-Dibromo-3-Chloropropane	mg/m3	0.00008	0.00009	0.00009	0.00008	Unknown
1,2-Dibromoethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
1,2-Dichlorobenzene	mg/m3	0.0010	0.0005	0.0005	0.0002	Unknown
1,2-Dichloroethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
1,2-Dichloropropane	mg/m3	0.01	0.006	0.005	0.006	Lognormal
1,3,5-Trimethylbenzene	mg/m3	0.0006	0.0005	0.0005	0.0005	Lognormal
1,3-Butadiene	mg/m3	0.0004	0.0004	0.0004	0.0003	Unknown
1,3-Dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
1,4-Dichlorobenzene	mg/m3	0.0003	0.0002	0.0002	0.0002	Unknown
2-Butanone (methyl ethyl ketone)	mg/m3	0.001	0.002	0.002	0.004	Unknown
Acetone	mg/m3	0.01	0.02	0.02	0.02	Unknown
Acetonitrile	mg/m3	0.002	0.001	0.002	0.001	Lognormal
Acetophenone	mg/m3	0.006	0.004	0.004	0.003	Unknown
Acrolein	mg/m3	0.001	0.002	0.002	0.002	Lognormal
Acrylonitrile	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Benzene	mg/m3	0.06	0.02	0.02	0.003	Unknown
Bis(2-Chloroethyl)ether	mg/m3	0.0001		0.0001	0.0001	Unknown
Bromodichloromethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Bromoform	mg/m3	0.00009	0.00010	0.00010	0.00008	Unknown
Bromomethane	mg/m3	0.00009	0.0001	0.0001	0.0001	Unknown
Carbon Disulfide	mg/m3	0.003	0.002	0.002	0.002	Lognormal

Table C-8: Ambient Air Statistical Summary for Study Area 8

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Carbon Tetrachloride	mg/m3	0.0001	0.0006	0.0006	0.0007	Unknown
Chlorobenzene	mg/m3	0.0002	0.0001	0.0001	0.0001	Unknown
Chloroethane	mg/m3	0.00008	0.00010	0.00010	0.00008	Unknown
Chloroform	mg/m3	0.0003	0.0003	0.0003	0.0002	Unknown
Chloromethane	mg/m3	0.01	0.006	0.006	0.003	Unknown
Cyclohexane	mg/m3	0.10	0.04	0.04	0.004	Unknown
Dibromochloromethane	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Dibromomethane	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Dichlorodifluoromethane (Freon 12)	mg/m3	0.005	0.004	0.004	0.003	Unknown
Ethylbenzene	mg/m3	0.003	0.002	0.002	0.001	Unknown
Hexane	mg/m3	0.75	0.26	0.26	0.010	Unknown
Isobutyl Alcohol	mg/m3	0.003	0.001	0.001	0.0008	Unknown
Isopropylbenzene	mg/m3	0.0006	0.0003	0.0003	0.0001	Unknown
Methyl Acetate	mg/m3	0.0003	0.0004	0.0004	0.0004	Unknown
Methyl tert-Butyl Ether	mg/m3	0.0008	0.0007	0.0007	0.0008	Unknown
Methylcyclohexane	mg/m3	0.08	0.03	0.03	0.002	Unknown
Methylene Chloride	mg/m3	0.002	0.002	0.002	0.002	Unknown
Pentachloroethane	mg/m3	0.0002		0.0002	0.0002	Unknown
Styrene	mg/m3	0.0005	0.0008	0.0005	0.0008	Lognormal
Tetrachloroethene	mg/m3	0.008	0.005	0.005	0.003	Unknown
Toluene	mg/m3	0.08	0.03	0.03	0.006	Unknown
Trans-1,4-Dichloro-2-Butene	mg/m3	0.0001		0.0001	0.0001	Unknown
Trichloroethene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Trichlorofluoromethane	mg/m3	0.0004	0.002	0.002	0.002	Unknown
Vinyl Acetate	mg/m3	0.001	0.0006	0.0006	0.0003	Unknown
Vinyl Chloride	mg/m3	0.00005	0.00006	0.00006	0.00005	Unknown
Xylenes, Total	mg/m3	0.01	0.007	0.007	0.004	Unknown
cis-1,2-Dichloroethene	mg/m3	0.00007	0.00008	0.00008	0.00007	Unknown
cis-1,3-Dichloropropene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
m,p-Xylenes	mg/m3	0.009	0.005	0.005	0.003	Unknown
o-Xylene	mg/m3	0.004	0.002	0.002	0.001	Unknown
trans-1,2-Dichloroethene	mg/m3	0.00009	0.00010	0.00010	0.00008	Unknown
trans-1,3-Dichloropropene	mg/m3	0.0002	0.0002	0.0002	0.0001	Unknown

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde	mg/m3	50	96.00	0.001	0.002	0.0005	0.049	0.007	0.002	
Benzaldehyde	mg/m3	49	91.84	0.00002	0.0003	0.0001	0.004	0.0007	0.0006	
Butyraldehyde	mg/m3	49	83.67	0.00003	0.00003	0.0001	0.002	0.0004	0.0003	
Crotonaldehyde	mg/m3	49	12.24	0.00001	0.00003	0.00002	0.0001	0.00001	0.000007	0.000007
Formaldehyde	mg/m3	49	93.88	0.002	0.003	0.0009	0.011	0.003	0.002	
Hexaldehyde	mg/m3	49	65.31	0.00002	0.0002	0.00007	0.0007	0.0002	0.0001	0.00001
M-tolualdehyde	mg/m3	49	40.82	0.00001	0.0001	0.00007	0.0006	0.0001	0.00004	0.000007
Methacrylaldehyde	mg/m3	49	75.51	0.00001	0.00002	0.00002	0.0005	0.0002	0.0001	0.000007
N-valeraldehyde	mg/m3	49	75.51	0.00001	0.00001	0.00002	0.0006	0.0001	0.0001	0.000007
Propionaldehyde	mg/m3	49	85.71	0.000007	0.0007	0.00004	0.0008	0.0003	0.0002	
Dioxins/Furans										
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	48	97.92	0.0000000000	0.0000000000	0.0000000000	0.000000005	0.0000000005	0.0000000000	
Inorganics										
Aluminum	mg/m3	48	83.33	0.0001	0.002	0.00009	0.003	0.0008	0.0007	
Antimony	mg/m3	48	10.42	0.000003	0.000009	0.000010	0.00002	0.000004	0.000003	
Arsenic	mg/m3	48	58.33	0.0000002	0.000001	0.0000003	0.00003	0.000001	0.0000005	
Barium	mg/m3	48	85.42	0.000003	0.0002	0.000005	0.00004	0.00002	0.00001	
Beryllium	mg/m3	48	14.58	0.0000001	0.0000003	0.0000002	0.0000003	0.0000001	0.00000009	
Cadmium (Diet)	mg/m3	48	60.42	0.0000001	0.000003	0.0000002	0.000001	0.0000004	0.0000003	
Chromium	mg/m3	48	39.58	0.0000004	0.00001	0.0000006	0.00003	0.000003	0.000002	
Cobalt	mg/m3	48	77.08	0.0000001	0.000001	0.0000002	0.000001	0.0000003	0.0000003	
Copper	mg/m3	48	2.08	0.0003	0.0009	0.0005	0.0005	0.0003	0.0003	
Iron	mg/m3	48	0.00	0.007	0.018			0.006	0.006	
Lead	mg/m3	48	87.50	0.000001	0.00004	0.000004	0.00005	0.00001	0.00001	
Manganese (Diet)	mg/m3	48	79.17	0.0000002	0.00004	0.000005	0.00006	0.00002	0.00002	
Mercury	mg/m3	49	81.63	0.0000007	0.000001	0.0000004	0.000010	0.000002	0.000002	
Nickel	mg/m3	48	0.00	0.0002	0.0004			0.0001	0.0001	
Selenium	mg/m3	48	0.00	0.00003	0.00009			0.00003	0.00003	
Silver	mg/m3	48	0.00	0.00003	0.00009			0.00003	0.00003	
Thallium	mg/m3	48	4.17	0.0000007	0.000002	0.000001	0.000003	0.0000006	0.0000006	
Tin	mg/m3	48	60.42	0.0000002	0.000010	0.000002	0.00002	0.000004	0.000003	
Vanadium	mg/m3	48	6.25	0.000007	0.00002	0.00001	0.00002	0.000006	0.000006	

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics										
Zinc	mg/m3	48	0.00	0.002	0.004			0.001	0.001	
Polychlorinated bi-phenyls										
Aroclor 1016	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1221	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1232	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1242	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1248	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1254	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Aroclor 1260	mg/m3	48	0.00	0.0000001	0.00001			0.000006	0.000006	
Pesticides										
4,4-DDD	mg/m3	48	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
4,4-DDE	mg/m3	48	0.00	0.0000004	0.0000006			0.0000002	0.0000002	
4,4-DDT	mg/m3	48	0.00	0.0000009	0.00003			0.0000008	0.0000005	
Aldrin	mg/m3	48	0.00	0.0000010	0.000001			0.0000006	0.0000006	
Dieldrin	mg/m3	48	2.08	0.0000007	0.0000010	0.000002	0.000002	0.0000004	0.0000004	
Endosulfan I	mg/m3	48	6.25	0.000001	0.000002	0.000001	0.000003	0.0000008	0.0000007	
Endosulfan II	mg/m3	48	0.00	0.0000005	0.0000006			0.0000003	0.0000003	
Endosulfan Sulfate	mg/m3	48	0.00	0.000001	0.000001			0.0000006	0.0000006	
Endrin	mg/m3	48	0.00	0.0000004	0.0000005			0.0000002	0.0000002	
Endrin Aldehyde	mg/m3	48	0.00	0.0000002	0.0000003			0.0000001	0.0000001	
Heptachlor	mg/m3	48	0.00	0.0000005	0.0000008			0.0000003	0.0000003	
Heptachlor Epoxide	mg/m3	48	0.00	0.0000006	0.0000008			0.0000003	0.0000004	
Methoxychlor	mg/m3	48	0.00	0.000002	0.000002			0.000001	0.000001	
Toxaphene	mg/m3	48	0.00	0.0000009	0.0001			0.000005	0.000006	
alpha-BHC	mg/m3	48	0.00	0.0000003	0.0000004			0.0000002	0.0000002	
alpha-Chlordane	mg/m3	48	2.08	0.0000005	0.0000007	0.000001	0.000001	0.0000003	0.0000003	
beta-BHC	mg/m3	48	0.00	0.0000002	0.0000002			0.0000009	0.0000009	
delta-BHC	mg/m3	48	0.00	0.0000006	0.0000008			0.0000003	0.0000003	
gamma-BHC (Lindane)	mg/m3	48	0.00	0.0000004	0.0000006			0.0000002	0.0000002	
gamma-Chlordane	mg/m3	48	0.00	0.000001	0.000002			0.0000008	0.0000008	

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
PM-10										
Gravimetrics-PM10	mg/m3	48	100.00			0.006	0.199	0.07	0.06	
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	mg/m3	49	38.78	0.000002	0.000001	0.000003	0.000005	0.000007	0.000002	
1,2,4,5-Tetrachlorobenzene	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
2,3,4,6-Tetrachlorophenol	mg/m3	48	0.00	0.000003	0.000004			0.000002	0.000002	0.000002
2,4,5-Trichlorophenol	mg/m3	48	0.00	0.000007	0.000010			0.000004	0.000005	0.000004
2,4,6-Trichlorophenol	mg/m3	48	2.08	0.000005	0.000007	0.000003	0.000003	0.000004	0.000003	0.000003
2,4-Dichlorophenol	mg/m3	48	4.17	0.000005	0.000007	0.000002	0.000002	0.000004	0.000003	0.000003
2,4-Dimethylphenol	mg/m3	49	46.94	0.000005	0.000001	0.000008	0.000007	0.000007	0.000003	
2,4-Dinitrophenol	mg/m3	43	0.00	0.000002	0.000003			0.000001	0.000002	0.000002
2,4-Dinitrotoluene	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
2,6-Dichlorophenol	mg/m3	48	8.33	0.000002	0.000003	0.000004	0.000003	0.000003	0.000002	
2,6-Dinitrotoluene	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
2-Chloronaphthalene	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
2-Chlorophenol	mg/m3	48	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
2-Methylnaphthalene	mg/m3	49	24.49	0.000002	0.000002	0.000005	0.000004	0.000005	0.000002	
2-Methylphenol (o-Cresol)	mg/m3	48	41.67	0.000002	0.000009	0.000008	0.000007	0.000006	0.000002	
2-Nitrophenol	mg/m3	48	8.33	0.000005	0.000007	0.000006	0.000003	0.000004	0.000003	
3&4-Methylphenol	mg/m3	48	47.92	0.000002	0.000002	0.000003	0.0002	0.00002	0.000001	
3-Nitroaniline	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
4,6-Dinitro-2-Methylphenol	mg/m3	48	0.00	0.000001	0.000002			0.000007	0.000008	0.000007
4-Bromophenylphenylether	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
4-Chloro-3-Methylphenol	mg/m3	48	4.17	0.000005	0.000007	0.000001	0.000006	0.000004	0.000003	0.000003
4-Chloroaniline	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
4-Nitroaniline	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
4-Nitrophenol	mg/m3	45	4.44	0.000007	0.000010	0.000003	0.000004	0.000006	0.000005	0.000004
Acenaphthene	mg/m3	49	12.24	0.000002	0.000003	0.000005	0.000002	0.000003	0.000002	
Acenaphthylene	mg/m3	49	42.86	0.000002	0.000003	0.000005	0.000002	0.000002	0.000002	
Aniline	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
Anthracene	mg/m3	49	65.31	0.000003	0.000003	0.000003	0.000007	0.000002	0.000007	
Atrazine	mg/m3	49	0.00	0.000002	0.000003			0.000001	0.000002	0.000001
Benzo(a)anthracene	mg/m3	49	32.65	0.000002	0.000003	0.000003	0.000005	0.000007	0.000002	

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Semi-Volatile Organic Compounds										
Benzo(a)pyrene	mg/m3	49	36.73	0.0000002	0.0000003	0.0000002	0.000004	0.0000005	0.0000001	
Benzo(b)fluoranthene	mg/m3	49	16.33	0.0000005	0.0000006	0.0000009	0.000003	0.0000005	0.0000003	0.0000003
Benzo(g,h,i)perylene	mg/m3	49	40.82	0.0000002	0.0000003	0.0000004	0.000003	0.0000006	0.0000002	
Benzo(k)fluoranthene	mg/m3	49	20.41	0.0000005	0.0000007	0.0000006	0.000003	0.0000005	0.0000003	
Bis(2-ethylhexyl)phthalate	mg/m3	49	44.90	0.0000003	0.000008	0.000005	0.0001	0.00002	0.00001	
Butylbenzylphthalate	mg/m3	49	24.49	0.0000003	0.00002	0.0000009	0.0001	0.000005	0.0000002	0.0000001
Carbazole	mg/m3	49	4.08	0.0000002	0.0000003	0.0000003	0.0000005	0.0000002	0.0000002	0.0000001
Chrysene	mg/m3	49	61.22	0.0000003	0.0000003	0.0000003	0.000006	0.000001	0.0000006	
Di-n-butylphthalate	mg/m3	49	57.14	0.0000003	0.00006	0.000005	0.0002	0.00003	0.00002	
Di-n-octylphthalate	mg/m3	49	4.08	0.0000005	0.0000007	0.000002	0.000004	0.0000004	0.0000003	0.0000003
Dibenzo(a,h)anthracene	mg/m3	49	0.00	0.0000002	0.0000002			0.0000001	0.0000001	0.0000001
Dibenzofuran	mg/m3	49	61.22	0.0000002	0.0000003	0.0000002	0.00002	0.000003	0.0000007	
Diethylphthalate	mg/m3	49	46.94	0.0000003	0.00003	0.000003	0.00005	0.000006	0.000004	
Dimethylphthalate	mg/m3	49	14.29	0.0000002	0.000001	0.0000004	0.000003	0.0000003	0.0000002	0.0000002
Diphenylamine	mg/m3	49	8.16	0.0000003	0.000001	0.0000004	0.000001	0.0000003	0.0000002	0.0000002
Fluoranthene	mg/m3	49	100.00			0.0000009	0.00001	0.000004	0.000003	
Fluorene	mg/m3	49	67.35	0.0000003	0.0000003	0.0000004	0.00001	0.000002	0.000001	
Hexachlorobenzene	mg/m3	49	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001
Hexachlorobutadiene	mg/m3	54	25.93	0.0000003	0.002	0.0002	0.002	0.0004	0.0001	0.0001
Hexachlorocyclopentadiene	mg/m3	49	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001
Hexachloroethane	mg/m3	54	0.00	0.0000002	0.00007			0.00001	0.0000002	0.00004
Indeno(1,2,3-c,d)pyrene	mg/m3	49	8.16	0.000001	0.000002	0.000002	0.000003	0.0000009	0.0000008	0.0000008
Naphthalene	mg/m3	50	38.00	0.0000003	0.0002	0.0000004	0.0006	0.00002	0.0000005	
Nitrobenzene	mg/m3	49	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001
Pentachlorobenzene	mg/m3	49	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001
Pentachloronitrobenzene	mg/m3	48	0.00	0.0000004	0.0000008			0.0000003	0.0000003	
Pentachlorophenol	mg/m3	48	0.00	0.0000007	0.0000010			0.0000004	0.0000005	0.0000004
Phenanthrene	mg/m3	49	100.00			0.000004	0.00005	0.00001	0.000010	
Phenol	mg/m3	48	45.83	0.0000003	0.00008	0.000001	0.00008	0.000006	0.0000009	
Pyrene	mg/m3	49	100.00			0.0000008	0.00001	0.000003	0.000002	
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	49	61.22	0.0000006	0.0000007	0.0000000003	0.000004	0.0000007	0.0000004	
o-Toluidine	mg/m3	49	0.00	0.0000002	0.0000003			0.0000001	0.0000002	0.0000001

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	mg/m3	49	8.16	0.0002	0.0002	0.0002	0.0003	0.0001	0.00009	0.00009
1,1,1-Trichloroethane	mg/m3	49	22.45	0.0002	0.0002	0.0002	0.0003	0.0001	0.00008	0.00008
1,1,2,2-Tetrachloroethane	mg/m3	49	22.45	0.00004	0.00004	0.0001	0.0004	0.00008	0.00002	0.00002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	49	87.76	0.00008	0.0008	0.0003	0.002	0.0006	0.0007	0.00004
1,1,2-Trichloroethane	mg/m3	49	2.04	0.00008	0.00008	0.0004	0.0004	0.00005	0.00004	0.00004
1,1-Dichloroethane	mg/m3	49	4.08	0.00005	0.00005	0.00008	0.0001	0.00003	0.00003	0.00003
1,1-Dichloroethene	mg/m3	49	2.04	0.00010	0.00010	0.0002	0.0002	0.00005	0.00005	0.00005
1,2,3-Trichlorobenzene	mg/m3	44	9.09	0.0004	0.0004	0.002	0.002	0.0003	0.0002	0.0002
1,2,3-Trichloropropane	mg/m3	49	0.00	0.00007	0.00007			0.00004	0.00004	0.00004
1,2,4-Trichlorobenzene	mg/m3	47	29.79	0.0002	0.003	0.0003	0.002	0.0005	0.00010	0.00010
1,2,4-Trimethylbenzene	mg/m3	49	95.92	0.00005	0.001	0.0002	0.003	0.001	0.0009	0.001
1,2-Dibromo-3-Chloropropane	mg/m3	44	9.09	0.00010	0.00010	0.0003	0.0004	0.00007	0.00005	0.00005
1,2-Dibromoethane	mg/m3	49	6.12	0.0001	0.0002	0.0001	0.0002	0.00007	0.00006	0.00006
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	49	6.12	0.0003	0.0003	0.0003	0.0005	0.0001	0.0001	0.0001
1,2-Dichlorobenzene	mg/m3	49	30.61	0.00010	0.0006	0.0002	0.0009	0.0002	0.00005	0.00005
1,2-Dichloroethane	mg/m3	49	24.49	0.00010	0.00010	0.0001	0.0003	0.00008	0.00005	0.00005
1,2-Dichloropropane	mg/m3	49	63.27	0.00009	0.0005	0.0003	0.018	0.002	0.0006	0.00005
1,3,5-Trimethylbenzene	mg/m3	49	73.47	0.00005	0.0007	0.0001	0.0008	0.0003	0.0003	0.00003
1,3-Butadiene	mg/m3	49	12.24	0.0005	0.0005	0.0005	0.001	0.0003	0.0002	0.0002
1,3-Dichlorobenzene	mg/m3	49	30.61	0.00009	0.0005	0.00009	0.0009	0.0002	0.00005	0.00005
1,4-Dichlorobenzene	mg/m3	48	35.42	0.00009	0.0002	0.0002	0.002	0.0002	0.00005	0.00005
2-Butanone (methyl ethyl ketone)	mg/m3	49	95.92	0.0003	0.0003	0.0004	0.016	0.002	0.002	0.0002
Acetone	mg/m3	49	100.00			0.006	0.040	0.02	0.01	0.01
Acetonitrile	mg/m3	49	55.10	0.0004	0.0004	0.0004	0.002	0.0006	0.0004	0.0002
Acetophenone	mg/m3	47	23.40	0.001	0.001	0.001	0.076	0.004	0.0005	0.0005
Acrolein	mg/m3	49	71.43	0.0004	0.0004	0.0004	0.022	0.002	0.002	0.0002
Acrylonitrile	mg/m3	49	6.12	0.0002	0.0002	0.0002	0.0008	0.0001	0.00010	0.00010
Benzene	mg/m3	49	100.00			0.0005	0.007	0.002	0.001	0.001
Bis(2-Chloroethyl)ether	mg/m3	49	0.00	0.0002	0.0002			0.00008	0.00008	0.00008
Bromodichloromethane	mg/m3	49	4.08	0.0002	0.0002	0.0002	0.0006	0.00009	0.00008	0.00008
Bromoform	mg/m3	49	0.00	0.0001	0.0001			0.00006	0.00006	0.00006
Bromomethane	mg/m3	49	8.16	0.00007	0.00007	0.0002	0.0004	0.00005	0.00004	0.00004
Carbon Disulfide	mg/m3	49	79.59	0.00010	0.0009	0.0001	0.014	0.001	0.0004	0.00005

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Carbon Tetrachloride	mg/m3	49	91.84	0.0007	0.0007	0.0003	0.0009	0.0006	0.0006	0.0006
Chlorobenzene	mg/m3	49	16.33	0.00004	0.0004	0.0001	0.0004	0.00006	0.00002	0.00002
Chloroethane	mg/m3	49	2.04	0.0001	0.0001	0.0002	0.0002	0.00006	0.00006	0.00006
Chloroform	mg/m3	49	42.86	0.0001	0.0003	0.0001	0.0003	0.0001	0.0001	0.00006
Chloromethane	mg/m3	49	95.92	0.00007	0.00007	0.0005	0.039	0.002	0.002	0.001
Cyclohexane	mg/m3	49	59.18	0.0001	0.0001	0.0001	0.012	0.0006	0.0002	0.00006
Dibromochloromethane	mg/m3	49	2.04	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Dibromomethane	mg/m3	49	6.12	0.0002	0.0002	0.0002	0.0002	0.00008	0.00008	0.00008
Dichlorodifluoromethane (Freon 12)	mg/m3	49	100.00			0.0004	0.020	0.003	0.002	0.002
Ethylbenzene	mg/m3	49	95.92	0.0006	0.0008	0.0002	0.003	0.0009	0.0007	0.0009
Hexane	mg/m3	49	93.88	0.0002	0.0002	0.0002	0.233	0.01	0.0007	0.00009
Isobutyl Alcohol	mg/m3	49	18.37	0.0005	0.0005	0.0005	0.011	0.0008	0.0002	0.0002
Isopropylbenzene	mg/m3	49	22.45	0.00007	0.00007	0.0001	0.0006	0.00009	0.00004	0.00004
Methyl Acetate	mg/m3	49	53.06	0.0003	0.0003	0.0003	0.001	0.0004	0.0003	0.0001
Methyl tert-Butyl Ether	mg/m3	49	42.86	0.0002	0.0002	0.0006	0.003	0.0006	0.00009	0.00009
Methylcyclohexane	mg/m3	49	57.14	0.00008	0.00008	0.00010	0.017	0.0006	0.0001	0.00004
Methylene Chloride	mg/m3	49	91.84	0.00008	0.00008	0.0003	0.005	0.0010	0.0007	0.00004
Pentachloroethane	mg/m3	49	0.00	0.0003	0.0003			0.0001	0.0001	0.0001
Styrene	mg/m3	49	67.35	0.00007	0.0005	0.0002	0.002	0.0004	0.0003	0.00004
Tetrachloroethene	mg/m3	49	75.51	0.001	0.001	0.001	0.023	0.003	0.002	0.0007
Toluene	mg/m3	49	100.00			0.001	0.027	0.005	0.004	0.002
Trans-1,4-Dichloro-2-Butene	mg/m3	48	0.00	0.0002	0.0002			0.00009	0.00009	0.00009
Trichloroethene	mg/m3	49	24.49	0.00008	0.0004	0.0001	0.0010	0.0001	0.00004	0.00004
Trichlorofluoromethane	mg/m3	49	100.00			0.0009	0.002	0.002	0.002	0.002
Vinyl Acetate	mg/m3	49	16.33	0.0001	0.0001	0.002	0.005	0.0005	0.00006	0.00006
Vinyl Chloride	mg/m3	49	2.04	0.00007	0.00007	0.0001	0.0001	0.00004	0.00004	0.00004
Xylenes, Total	mg/m3	49	100.00			0.0010	0.013	0.004	0.004	0.005
cis-1,2-Dichloroethene	mg/m3	49	10.20	0.00009	0.00009	0.0001	0.0002	0.00006	0.00005	0.00005
cis-1,3-Dichloropropene	mg/m3	49	4.08	0.00004	0.00004	0.0002	0.0005	0.00003	0.00002	0.00002
m,p-Xylenes	mg/m3	49	100.00			0.0007	0.010	0.003	0.003	0.002
o-Xylene	mg/m3	49	97.96	0.0007	0.0007	0.0003	0.003	0.001	0.0009	0.0005
trans-1,2-Dichloroethene	mg/m3	49	0.00	0.0001	0.0001			0.00006	0.00006	0.00006
trans-1,3-Dichloropropene	mg/m3	49	4.08	0.00007	0.00007	0.0003	0.0006	0.00005	0.00004	0.00004

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde	mg/m3	0.01	0.010	0.010	0.009	Unknown
Benzaldehyde	mg/m3	0.0006	0.0009	0.0009	0.001	Unknown
Butyraldehyde	mg/m3	0.0004	0.0005	0.0005	0.0009	Unknown
Crotonaldehyde	mg/m3	0.00002	0.00002	0.00002	0.00001	Unknown
Formaldehyde	mg/m3	0.002	0.003	0.003	0.003	Lognormal
Hexaldehyde	mg/m3	0.0001	0.0002	0.0002	0.0003	Unknown
M-tolualdehyde	mg/m3	0.0002	0.0002	0.0002	0.0004	Unknown
Methacrylaldehyde	mg/m3	0.0002	0.0002	0.0002	0.0005	Unknown
N-valeraldehyde	mg/m3	0.0001	0.0002	0.0002	0.0003	Unknown
Propionaldehyde	mg/m3	0.0002	0.0003	0.0003	0.0004	Unknown
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	mg/m3	0.000000001	0.000000002	0.000000007	0.000000002	Lognormal
Inorganics						
Aluminum	mg/m3	0.0006	0.001	0.0010	0.001	Lognormal
Antimony	mg/m3	0.000003	0.000005	0.000005	0.000004	Unknown
Arsenic	mg/m3	0.000004	0.000002	0.000002	0.000001	Unknown
Barium	mg/m3	0.00002	0.00002	0.00002	0.00002	Lognormal
Beryllium	mg/m3	0.00000006	0.0000001	0.0000001	0.0000001	Unknown
Cadmium (Diet)	mg/m3	0.0000003	0.0000005	0.0000004	0.0000005	Lognormal
Chromium	mg/m3	0.000005	0.000005	0.000005	0.000005	Lognormal
Cobalt	mg/m3	0.0000003	0.0000005	0.0000004	0.0000005	Lognormal
Copper	mg/m3	0.00005	0.0003	0.0003	0.0003	Unknown
Iron	mg/m3	0.0009		0.006	0.006	Unknown
Lead	mg/m3	0.00001	0.00002	0.00002	0.00002	Unknown
Manganese (Diet)	mg/m3	0.00001	0.00002	0.00002	0.00004	Unknown
Mercury	mg/m3	0.000002	0.000003	0.000003	0.000003	Lognormal
Nickel	mg/m3	0.00002		0.0002	0.0002	Unknown
Selenium	mg/m3	0.000004		0.00003	0.00003	Unknown
Silver	mg/m3	0.000004		0.00003	0.00003	Unknown
Thallium	mg/m3	0.0000003	0.0000007	0.0000007	0.0000007	Unknown
Tin	mg/m3	0.000004	0.000004	0.000004	0.000006	Unknown
Vanadium	mg/m3	0.000002	0.000007	0.000007	0.000007	Unknown

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics						
Zinc	mg/m3	0.0002		0.002	0.002	Unknown
Polychlorinated bi-phenyls						
Aroclor 1016	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1221	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1232	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1242	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1248	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1254	mg/m3	0.000001		0.000006	0.00001	Unknown
Aroclor 1260	mg/m3	0.000001		0.000006	0.00001	Unknown
Pesticides						
4,4-DDD	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDE	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
4,4-DDT	mg/m3	0.0000002		0.0000001	0.0000007	Unknown
Aldrin	mg/m3	0.00000003		0.0000006	0.0000006	Unknown
Dieldrin	mg/m3	0.0000002	0.0000005	0.0000005	0.0000004	Unknown
Endosulfan I	mg/m3	0.0000004	0.0000009	0.0000009	0.0000008	Unknown
Endosulfan II	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Endosulfan Sulfate	mg/m3	0.00000004		0.0000006	0.0000006	Unknown
Endrin	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
Endrin Aldehyde	mg/m3	0.000000008		0.0000001	0.0000001	Unknown
Heptachlor	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Heptachlor Epoxide	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
Methoxychlor	mg/m3	0.00000006		0.000001	0.000001	Unknown
Toxaphene	mg/m3	0.00001		0.00005	0.0001	Unknown
alpha-BHC	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
alpha-Chlordane	mg/m3	0.0000001	0.0000003	0.0000003	0.0000003	Unknown
beta-BHC	mg/m3	0.000000005		0.00000009	0.00000009	Unknown
delta-BHC	mg/m3	0.00000002		0.0000003	0.0000003	Unknown
gamma-BHC (Lindane)	mg/m3	0.00000001		0.0000002	0.0000002	Unknown
gamma-Chlordane	mg/m3	0.00000005		0.0000008	0.0000008	Unknown

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
PM-10						
Gravimetrics-PM10	mg/m3	0.04	0.08	0.08	0.08	Unknown
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	mg/m3	0.000001	0.0000009	0.0000009	0.0000009	Unknown
1,2,4,5-Tetrachlorobenzene	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
2,3,4,6-Tetrachlorophenol	mg/m3	0.0000001		0.0000002	0.0000002	Unknown
2,4,5-Trichlorophenol	mg/m3	0.00000003		0.0000004	0.0000005	Unknown
2,4,6-Trichlorophenol	mg/m3	0.0000004	0.0000005	0.0000005	0.0000004	Unknown
2,4-Dichlorophenol	mg/m3	0.0000003	0.0000004	0.0000004	0.0000004	Unknown
2,4-Dimethylphenol	mg/m3	0.000002	0.00001	0.00001	0.00002	Unknown
2,4-Dinitrophenol	mg/m3	0.0000001		0.000002	0.000002	Unknown
2,4-Dinitrotoluene	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
2,6-Dichlorophenol	mg/m3	0.0000004	0.0000004	0.0000004	0.0000002	Unknown
2,6-Dinitrotoluene	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
2-Chloronaphthalene	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
2-Chlorophenol	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
2-Methylnaphthalene	mg/m3	0.0000008	0.0000007	0.0000007	0.0000006	Unknown
2-Methylphenol (o-Cresol)	mg/m3	0.00001	0.000010	0.000010	0.00001	Unknown
2-Nitrophenol	mg/m3	0.0000005	0.0000005	0.0000005	0.0000004	Unknown
3&4-Methylphenol	mg/m3	0.00004	0.00003	0.00003	0.00004	Unknown
3-Nitroaniline	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
4,6-Dinitro-2-Methylphenol	mg/m3	0.00000006		0.0000007	0.0000008	Unknown
4-Bromophenylphenylether	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
4-Chloro-3-Methylphenol	mg/m3	0.0000008	0.0000006	0.0000006	0.0000004	Unknown
4-Chloroaniline	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
4-Nitroaniline	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
4-Nitrophenol	mg/m3	0.0000006	0.0000007	0.0000007	0.0000006	Unknown
Acenaphthene	mg/m3	0.0000004	0.0000004	0.0000004	0.0000003	Unknown
Acenaphthylene	mg/m3	0.000003	0.000002	0.000002	0.000002	Unknown
Aniline	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
Anthracene	mg/m3	0.000002	0.000002	0.000002	0.000003	Unknown
Atrazine	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
Benzo(a)anthracene	mg/m3	0.000001	0.0000009	0.0000009	0.0000009	Unknown
Benzo(a)pyrene	mg/m3	0.0000008	0.0000007	0.0000007	0.0000007	Unknown

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	mg/m3	0.0000006	0.0000006	0.0000006	0.0000005	Unknown
Benzo(g,h,i)perylene	mg/m3	0.0000007	0.0000007	0.0000007	0.0000008	Unknown
Benzo(k)fluoranthene	mg/m3	0.0000006	0.0000006	0.0000006	0.0000006	Unknown
Bis(2-ethylhexyl)phthalate	mg/m3	0.00002	0.00002	0.00002	0.00003	Unknown
Butylbenzylphthalate	mg/m3	0.00002	0.000009	0.000009	0.000006	Unknown
Carbazole	mg/m3	0.00000006	0.0000002	0.0000002	0.0000002	Unknown
Chrysene	mg/m3	0.000002	0.000002	0.000002	0.000002	Unknown
Di-n-butylphthalate	mg/m3	0.00003	0.00003	0.00003	0.00009	Unknown
Di-n-octylphthalate	mg/m3	0.0000006	0.0000006	0.0000006	0.0000004	Unknown
Dibenzo(a,h)anthracene	mg/m3	0.000000008		0.0000001	0.0000001	Unknown
Dibenzofuran	mg/m3	0.000005	0.000004	0.000004	0.000007	Unknown
Diethylphthalate	mg/m3	0.000008	0.000008	0.000008	0.000010	Unknown
Dimethylphthalate	mg/m3	0.0000004	0.0000004	0.0000004	0.0000003	Unknown
Diphenylamine	mg/m3	0.0000002	0.0000003	0.0000003	0.0000003	Unknown
Fluoranthene	mg/m3	0.000003	0.000005	0.000004	0.000005	Lognormal
Fluorene	mg/m3	0.000004	0.000003	0.000003	0.000006	Unknown
Hexachlorobenzene	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
Hexachlorobutadiene	mg/m3	0.0005	0.0005	0.0005	0.02	Unknown
Hexachlorocyclopentadiene	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
Hexachloroethane	mg/m3	0.00002		0.00002	0.0003	Unknown
Indeno(1,2,3-c,d)pyrene	mg/m3	0.0000005	0.0000010	0.0000010	0.0000009	Unknown
Naphthalene	mg/m3	0.0001	0.00005	0.00005	0.000010	Unknown
Nitrobenzene	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
Pentachlorobenzene	mg/m3	0.00000001		0.0000001	0.0000002	Unknown
Pentachloronitrobenzene	mg/m3	0.00000004		0.0000003	0.0000003	Unknown
Pentachlorophenol	mg/m3	0.00000003		0.0000004	0.0000005	Unknown
Phenanthrene	mg/m3	0.00001	0.00002	0.00002	0.00002	Unknown
Phenol	mg/m3	0.00001	0.000009	0.000009	0.00002	Unknown
Pyrene	mg/m3	0.000003	0.000004	0.000004	0.000004	Unknown
Total Carcinogenic PAHS (BaP TEQs)	mg/m3	0.0000010	0.0000009	0.0000009	0.00007	Unknown
o-Toluidine	mg/m3	0.00000001		0.0000001	0.0000002	Unknown

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	mg/m3	0.00004	0.0001	0.0001	0.0001	Unknown
1,1,1-Trichloroethane	mg/m3	0.00006	0.0001	0.0001	0.0001	Unknown
1,1,2,2-Tetrachloroethane	mg/m3	0.0001	0.0001	0.0001	0.00010	Unknown
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	mg/m3	0.0003	0.0007	0.0007	0.001	Unknown
1,1,2-Trichloroethane	mg/m3	0.00005	0.00006	0.00006	0.00005	Unknown
1,1-Dichloroethane	mg/m3	0.00002	0.00003	0.00003	0.00003	Unknown
1,1-Dichloroethene	mg/m3	0.00002	0.00006	0.00006	0.00005	Unknown
1,2,3-Trichlorobenzene	mg/m3	0.0004	0.0004	0.0004	0.0004	Unknown
1,2,3-Trichloropropane	mg/m3			0.00004	0.00004	Unknown
1,2,4-Trichlorobenzene	mg/m3	0.0007	0.0007	0.0007	0.0008	Unknown
1,2,4-Trimethylbenzene	mg/m3	0.0006	0.001	0.001	0.001	Normal
1,2-Dibromo-3-Chloropropane	mg/m3	0.00007	0.00009	0.00009	0.00008	Unknown
1,2-Dibromoethane	mg/m3	0.00002	0.00007	0.00007	0.00007	Unknown
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon	mg/m3	0.00006	0.0002	0.0002	0.0002	Unknown
1,2-Dichlorobenzene	mg/m3	0.0003	0.0003	0.0003	0.0002	Unknown
1,2-Dichloroethane	mg/m3	0.00006	0.00009	0.00009	0.00009	Unknown
1,2-Dichloropropane	mg/m3	0.004	0.003	0.003	0.008	Unknown
1,3,5-Trimethylbenzene	mg/m3	0.0002	0.0004	0.0004	0.0006	Unknown
1,3-Butadiene	mg/m3	0.0002	0.0003	0.0003	0.0003	Unknown
1,3-Dichlorobenzene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
1,4-Dichlorobenzene	mg/m3	0.0003	0.0003	0.0003	0.0003	Unknown
2-Butanone (methyl ethyl ketone)	mg/m3	0.003	0.003	0.003	0.003	Unknown
Acetone	mg/m3	0.007	0.02	0.02	0.02	Lognormal
Acetonitrile	mg/m3	0.0005	0.0007	0.0007	0.0007	Unknown
Acetophenone	mg/m3	0.01	0.007	0.007	0.004	Unknown
Acrolein	mg/m3	0.003	0.003	0.003	0.004	Unknown
Acrylonitrile	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Benzene	mg/m3	0.001	0.002	0.002	0.002	Lognormal
Bis(2-Chloroethyl)ether	mg/m3			0.00008	0.00008	Unknown
Bromodichloromethane	mg/m3	0.00008	0.0001	0.0001	0.00009	Unknown
Bromoform	mg/m3	0.0000000000		0.00006	0.00006	Unknown
Bromomethane	mg/m3	0.00007	0.00007	0.00007	0.00006	Unknown
Carbon Disulfide	mg/m3	0.003	0.002	0.002	0.003	Unknown

Table C-9: Ambient Air Statistical Summary for Study Area 9

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Carbon Tetrachloride	mg/m3	0.0001	0.0006	0.0006	0.0006	Unknown
Chlorobenzene	mg/m3	0.00007	0.00007	0.00007	0.00007	Unknown
Chloroethane	mg/m3	0.00002	0.00006	0.00006	0.00006	Unknown
Chloroform	mg/m3	0.00009	0.0001	0.0001	0.0002	Unknown
Chloromethane	mg/m3	0.005	0.004	0.004	0.003	Unknown
Cyclohexane	mg/m3	0.002	0.001	0.001	0.0009	Unknown
Dibromochloromethane	mg/m3	0.00002	0.0001	0.0001	0.0001	Unknown
Dibromomethane	mg/m3	0.00004	0.00009	0.00009	0.00009	Unknown
Dichlorodifluoromethane (Freon 12)	mg/m3	0.003	0.003	0.003	0.003	Unknown
Ethylbenzene	mg/m3	0.0006	0.001	0.001	0.001	Lognormal
Hexane	mg/m3	0.04	0.02	0.02	0.01	Unknown
Isobutyl Alcohol	mg/m3	0.002	0.001	0.001	0.0008	Unknown
Isopropylbenzene	mg/m3	0.0001	0.0001	0.0001	0.0001	Unknown
Methyl Acetate	mg/m3	0.0003	0.0005	0.0005	0.0005	Unknown
Methyl tert-Butyl Ether	mg/m3	0.0008	0.0008	0.0008	0.001	Unknown
Methylcyclohexane	mg/m3	0.002	0.001	0.001	0.0006	Unknown
Methylene Chloride	mg/m3	0.001	0.001	0.001	0.002	Unknown
Pentachloroethane	mg/m3			0.0001	0.0001	Unknown
Styrene	mg/m3	0.0005	0.0005	0.0005	0.0008	Unknown
Tetrachloroethene	mg/m3	0.004	0.004	0.004	0.004	Unknown
Toluene	mg/m3	0.004	0.006	0.006	0.006	Lognormal
Trans-1,4-Dichloro-2-Butene	mg/m3	0.0000000000		0.00009	0.00009	Unknown
Trichloroethene	mg/m3	0.0002	0.0001	0.0001	0.0001	Unknown
Trichlorofluoromethane	mg/m3	0.0003	0.002	0.002	0.002	Unknown
Vinyl Acetate	mg/m3	0.001	0.0008	0.0008	0.0006	Unknown
Vinyl Chloride	mg/m3	0.00001	0.00004	0.00004	0.00004	Unknown
Xylenes, Total	mg/m3	0.003	0.005	0.005	0.005	Lognormal
cis-1,2-Dichloroethene	mg/m3	0.00004	0.00007	0.00007	0.00006	Unknown
cis-1,3-Dichloropropene	mg/m3	0.00007	0.00005	0.00005	0.00003	Unknown
m,p-Xylenes	mg/m3	0.002	0.004	0.004	0.004	Lognormal
o-Xylene	mg/m3	0.0006	0.001	0.001	0.001	Lognormal
trans-1,2-Dichloroethene	mg/m3	0.0000000000		0.00006	0.00006	Unknown
trans-1,3-Dichloropropene	mg/m3	0.00009	0.00008	0.00008	0.00005	Unknown

Table C-10: Ambient Air Statistical Summary for USEPA 2007 Air Toxics Database

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Aldehydes										
Acetaldehyde	mg/m3	2497	96.00	0.0005	0.0005	0.00006	0.055	0.008	0.005	0.0003
Formaldehyde	mg/m3	2494	100.00			0.0001	0.052	0.01	0.006	0.004
Propionaldehyde	mg/m3	481	63.62	0.0005	0.0005	0.00003	0.004	0.0003	0.0002	0.0002
Inorganics										
Antimony (TSP) STP	mg/m3	90	0.00	0.000003	0.00006			0.000005	0.000004	0.000002
Arsenic PM10 STP	mg/m3	290	37.59	0.0000001	0.00002	0.0000002	0.00001	0.000005	0.000001	0.00001
Beryllium PM10 STP	mg/m3	288	0.00	0.00000002	0.0000006			0.0000002	0.0000003	0.0000003
Cadmium PM10 STP	mg/m3	290	19.66	0.00000008	0.0000010	0.000000010	0.0000007	0.0000004	0.0000005	0.0000005
Chromium PM10 STP	mg/m3	290	79.31	0.000003	0.00002	0.000002	0.00003	0.000005	0.000004	0.000006
Cobalt (TSP) STP	mg/m3	156	0.00	0.000002	0.00001			0.000001	0.0000008	0.0000008
Lead PM10 STP	mg/m3	290	22.76	0.000002	0.00002	0.000001	0.00002	0.000004	0.000004	0.0000010
Manganese PM10 STP	mg/m3	290	84.14	0.000002	0.00003	0.000002	0.0002	0.00002	0.000008	0.000002
Mercury PM10 STP	mg/m3	60	0.00	0.00000002	0.000004			0.00000008	0.00000004	0.00000002
Nickel (TSP) STP	mg/m3	170	0.00	0.000009	0.00009			0.000009	0.000005	0.000005
Nitrogen Dioxide										
Carbon monoxide	ppb	631	57.69	0.500	0.500	0.250	2.700	0.65	0.50	0.25
Nitrogen dioxide	ppb	914	80.42	0.005	0.094	0.003	0.069	0.02	0.02	0.003
Ozone	ppb	1082	78.84	0.004	0.082	0.002	0.051	0.02	0.02	0.002
PM2.5 - Local Conditions	mg/m3	7	100.00			0.007	0.038	0.02	0.02	
Sulfur dioxide	ppb	401	47.88	0.002	0.020	0.002	0.024	0.003	0.002	0.0010
Pesticides										
1,1-Dichloroethenylidene bis(4	mg/m3	33	0.00	0.0000005	0.0000005			0.0000003	0.0000003	0.0000003
Dieldrin	mg/m3	33	100.00			0.0000003	0.0000003	0.0000003	0.0000003	0.0000003
Methoxychlor	mg/m3	66	50.00	0.0000005	0.0000005	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003
PM-10										
PM10 Total 0-10um STP	mg/m3	72	100.00			0.001	0.052	0.02	0.02	0.009
Inorganics (PM 2.5)										
Arsenic PM2.5 LC	mg/m3	830	42.41	0.0000001	0.000003		0.00001	0.0000009	0.0000008	0.0000009
Cadmium PM2.5 LC	mg/m3	654	0.76	0.000004	0.00002	0.000004	0.00002	0.000005	0.000004	0.000004
Chromium PM2.5 LC	mg/m3	829	31.48	0.00000002	0.00001	0.00000002	0.0002	0.000002	0.0000010	0.0000005

Table C-10: Ambient Air Statistical Summary for USEPA 2007 Air Toxics Database

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Inorganics (PM 2.5)										
Lead PM2.5 LC	mg/m3	1162	53.36	0.000001	0.00002	0.0000001	0.00003	0.000003	0.000002	0.000010
Manganese PM2.5 LC	mg/m3	953	67.37	0.0000002	0.0002	0.00000005	0.00009	0.000007	0.000002	0.000002
Mercury PM2.5 LC	mg/m3	714	5.04	0.000001	0.000010	0.000001	0.00001	0.000002	0.000002	0.000002
Nickel PM2.5 LC	mg/m3	837	62.84	0.0000004	0.000003	0.00000008	0.00009	0.000002	0.000001	0.000002
Semi-Volatile Organic Compounds										
Acetone	mg/m3	2405	99.54	0.00002	0.0003	0.0002	1.127	0.05	0.02	0.0002
Anthracene (TSP) STP	mg/m3	81	27.16	0.00000006	0.0000003	0.00000007	0.000001	0.0000002	0.0000002	0.0000002
Benzo[a]anthracene	mg/m3	81	8.64	0.00000006	0.0000003	0.00000010	0.0000004	0.0000001	0.0000002	0.0000002
Benzo[a]pyrene	mg/m3	81	38.27	0.00000007	0.0000003	0.00000009	0.0000005	0.0000002	0.0000002	0.0000002
Benzo[b]fluoranthene	mg/m3	81	11.11	0.00000007	0.0000003	0.00000009	0.0000006	0.0000001	0.0000002	0.0000002
Benzo[k]fluoranthene	mg/m3	81	8.64	0.00000007	0.0000003	0.00000009	0.0000004	0.0000001	0.0000002	0.0000002
Chrysene (TSP) STP	mg/m3	81	37.04	0.00000007	0.0000003	0.00000008	0.0000006	0.0000002	0.0000002	0.0000002
Fluorene (TSP) STP	mg/m3	81	96.30	0.00000008	0.00000010	0.00000008	0.000010	0.000004	0.000004	0.00000004
Hexachlorobutadiene	mg/m3	264	100.00			0.0001	0.0006	0.0002	0.0002	0.0002
Naphthalene (TSP) STP	mg/m3	81	100.00			0.000001	0.0002	0.00007	0.00006	0.000002
Phenanthrene (TSP) STP	mg/m3	81	93.83	0.00000009	0.0000002	0.0000003	0.00003	0.000010	0.000009	0.000005
Pyrene (TSP) STP	mg/m3	81	93.83	0.00000006	0.00000010	0.00000005	0.000003	0.000001	0.000001	0.0000010
Total Carcinogenic PAHS (BaP T	mg/m3	74	47.30	0.00000009	0.0000004	0.0000000001	0.0000006	0.0000002	0.0000002	0.0000002
Inorganics (TSP)										
Arsenic (TSP) STP	mg/m3	125	0.00	0.000002	0.000008			0.000001	0.0000008	0.0000008
Cadmium (TSP) STP	mg/m3	116	0.00	0.000002	0.000008			0.0000008	0.0000008	0.0000008
Chromium (TSP) STP	mg/m3	161	0.00	0.000003	0.000005			0.000005	0.000004	0.000004
Chromium VI (TSP) STP	mg/m3	259	30.50	0.00000002	0.0000004	0.0000001	0.0000007	0.00000010	0.00000006	0.000000010
Lead (TSP) STP	mg/m3	505	53.66			0.00009	0.000008	0.0002	0.00001	0.000010
Manganese (TSP) STP	mg/m3	172	0.00	0.000004	0.0002			0.00002	0.00002	0.00001
Nickel PM10 STP	mg/m3	290	43.10	0.0000010	0.00001	0.0000006	0.00002	0.000003	0.000002	0.000002
Selenium (TSP) STP	mg/m3	139	0.00	0.000002	0.00004			0.000002	0.0000008	0.0000008
Unknown (TSP)										
Coronene (TSP) STP	mg/m3	39	38.46	0.00000006	0.0000001	0.00000006	0.0000003	0.00000007	0.00000005	0.00000004
Perylene (TSP) STP	mg/m3	39	0.00	0.00000007	0.0000002			0.00000005	0.00000005	0.00000005

Table C-10: Ambient Air Statistical Summary for USEPA 2007 Air Toxics Database

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Unknown										
2,2,4-Trimethylpentane	mg/m3	40641	95.15	0.000006	0.00006	0.000006	0.829	0.002	0.0008	0.000003
Benzo[e]pyrene	mg/m3	39	23.08	0.00000007	0.0000002	0.00000006	0.0000004	0.00000008	0.00000005	0.00000005
Benzyl chloride	mg/m3	191	100.00			0.00003	0.0002	0.00006	0.00003	0.00003
Chloroprene	mg/m3	117	100.00			0.00002	0.00008	0.00003	0.00002	0.00002
Ethyl acrylate	mg/m3	117	100.00			0.00003	0.00007	0.00003	0.00003	0.00003
Methyl methacrylate	mg/m3	117	100.00			0.00003	0.0006	0.00005	0.00003	0.00003
Volatile Organic Compounds										
1,1,2,2-Tetrachloroethane	mg/m3	1170	22.91	0.0003	0.0003	0.00005	0.0002	0.0002	0.0002	0.0002
1,1,2-Trichloroethane	mg/m3	1170	22.91	0.0003	0.0003	0.00005	0.0002	0.0001	0.0001	0.0001
1,1-Dichloroethane	mg/m3	1169	22.84	0.0002	0.0002	0.00003	0.00010	0.00009	0.0001	0.0001
1,1-Dichloroethene	mg/m3	1170	22.99	0.0002	0.0002	0.00004	0.0002	0.00009	0.00010	0.00010
1,2,4-Trichlorobenzene	mg/m3	264	100.00			0.00007	0.0006	0.0002	0.0001	0.0001
1,2,4-Trimethylbenzene	mg/m3	38736	96.21	0.000008	0.0009	0.000008	0.135	0.0010	0.0005	0.000004
1,2-Dichloropropane	mg/m3	1218	21.92	0.0002	0.0002	0.00004	0.0004	0.00007	0.00008	0.00008
1,3,5-Trimethylbenzene	mg/m3	37291	75.48	0.000005	0.0005	0.000005	0.058	0.0002	0.0001	0.000003
1,3-Butadiene	mg/m3	35042	87.94	0.00006	0.00006	0.00002	0.450	0.0009	0.0002	0.0001
1,4-Dichlorobenzene	mg/m3	356	91.57	0.0001	0.0001	0.00005	0.0009	0.0003	0.0001	0.00005
2-Butanone (methyl ethyl keton)	mg/m3	1622	68.68	0.00007	0.0004	0.00004	0.020	0.0004	0.00004	0.00004
Acetonitrile	mg/m3	283	100.00			0.00003	0.007	0.0005	0.0003	0.0003
Acrolein	mg/m3	811	74.48	0.000002	0.0005	0.000008	0.011	0.0006	0.0002	0.0002
Acrylonitrile	mg/m3	117	100.00			0.00003	0.002	0.00007	0.00003	0.00003
Benzene	mg/m3	39143	99.82	0.000005	0.00005	0.00002	0.214	0.002	0.0009	0.0004
Bromoform	mg/m3	233	9.44	0.0001	0.0005	0.0003	0.0007	0.0001	0.0001	0.00007
Bromomethane	mg/m3	1337	3.59	0.00008	0.0004	0.00008	0.003	0.0002	0.0002	0.0002
Carbon disulfide	mg/m3	205	21.46	0.00006	0.00009	0.00006	0.0006	0.00006	0.00003	0.00003
Carbon tetrachloride	mg/m3	1215	66.34	0.0006	0.0006	0.0002	0.002	0.0006	0.0006	0.0003
Chlorobenzene	mg/m3	1168	39.21	0.00008	0.00008	0.00003	0.0004	0.00006	0.00004	0.00004
Chloroethane	mg/m3	262	100.00			0.00003	0.002	0.00005	0.00003	0.00005
Chloroform	mg/m3	1387	31.65	0.00008	0.0005	0.00008	0.003	0.0003	0.0002	0.0002
Chloromethane	mg/m3	1162	100.00			0.0003	0.008	0.001	0.001	0.001
Cyclohexane	mg/m3	38893	92.59	0.000006	0.0002	0.000006	0.116	0.0009	0.0005	0.000003
Dichloromethane	mg/m3	1383	59.29	0.0003	0.0003	0.00007	0.083	0.0006	0.0003	0.0002
Ethylbenzene	mg/m3	39287	96.92	0.000005	0.00005	0.000005	0.050	0.0006	0.0004	0.000003

Table C-10: Ambient Air Statistical Summary for USEPA 2007 Air Toxics Database

Constituent	Units	Number of Samples Analyzed	Frequency of Detection	Minimum Non-Detected Value	Maximum Non-Detected Value	Minimum Detected Value	Maximum Detected Value	Mean	Median	Mode
Volatile Organic Compounds										
Ethylene dibromide	mg/m3	1223	22.00	0.0004	0.0004	0.00005	0.0003	0.0002	0.0002	0.0002
Ethylene dichloride	mg/m3	1222	33.22	0.0002	0.0002	0.00004	0.006	0.0002	0.0001	0.0001
Isopropylbenzene	mg/m3	40614	44.02	0.000005	0.00005	0.000005	0.075	0.00008	0.000003	0.000003
Methyl chloroform	mg/m3	1336	32.86	0.0003	0.0003	0.00004	0.002	0.0001	0.0001	0.0001
Methyl isobutyl ketone	mg/m3	1140	15.70	0.00007	0.0004	0.00003	0.025	0.00009	0.00003	0.00003
Methyl tert-butyl ether	mg/m3	1194	40.87	0.00007	0.00007	0.00002	0.012	0.0004	0.00004	0.00004
Methylcyclohexane	mg/m3	40809	94.43	0.000006	0.0005	0.000006	0.108	0.0009	0.0005	0.000003
Styrene	mg/m3	38665	64.33	0.000005	0.00005	0.000005	0.210	0.001	0.0001	0.000003
Tetrachloroethylene	mg/m3	1384	39.16	0.0003	0.0003	0.00003	0.003	0.0002	0.0002	0.0002
Toluene	mg/m3	39185	99.97	0.000005	0.00005	0.00010	0.399	0.004	0.002	0.0006
Trichloroethylene	mg/m3	1389	33.84	0.0003	0.0003	0.00005	0.009	0.0002	0.0001	0.0001
Vinyl chloride	mg/m3	1222	24.80	0.00005	0.0001	0.00003	0.0006	0.00006	0.00006	0.00006
Xylenes, Total	mg/m3	39185	95.25	0.000005	0.0002	0.000005	0.065	0.0007	0.0003	0.000003
m-Xylene	mg/m3	786	99.75	0.00005	0.00005	0.0002	0.024	0.003	0.002	0.0004
n-Hexane	mg/m3	38304	99.62	0.000006	0.00006	0.00004	0.406	0.002	0.001	0.0004
n-Propylbenzene	mg/m3	40290	69.15	0.000005	0.0003	0.000005	0.023	0.0001	0.00008	0.000003
o-Xylene	mg/m3	39185	95.25	0.000005	0.00005	0.000005	0.065	0.0006	0.0003	0.000003
p-Xylene	mg/m3	786	86.01	0.00007	0.00007	0.00007	0.012	0.002	0.001	0.00004

Table C-10: Ambient Air Statistical Summary for USEPA 2007 Air Toxics Database

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Aldehydes						
Acetaldehyde	mg/m3	0.007	0.008	0.008	0.009	Unknown
Formaldehyde	mg/m3	0.01	0.01	0.01	0.01	Unknown
Propionaldehyde	mg/m3	0.0003	0.0004	0.0004	0.0004	Unknown
Inorganics						
Antimony (TSP) STP	mg/m3	0.000004		0.000006	0.000006	Lognormal
Arsenic PM10 STP	mg/m3	0.000005	0.000006	0.000006	0.000008	Unknown
Beryllium PM10 STP	mg/m3	0.0000001		0.0000002	0.0000004	Unknown
Cadmium PM10 STP	mg/m3	0.0000002	0.0000004	0.0000004	0.0000004	Unknown
Chromium PM10 STP	mg/m3	0.000002	0.000005	0.000005	0.000005	Unknown
Cobalt (TSP) STP	mg/m3	0.0000010		0.000001	0.000001	Unknown
Lead PM10 STP	mg/m3	0.000003	0.000005	0.000005	0.000005	Lognormal
Manganese PM10 STP	mg/m3	0.00002	0.00002	0.00002	0.00002	Unknown
Mercury PM10 STP	mg/m3	0.0000003		0.0000001	0.00000007	Unknown
Nickel (TSP) STP	mg/m3	0.000007		0.000010	0.000009	Unknown
Nitrogen Dioxide						
Carbon monoxide	ppb	0.52	0.69	0.69	0.68	Unknown
Nitrogen dioxide	ppb	0.01	0.02	0.02	0.02	Unknown
Ozone	ppb	0.01	0.02	0.02	0.02	Unknown
PM2.5 - Local Conditions	mg/m3	0.01	0.03	0.03	0.05	Normal/Lognormal
Sulfur dioxide	ppb	0.003	0.003	0.003	0.003	Unknown
Pesticides						
1,1-Dichloroethenylidene bis(4	mg/m3			0.0000003	0.0000003	Unknown
Dieldrin	mg/m3		0.0000003	0.0000003	0.0000003	Unknown
Methoxychlor	mg/m3	0.0000000000	0.0000003	0.0000003	0.0000003	Unknown
PM-10						
PM10 Total 0-10um STP	mg/m3	0.01	0.02	0.02	0.03	Normal/Lognormal
Inorganics (PM 2.5)						
Arsenic PM2.5 LC	mg/m3	0.0000010	0.0000010	0.0000010		#Error!
Cadmium PM2.5 LC	mg/m3	0.000003	0.000005	0.000005	0.000005	Lognormal
Chromium PM2.5 LC	mg/m3	0.000007	0.000002	0.000002	0.000002	Unknown
Lead PM2.5 LC	mg/m3	0.000003	0.000003	0.000003	0.000003	Unknown

Table C-10: Ambient Air Statistical Summary for USEPA 2007 Air Toxics Database

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Inorganics (PM 2.5)						
Manganese PM2.5 LC	mg/m3	0.00002	0.000008	0.000008	0.000006	Unknown
Mercury PM2.5 LC	mg/m3	0.000001	0.000002	0.000002	0.000002	Unknown
Nickel PM2.5 LC	mg/m3	0.000005	0.000002	0.000002	0.000002	Unknown
Semi-Volatile Organic Compounds						
Acetone	mg/m3	0.15	0.06	0.06	0.06	Unknown
Anthracene (TSP) STP	mg/m3	0.0000002	0.0000002	0.0000002	0.0000002	Unknown
Benzo[a]anthracene	mg/m3	0.00000006	0.0000001	0.0000001	0.0000001	Unknown
Benzo[a]pyrene	mg/m3	0.00000008	0.0000002	0.0000002	0.0000002	Unknown
Benzo[b]fluoranthene	mg/m3	0.00000009	0.0000001	0.0000001	0.0000001	Unknown
Benzo[k]fluoranthene	mg/m3	0.00000007	0.0000001	0.0000001	0.0000001	Unknown
Chrysene (TSP) STP	mg/m3	0.00000009	0.0000002	0.0000002	0.0000002	Unknown
Fluorene (TSP) STP	mg/m3	0.000002	0.000005	0.000005	0.000008	Normal
Hexachlorobutadiene	mg/m3	0.00009	0.0002	0.0002	0.0002	Unknown
Naphthalene (TSP) STP	mg/m3	0.00004	0.00008	0.00008	0.0001	Normal
Phenanthrene (TSP) STP	mg/m3	0.000005	0.00001	0.00001	0.00002	Normal
Pyrene (TSP) STP	mg/m3	0.0000005	0.000001	0.000001	0.000002	Normal
Total Carcinogenic PAHS (BaP T	mg/m3	0.00000010	0.0000002	0.0000002	0.0000006	Unknown
Inorganics (TSP)						
Arsenic (TSP) STP	mg/m3	0.0000008		0.000001	0.000001	Unknown
Cadmium (TSP) STP	mg/m3	0.0000003		0.0000008	0.0000008	Unknown
Chromium (TSP) STP	mg/m3	0.000004		0.000005	0.000005	Unknown
Chromium VI (TSP) STP	mg/m3	0.0000001	0.0000001	0.0000001	0.0000001	Lognormal
Lead (TSP) STP	mg/m3	0.00001	0.00001	0.00001		#Error!
Manganese (TSP) STP	mg/m3	0.00002		0.00002	0.00003	Lognormal
Nickel PM10 STP	mg/m3	0.000003	0.000003	0.000003	0.000003	Unknown
Selenium (TSP) STP	mg/m3	0.000004		0.000002	0.000001	Unknown
Unknown (TSP)						
Coronene (TSP) STP	mg/m3	0.00000006	0.00000009	0.00000009	0.00000008	Unknown
Perylene (TSP) STP	mg/m3	0.000000010		0.00000005	0.00000005	Lognormal
Unknown						
2,2,4-Trimethylpentane	mg/m3	0.005	0.002	0.002		Unknown

Table C-10: Ambient Air Statistical Summary for USEPA 2007 Air Toxics Database

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Unknown						
Benzo[e]pyrene	mg/m3	0.00000008	0.0000001	0.0000001	0.00000010	Unknown
Benzyl chloride	mg/m3	0.00005	0.00007	0.00007	0.00006	Unknown
Chloroprene	mg/m3	0.00001	0.00003	0.00003	0.00003	Unknown
Ethyl acrylate	mg/m3	0.000010	0.00003	0.00003	0.00003	Unknown
Methyl methacrylate	mg/m3	0.00008	0.00006	0.00006	0.00005	Unknown
Volatile Organic Compounds						
1,1,2,2-Tetrachloroethane	mg/m3	0.00004	0.0002	0.0002	0.0002	Unknown
1,1,2-Trichloroethane	mg/m3	0.00003	0.0001	0.0001	0.0001	Unknown
1,1-Dichloroethane	mg/m3	0.00003	0.00009	0.00009	0.00009	Unknown
1,1-Dichloroethene	mg/m3	0.00002	0.00009	0.00009	0.00009	Unknown
1,2,4-Trichlorobenzene	mg/m3	0.0001	0.0002	0.0002	0.0002	Unknown
1,2,4-Trimethylbenzene	mg/m3	0.002	0.001	0.001		Unknown
1,2-Dichloropropane	mg/m3	0.00002	0.00007	0.00007	0.00007	Unknown
1,3,5-Trimethylbenzene	mg/m3	0.0005	0.0002	0.0002		Unknown
1,3-Butadiene	mg/m3	0.004	0.0009	0.0009		Unknown
1,4-Dichlorobenzene	mg/m3	0.0003	0.0003	0.0003	0.0003	Lognormal
2-Butanone (methyl ethyl keton)	mg/m3	0.0009	0.0005	0.0005	0.0004	Unknown
Acetonitrile	mg/m3	0.0008	0.0006	0.0006	0.0007	Unknown
Acrolein	mg/m3	0.0008	0.0006	0.0006	0.0007	Unknown
Acrylonitrile	mg/m3	0.0002	0.0001	0.0001	0.00006	Unknown
Benzene	mg/m3	0.003	0.002	0.002		Unknown
Bromoform	mg/m3	0.0001	0.0002	0.0002	0.0001	Unknown
Bromomethane	mg/m3	0.00010	0.0002	0.0002	0.0002	Unknown
Carbon disulfide	mg/m3	0.00007	0.00007	0.00007	0.00006	Unknown
Carbon tetrachloride	mg/m3	0.0002	0.0006	0.0006	0.0006	Unknown
Chlorobenzene	mg/m3	0.00005	0.00006	0.00006	0.00006	Unknown
Chloroethane	mg/m3	0.0001	0.00006	0.00006	0.00005	Unknown
Chloroform	mg/m3	0.0002	0.0003	0.0003	0.0003	Unknown
Chloromethane	mg/m3	0.0005	0.002	0.002	0.002	Unknown
Cyclohexane	mg/m3	0.002	0.0009	0.0009		Unknown
Dichloromethane	mg/m3	0.002	0.0008	0.0008	0.0005	Unknown
Ethylbenzene	mg/m3	0.0010	0.0006	0.0006		Unknown
Ethylene dibromide	mg/m3	0.00005	0.0002	0.0002	0.0002	Unknown

Table C-10: Ambient Air Statistical Summary for USEPA 2007 Air Toxics Database

Constituent	Units	Standard Deviation	RME	95% UCL	Log 95% UCL	Distribution Test 5% Significance Level
Volatile Organic Compounds						
Ethylene dichloride	mg/m3	0.0004	0.0002	0.0002	0.0001	Unknown
Isopropylbenzene	mg/m3	0.0006	0.00009	0.00009		Unknown
Methyl chloroform	mg/m3	0.00008	0.0001	0.0001	0.0001	Unknown
Methyl isobutyl ketone	mg/m3	0.0008	0.0001	0.0001	0.00006	Unknown
Methyl tert-butyl ether	mg/m3	0.001	0.0004	0.0004	0.0002	Unknown
Methylcyclohexane	mg/m3	0.002	0.0009	0.0009		Unknown
Styrene	mg/m3	0.007	0.001	0.001		Unknown
Tetrachloroethylene	mg/m3	0.0002	0.0002	0.0002	0.0002	Unknown
Toluene	mg/m3	0.006	0.004	0.004		Unknown
Trichloroethylene	mg/m3	0.0005	0.0002	0.0002	0.0002	Unknown
Vinyl chloride	mg/m3	0.00004	0.00006	0.00006	0.00006	Unknown
Xylenes, Total	mg/m3	0.001	0.0007	0.0007		Unknown
m-Xylene	mg/m3	0.003	0.003	0.003	0.003	Unknown
n-Hexane	mg/m3	0.005	0.002	0.002		Unknown
n-Propylbenzene	mg/m3	0.0002	0.0001	0.0001		Unknown
o-Xylene	mg/m3	0.0009	0.0006	0.0006		Unknown
p-Xylene	mg/m3	0.001	0.002	0.002	0.003	Unknown

Appendix D

Naples, Italy–Public Health Evaluation: Technical Memorandum Identification of Chemicals in Soil Gas That May be Associated with Vapor Intrusion

Appendix D is comprised of 236 pages.



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ATTACHMENTS

ATTACHMENT D-1 – NAPLES, ITALY – PUBLIC HEALTH EVALUATION: TECHNICAL MEMORANDUM
IDENTIFICATION OF CHEMICALS IN SOIL GAS THAT MAY BE ASSOCIATED WITH VAPOR INTRUSION.
PIONEER TECHNOLOGIES CORPORATION. FEBRUARY 2010.

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to allow for double-sided printing.**

Naples, Italy – Public Health Evaluation

Technical Memorandum Identification of Chemicals in Soil Gas That May be Associated with Vapor Intrusion



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SECTION P.1 – PREFACE

P.1.1 INTRODUCTION

For more than a decade, the Campania Region of Italy has experienced numerous challenges associated with trash collection, uncontrolled open burning of uncollected trash, and widespread dumping of waste, including chemical and other potentially-hazardous waste (see Figure P-1). In response to the concerns of the United States Navy (USN) and their civilian personnel and families that these poor waste-disposal practices (dumping and open-burning of uncollected trash and dumping of illegal waste) present a risk to USN personnel (active duty, civilians, and their families) who are residing in this area, the Navy and Marine Corps Public Health Center (NMCPHC) is performing a Public Health Evaluation (PHE) in the Naples province which is located in the Campania Region of Italy (see Figure P-2). Because a comprehensive PHE will take over one year to complete, the USN has implemented a phased approach for this study.

The Naples PHE (NPHE) began with a pilot study, which included collecting soil and tap water samples from seven homes in the greater Naples area of the Campania Region. Air monitoring was also conducted at two of the seven residences. The pilot study was conducted to identify problems associated with contacting residences and landlords, collecting samples, shipping samples to the laboratory, analyzing the data, evaluating the results, and communicating the results to the residents and to provide an opportunity to streamline those activities before conducting a larger study.

After completion of the pilot study, sampling began at more than 130 homes in the greater Naples area of the Campania Region (Phase I of the NPHE). The residences included single-family homes and apartments occupied by United States (US) personnel. In addition, approximately 30 U.S. government-related properties were sampled in Phase I of the NPHE.

Sampling results identified chemicals of potential concern (COPCs) that were detected in soil gas at concentrations that exceeded US Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) (USEPA, 2009). These soil gas concentrations may represent a subsurface (soil or groundwater) vapor intrusion (VI) source that could potentially impact indoor air.

As part of Phase II of the NPHE, ambient air, soil, soil gas, and tap water samples were collected at residences and other government-related locations in the greater Naples area of the Campania Region. Approximately 2,000 properties are eligible for Phase II sampling, including tenants, installations, three government parks, empty residences, and approximately 10 homes in areas not currently on the housing list. Approximately 200 properties have been sampled during Phase II. Table P-1 summarizes the number of samples being collected in each study area for Phase II.

The purpose of this Technical Memorandum (Memo) is to evaluate multimedia environmental data collected as part of the NPHE to identify inhalation COPCs that may be associated with a subsurface VI source versus other Non-VI sources (i.e., above-ground sources in ambient air and/or indoor air). It was not possible to differentiate between chemicals potentially resulting from poor waste disposal practices (dumping/burning of trash and hazardous waste) and other sources in this evaluation. Hence the focus of this Memo is to determine whether or



not chemical concentrations found in soil gas are associated with subsurface VI sources that could contribute to VI in overlying buildings. This distinction is important so that the risks can be calculated appropriately and educated, appropriate risk-management decisions can be made.

Note: Uncontrolled waste-disposal practices (dumping and open-burning of uncollected trash and dumping of illegal waste) impact the environment both above-ground (ambient air/indoor air) and in the subsurface (soil and groundwater). Other above-ground sources of chemicals include typical urban contaminant sources such as nearby gasoline stations, automobile exhaust, dry cleaners, fuel storage tanks, diesel motors and generators, industrial facilities, agricultural practices, and landfills. Other subsurface VI sources include leaking underground storage tanks, leaking storage vessels, landfills, spills and releases associated with industrial, commercial and agricultural activities, and disposal of contaminated water through septic systems.

This Preface is intended to describe in detail the various components that were considered in the soil gas data evaluation presented in this Memo. Specifically, this Memo incorporates and builds on information presented in documents that were written and accepted as part of the NPHE. The following two documents provided a majority of the basis for this Memo.

1. **The Phase I Screening Risk Evaluation (SRE)** (PIONEER, 2009). The purpose of the Phase I SRE was to determine whether or not there were any potential health impacts associated with exposure to surface soil, indoor air, tap water, and ambient (outdoor) air to USN personnel (active duty, civilians, and their families), residing in the greater Naples area of the Campania Region.
2. **The Project-Specific Quality Assurance Project Plan (QAPP). Environmental Testing Support Assessment Phase II** (Tetra Tech 2008). The purpose of the QAPP is to "*Utilize the Environmental Testing Support Assessment (ETSA) to define/characterize human health risks to US Department of Defense (DoD) and Consulate personnel living in the Campania Region as evaluated by exposure to air, soil, soil gas, and tap water as a result of trash, trash burning, and dumping of waste.*" The QAPP is the road map for the NPHE and is considered a "living" document, which means that it should, and will likely need to, be updated as the NPHE progresses and new, more up-to-date information becomes available. At this time (i.e., February 2010), there are some components of this soil gas Memo that will deviate from the QAPP. These items are addressed at the end of the Section P.1.1.6.

To aid the reader, important information and concepts from these two documents are summarized below. This information provides context that is necessary to evaluate and interpret the results and conclusions presented in this Memo.

P.1.1.1 Study Areas

The NPHE focused on the Naples area of Campania where USN personnel work and live (see Figure P-1). Since the geographical area being investigated was very large, the region was segregated into nine geographical study areas with a focus on identifying areas of residential properties located near known or suspected waste sites (Figure P-1). The nine study areas are listed below, with the U.S. government-related facilities located within the study area identified, and the approximate size of the study area in square miles. Combined, the study areas comprise approximately 395 square miles:

- Study Area 1: Joint Forces Command (JFC) North Atlantic Treaty Organization (NATO) Site (approximately 30 square miles)
- Study Area 2: U.S. Consulate (approximately 15 square miles)
- Study Area 3: Capodichino (approximately 95 square miles)
- Study Area 4: Carney Park (approximately 30 square miles) (Carney Park is located within Study Area 1 but was used to evaluate Study Area 4)
- Study Area 5: Lago Patria Receiver Site/Parco Artemide (approximately 80 square miles)
- Study Area 6: Gricignano Support Site (approximately 45 square miles)
- Study Area 7: Parco Eva (USN-Leased Parco) (approximately 20 square miles)
- Study Area 8: Villa (Home leased by the USN for the NPHE) (approximately 30 square miles)
- Study Area 9: Parco Le Ginestre (USN-Leased Parco) (approximately 50 square miles)

P.1.1.2 Conceptual Site Model

The Conceptual Site Model (CSM) presented in the QAPP and SRE was a significant building block for this Memo. The CSM provides an understanding of the potential for exposure, under current and future land uses, to chemicals within a study area based on the source(s) of contamination, the release mechanism(s), the exposure pathway(s), and the receptor(s). The CSM for the site is presented on Figure P-3 and discussed below.

The sources and release/transport mechanisms of contamination in the nine study areas are:

- **Source of contamination – Trash Dumped and Burned Throughout the Campania Region**
 - Release/transport mechanisms:
 - Vapors and particulates released to the air via burning trash are then transported via wind
 - Particulates in the air are deposited onto soil and surface water
 - Chemicals deposited on soil may leach from soil into underlying groundwater
- **Source of contamination – Legal and Illegal Dumping of Waste (including chemical waste)**
 - Release/transport mechanisms:
 - Chemicals deposited on soil may leach from soil into underlying groundwater.
 - Volatile chemicals may volatilize from soil and/or groundwater into ambient air or the indoor air of buildings
 - Particle-bound chemicals in soil may be transported into the air via erosion due to wind
- **Source of contamination – Point (e.g., exhaust from power plants and factories) and Non-Point (e.g., automobile exhaust) Combustion Sources in the Campania Region**
 - Release/transport mechanisms:
 - Vapors and particulates released into the air are then transported via wind
 - Particulates in the air are deposited onto soil and surface water
 - Chemicals deposited on soil may leach from soil into underlying groundwater

The complete exposure pathways include the following:

- Inhalation of vapors and particulates in ambient air emitted from combustion sources (e.g., burning of trash, exhaust from power plants and factories, and automobile exhaust)
- Incidental soil ingestion (where soil samples were collected)
- Dermal contact with soil (where soil samples were collected)



- Inhalation of vapors and particulates in air emitted from soil
- Inhalation of vapors in indoor air associated with vapor intrusion from groundwater and/or soil
- Ingestion of tap water, which may be provided by the city and/or by a well on the property
- Inhalation of vapors in indoor air associated with household uses of tap water (e.g., showering & washing dishes)

The following potentially-exposed populations living and/or working in the study areas were evaluated:

- USN personnel
- U.S. Civil Service personnel and their families
- Department of Defense (DoD) and DoD Dependant Schools (DoDDS) personnel and their families
- U.S. State Department personnel and their families

The following potentially-exposed populations living and/or working in the study areas were not evaluated:

- Other private U.S. citizens and their families
- Italian citizens
- Other, non-Italian, foreign nationals

P.1.1.3 Identification of Risk-Based Screening Levels for Soil Gas

As stated in the QAPP and SRE, risks will be computed by comparing exposure point concentrations (i.e., the concentration of a chemical at the location of potential contact with the receptor [i.e., individual]) for soil, tap water, soil gas, and ambient air with standard USEPA 30-Year Residential RSLs (USEPA, 2009) (see Table P-2). Only soil gas RSLs are presented here because soil gas is the primary focus of this Memo. Soil gas RSLs were derived, as specified in both the Appendix C of the QAPP and the SRE report, from the USEPA's standard, 30-Year Residential RSLs for ambient air¹ by dividing the ambient air RSLs by the USEPA's default vapor attenuation factor (VAF) of 0.1 (USEPA, 2002). The resulting RSLs are considered protective of human health because USN tour lengths are typically three to six years. However, because DoD school teachers can remain for 30 years or longer, the USEPA's 30-year standard residential ambient RSLs are used as the basis of the resulting soil gas RSLs.

Inhalation risks associated with VI of chemicals in soil gas to indoor air can vary by orders of magnitude depending on the degree of the attenuation that occurs between soil gas and indoor air. Subsurface conditions and building characteristics vary across the nine study areas, and because building access was not always achievable, some soil gas samples were collected sub-slab and some were collected outside of the building (near-slab). However, all soil gas sample concentrations, regardless of how they were collected, are compared to RSLs that were calculated using the USEPA's default VAF (α) of 0.1 (normally used for sub-slab soil gas), which is also the VAF specified in the QAPP. Applying a VAF of 0.1 is considered a very conservative assumption because VAFs can range from 0.1 to 0.0001 (or more) depending on groundwater-specific/soil-specific/building-specific characteristics (USEPA, 2008a). The use of a 0.1 VAF will likely overestimate the actual risk associated with VI, especially for samples that were collected near slab versus sub-slab. However, because groundwater-specific/soil-specific/building-specific characteristics are not available in Naples, for this screening assessment it is not appropriate to develop site-specific VAFs that might be less conservative.

¹ http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_APRIL2009.pdf



P.1.1.4 Methodology for Calculating Risks

The cumulative human health risks based on soil gas at each sample location will be combined with the risk results from soil and tap water to calculate the cumulative risk at each location. Risks are estimated according to the calculations identified in the QAPP and SRE as follows.

Analytical data from soil, soil gas, tap water, and ambient air samples are compared to RSLs. Chemical exceedance factors (EFs) are calculated by dividing the exposure point concentration by the RSL using the following equations:

$$EF = \frac{C_{Soil}}{ScreeningCriterion} \quad EF = \frac{(C_{SoilGas} \times \alpha)}{ScreeningCriterion} \quad EF = \frac{C_{TapWater}}{ScreeningCriterion} \quad EF = \frac{Conc_{AmbientAir}}{ScreeningCriterion}$$

Where:

Parameter	Description
SOIL	
C _{Soil}	Concentration in surface soil sample
Screening Criterion	USEPA Residential-Based RSLs for soil, calculated based on a carcinogenic risk of 1E-06 and/or a Hazard Quotient (HQ) of 1 – assuming a 30-year exposure duration
SOIL GAS	
C _{SoilGas}	Concentration in the soil gas sample
VAF (α)	Default USEPA VAFs used to predict indoor air concentrations based on soil gas concentrations. A VAF of 0.1 used in the calculations.
Screening Criterion	USEPA Residential-Based RSLs for air, calculated based on a carcinogenic risk of 1E-06 and/or a Hazard Quotient (HQ) of 1 – assuming a 30-year exposure duration
TAP WATER or Irrigation Well Water	
C _{TapWater}	Concentration in the tap (or irrigation well) water sample.
Screening Criterion	<ul style="list-style-type: none"> USEPA Residential-Based RSLs for tap water, calculated based on a carcinogenic risk of 1E-06 and/or a HQ of 1 – assuming a 30-year exposure duration USMCLs
AMBIENT AIR	
Conc _{AmbientAir}	Ambient air risks are determined by calculating the 95% upper confidence limit (UCL) on the mean per Study Area. The Log 95% UCL on the mean is used if the data are lognormally distributed, the 95% UCL is used if the data are normally distributed. The maximum detected concentration is used if the Log 95% UCL or 95% UCL exceed the maximum detected concentration.
Screening Criterion	<ul style="list-style-type: none"> USEPA Residential-Based RSLs for air, calculated based on a carcinogenic risk of 1E-06 and/or a HQ of 1 – assuming a 30-year exposure duration NAAQS

Cumulative cancer exceedance factors (CCEFs) and cumulative noncancer exceedance factors (CNCEFs) for each sample are calculated by summing the individual cancer EFs (CEFs) and noncancer EFs (NCEFs) for COPCs based on RSLs. A CEF and NCEF of 10 indicate that exposure to soil, soil gas, or tap water could potentially result in a cumulative cancer risk of 1E-05 and a Hazard Index (HI) of 10, respectively.

None of the inhalation COPCs identified in this Memo will be removed from the risk evaluation. Three separate cumulative risk calculations will be performed in the risk assessment (see below), but only the results of the incremental risk calculations will be discussed in the risk assessment and used for risk management decisions:

1. **Total Risk** – Total risk represents the risk for all COPCs (background and incremental)

2. **Background Risk** – Background risk is the risk for COPCs that are naturally occurring in the environment (i.e., inorganic elements) or the result of anthropogenic activities. Background data for soil in the Campania Region were found in the scientific literature (PIONEER, 2009).
 - For soil gas, no suitable background concentrations could be located in the scientific literature. Therefore, there are no background risks for soil gas.
 - For ambient air, no suitable background concentrations for the Campania Region could be located in the scientific literature. Therefore, the 95% UCL on the mean³ from data obtained for six U.S. cities (i.e., San Diego, California, Los Angeles, California, Seattle, Washington, Houston, Texas, Midlothian, Texas, and Washington DC) from 2007 U.S. EPA Air Toxics Database (USEPA, 2007) will be used to represent background concentrations from typical urban air.
3. **Incremental Risk** – Incremental risks will be calculated by subtracting the background risks (i.e., risks for COPCs that are naturally occurring in the environment or the result of anthropogenic activities) from the total risks. Risk management decisions will be based on incremental risks.
 - For ambient air, incremental risks are risks that could be related to trash burning, trash dumping, or other point and non-point sources, and not related to natural background or anthropogenic sources that are typical of urban environments. For ambient air, these are the risks for chemicals where the Study Area specific 95% UCL ambient air concentration exceeds the 95% UCL from the six cities in the 2007 U.S. EPA Air Toxics Database (USEPA, 2007).
 - For soil gas, COPCs detected in soil gas will be classified into the following three groups so that the risks can be calculated appropriately:
 - **Non-VI COPCs** – COPC(s) associated with above-ground contaminant sources (i.e., ambient air and/or “typical” indoor air) and not with subsurface VI. Risks for these COPCs will be calculated using ambient air results at all locations.
 - **Localized VI COPCs** – COPC(s) potentially associated with a subsurface VI source within a specific geographical area. Most COPCs fall into this category because subsurface VI is commonly associated with a localized release. This group also includes COPCs for which the determination was inconclusive. Risks for these COPCs will be calculated using either soil gas results or ambient air results depending on the determination at that location.
 - **Global VI COPCs** – COPC(s) associated with a subsurface VI source at all locations. For these COPCs, there must be compelling evidence to indicate that subsurface VI is a study-wide issue. Risks for these COPCs will be calculated using soil gas results at all locations.

P.1.1.5 Risk Management Categories for Evaluating Incremental Risks

Risk management categories were determined in the QAPP (Tetra Tech, 2008), and SRE (PIONEER, 2009) results were measured against these categories. These categories are also applicable to soil gas results from this Memo. The SRE characterized the potential health risks associated with living at a residence for 30 years. This is generally a conservative assumption because tour lengths typically range from three to six years. Consistent with the SRE, the risk evaluation results (incremental risks) will be placed into one of two categories:

² Soil gas results are not directly comparable to USEPA RSLs for air (USEPA, 2008b). They must be multiplied by a VAF of 0.1, which results in a predicted indoor air concentration that can be compared directly to USEPA RSLs.

³ The Log 95% UCL on the mean is used if the data are lognormally distributed, the 95% UCL is used if the data are normally distributed. The maximum detected concentration is used if the Log 95% UCL or 95% UCL exceed the maximum detected concentration.

1. Acceptable Risk – The noncancer and cancer risks at this residence are considered Acceptable based on the criteria presented below.
2. Unacceptable Risks – The noncancer and cancer risks at this residence are considered Unacceptable based on the criteria presented below.

Risk-Management Categories

Criteria/Actions	<u>Acceptable</u> Incremental Risks	<u>Unacceptable</u> Incremental Risks
Risk Criteria for Residences Using Tap Water for Drinking, Food Preparation, Cooking, Brushing Teeth, and Making Ice.	<ul style="list-style-type: none"> • Total NCEF less than or equal to 1; and • Total CEF less than or equal to 10; and • Concentration less than or equal to USEPA MCL (tap water). Applies to all chemicals. • Concentration less than or equal to USEPA NAAQS (ambient air). 	<ul style="list-style-type: none"> • Total NCEF greater than 1; or • Total CEF greater than 10; or • Concentration greater than the USEPA MCL (tap water). Applies to all chemicals. • Concentration greater than the USEPA NAAQS (ambient air).
Risk Criteria – for Residences NOT Using Tap Water for Drinking, Food Preparation, Cooking, Brushing Teeth, and Making Ice	<ul style="list-style-type: none"> • Total NCEF less than or equal to 1; and • Total CEF less than or equal to 10; and • Concentration less than or equal to USEPA MCL (tap water). • Concentration less than or equal to USEPA NAAQS (ambient air). 	<ul style="list-style-type: none"> • Total NCEF greater than 1; or • Total CEF greater than 10; or • Concentration greater than the USEPA MCL (tap water). • Concentration greater than the USEPA NAAQS (ambient air).

Notes:

NCEFs are calculated by dividing the exposure point concentrations by noncancer-based RSLs.
 CEFs are calculated by dividing the exposure point concentrations by cancer-based RSLs.
 The individual NCEFs and CEFs are summed to provide the total CNCEF and total CCEF, respectively.
 An NCEF of 1 corresponds to a Hazard Index of 1.
 A CEF of 1 corresponds to a cancer risk of 1E-06 (one in a million). A CEF of 10 corresponds to a cancer risk of 1E-05 (one in a 100,000).
 NAAQS = United States National Ambient Air Quality Standards.
 USMCLs = United States Maximum Contaminant Levels (40 CFR Part 141) (<http://www.epa.gov/safewater/contaminants/index.html>)
 This evaluation also includes RSLs for evaluating soil and soil gas, as appropriate.

P.1.1.6 Deviations from the QAPP

P.1.1.6.1 Background Values

The QAPP is a "living document" and was intended to be revised, if necessary, as additional information became available. Therefore, the QAPP should be revised to clarify the approach for calculating the risks associated with VI-related COPCs. The approach in this Memo regarding background data deviates from the QAPP, which states, *“For soil gas, all chemicals detected will be assumed to originate from a contamination source”* and *“For air, reference values from U.S. (EPA air toxics monitoring network, 2007) will be used as comparison values.”*

At this time, background ambient air concentrations for Naples have not been identified. Therefore, the 95% UCL values for data from the 2007 U.S. EPA Air Toxics Database (USEPA, 2007) will be used to represent background concentrations from typical urban air to calculate incremental risks for ambient air (see Section P.1.1.4).

One of the key concepts that is presented in this Memo is that concentrations of COPCs in ambient air and/or indoor air can significantly influence sub-slab soil gas and shallow, near-slab soil gas samples (i.e., for some COPCs these samples are actually measuring ambient air concentrations and not a VI source). With respect to soil gas, the QAPP does not distinguish between the contaminant source originating from above ground (ambient air and/or indoor air) or below-ground (subsurface VI). The multi-media analytical data provide evidence that, for some COPCs, the soil gas samples were impacted by volatile COPCs that were present in ambient air (e.g., acrolein) and/or indoor air. This is also supported by information in the scientific literature regarding the transport of oxygen and other volatile chemicals into the soil column (Scott, 2000; Lundegard et. al., 2008).



P.1.1.7 References

- Lundegard, P.D., Johnson, P. C. and Dahlen, P. 2008. Oxygen Transport from the Atmosphere to Soil Gas Beneath a Slab-on-Grade Foundation Overlying Petroleum-Impacted Soil. *Environ. Sci. Technol*, Vol 42, pp 5534 – 5540.
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- USEPA (United States Environmental Protection Agency). 2002. OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance). November 2002. EPA 530-D-02-004.
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http://www.epa.gov/aqspubl1/annual_summary.html.
- USEPA (United States Environmental Protection Agency). 2008. Vapor Intrusion Database. Indoor Air Vapor Intrusion (IAVI) website (<http://iavi.rti.org/>)
- USEPA (United States Environmental Protection Agency). 2009 USEPA Regional Screening Level (RSL). Website Updated Master April 2009. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_APRIL2009.pdf

Table P-1: Number of Phase II Samples

Study Area	Minimum Number of Samples for Phase II	Number of Additional Phase II Delineation Samples, if Required ¹
1	25	15
2	25	15
3	20	20
4	20	20
5	25	15
6	25	15
7	25	15
8	25	15
9	20	20
Additional Properties	10	15
Totals	225	165

Note:

¹The Project Team decided to add a small number samples for additional properties in areas not previously sampled. This would add to the confidence with which decisions about the previously unsampled areas could be made. The selected number of samples was 10 and represents an attempt to improve decision making across the nine study areas and to provide an initial indication of the levels of contamination in these areas that were not previously sampled. These additional properties will be identified prior to Phase II sampling (Tetra Tech, 2008).

**Table P-2 - USEPA Regional Screening Levels (RSLs) for Soil Gas
Derived from Ambient Air RSLs Assuming an Attenuation Factor of 0.1**

Chemical	USEPA RSLs Calculated Based on a 30-Year Residential Exposure (ug/m ³) ¹	
	Cancer Risk Goal = 1E-06	Noncancer HI Goal = 1
	Inhalation	Inhalation
1,1,1,2-Tetrachloroethane	3.3	--
1,1,1-Trichloroethane	--	52000
1,1,2,2-Tetrachloroethane	0.42	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310000
1,1,2-Trichloroethane	1.5	--
1,1-Dichloroethane	15	5200
1,1-Dichloroethene	--	2100
1,2,3-Trichlorobenzene	--	--
1,2,3-Trichloropropane	--	--
1,2,4-Trichlorobenzene	--	--
1,2,4-Trimethylbenzene	--	73
1,2-Dibromo-3-Chloropropane	0.0016	2.1
1,2-Dibromoethane	0.041	94
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--
1,2-Dichlorobenzene	--	2100
1,2-Dichloroethane	0.94	25000
1,2-Dichloropropane	2.4	42
1,3,5-Trimethylbenzene	--	--
1,3-Butadiene	0.81	21
1,3-Dichlorobenzene	--	--
1,4-Dichlorobenzene	2.2	8300
2-Butanone (methyl ethyl ketone)	--	52000
2-Methylnaphthalene	--	--
Acenaphthene	--	--
Acenaphthylene	--	--
Acetaldehyde	11	94
Acetone	--	320000
Acetonitrile	--	630
Acetophenone	--	--
Acrolein	--	0.21
Acrylonitrile	0.36	21
Anthracene	--	--
Benzene	3.1	310
Bis(2-Chloroethyl)ether	0.074	--
Bromodichloromethane	--	--
Bromoform	22	--
Bromomethane	--	52
Carbon Disulfide	--	7300
Carbon Tetrachloride	1.6	2000
Chlorobenzene	--	520
Chloroethane	--	100000
Chloroform	1.1	1000
Chloromethane	14	940
cis-1,2-Dichloroethene	--	--
cis-1,3-Dichloropropene	--	--
Cyclohexane	--	63000
Dibromochloromethane	--	--
Dibromomethane	--	--
Dichlorodifluoromethane (Freon 12)	--	2100
Ethylbenzene	9.7	10000
Fluoranthene	--	--
Fluorene	--	--
Hexachlorobutadiene	1.1	--
Hexachloroethane	6.1	--
Hexane	--	7300
Isobutyl Alcohol	--	--
Isopropylbenzene	--	4200
m,p-Xylenes	--	1000

**Table P-2 - USEPA Regional Screening Levels (RSLs) for Soil Gas
Derived from Ambient Air RSLs Assuming an Attenuation Factor of 0.1**

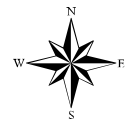
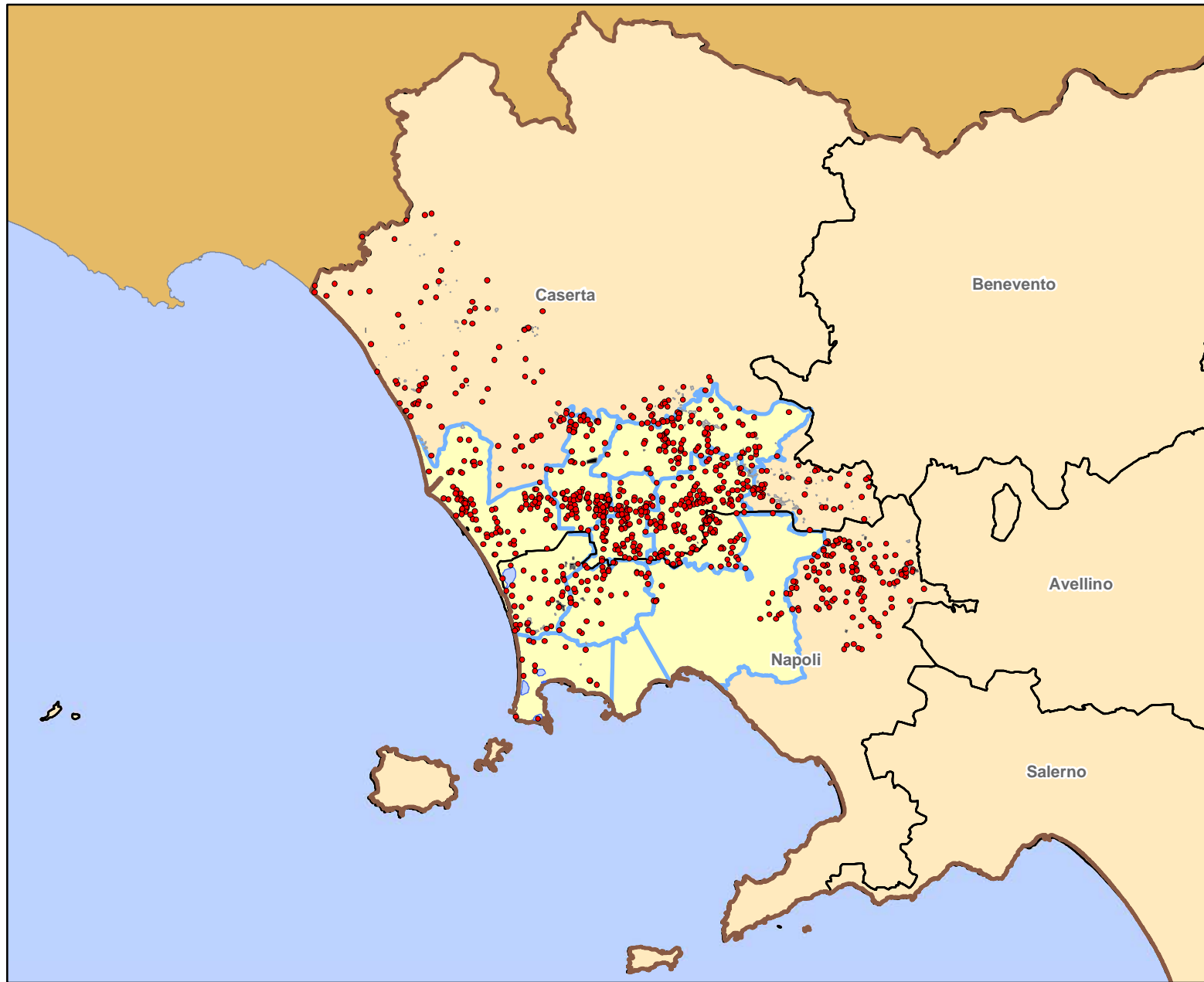
Chemical	USEPA RSLs Calculated Based on a 30-Year Residential Exposure (ug/m ³) ¹	
	Cancer Risk Goal = 1E-06	Noncancer HI Goal = 1
	Inhalation	Inhalation
Methyl Acetate	--	--
Methyl tert-Butyl Ether	94	31000
Methylcyclohexane	--	31000
Methylene Chloride	52	11000
Naphthalene	0.72	31
o-Xylene	--	7300
Pentachloroethane	--	--
Phenanthrene	--	--
Pyrene	--	--
Styrene	--	10000
Tetrachloroethene	4.1	2800
Toluene	--	52000
Tph (c03-c20)	--	--
trans-1,2-Dichloroethene	--	630
trans-1,3-Dichloropropene	--	--
Trans-1,4-Dichloro-2-Butene	--	--
Trichloroethene	12	--
Trichlorofluoromethane	--	7300
Vinyl Acetate	--	2100
Vinyl Chloride	1.6	1000

Notes:

-- No regional screening level (RSL) was available

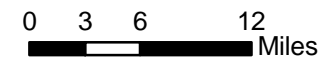
HI - Hazard Index

¹USEPA (United States Environmental Protection Agency). 2008 USEPA RSL. Website Updated Master April 2009. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_APRIL2009.pdf



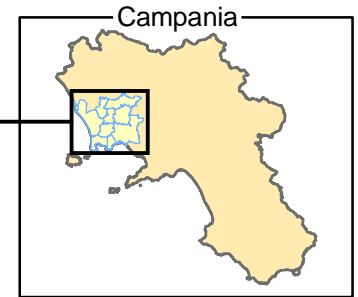
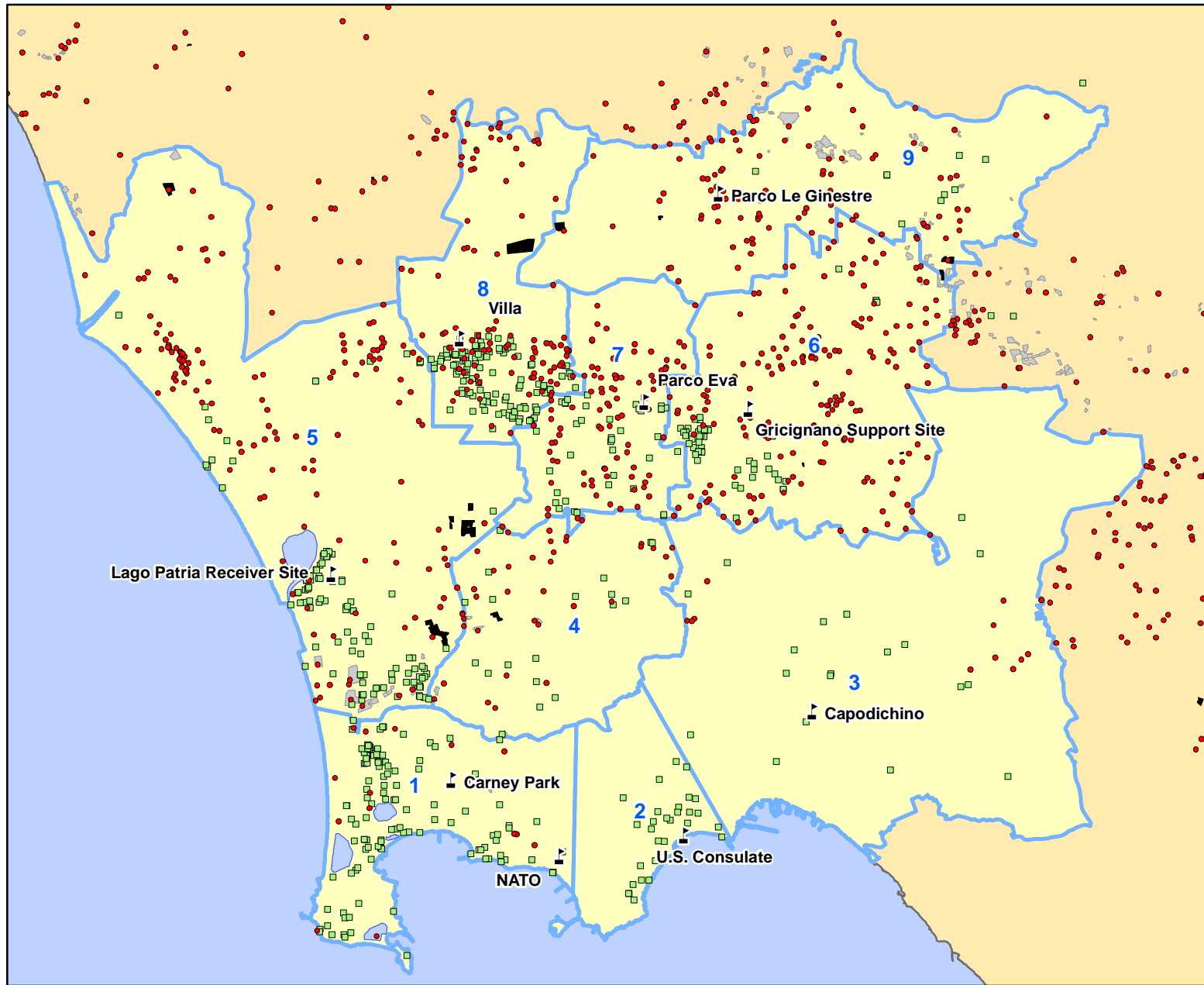
- Legend**
- Trash or Potential Hazardous Waste Sites
 - Cave (Quarries)
 - Discariche (Legal Landfills)
 - Study Area Boundaries
 - Campania Region
 - Campania Provinces
 - Italy

Note:
 -Trash or Potential Hazardous Waste Sites,
 Cave (Quarries) and Discariche (Legal
 Landfills) provided by Agenzia Regionale
 Protezione Ambiente Campania (ARPAC).



**Trash or Potential Hazardous Waste Sites in the Campania Region
 Naples, Italy**

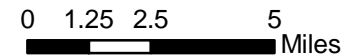
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: P-1



Legend

- Ambient Air Monitoring Station
- Trash or Potential Hazardous Waste Sites
- Residences Sampled In the NPHE
- Cave (Quarries)
- Discariche (Legal Landfills)
- Study Area Boundary (1-9)
- Campania Region

Note:
 -Naples Public Health Evaluation (NPHE)
 -Trash or Potential Hazardous Waste Sites,
 Cave (Quarries) and Discariche (Legal
 Landfills) provided by Agenzia Regionale
 Protezione Ambiente Campania (ARPAC).



PIONEER
 TECHNOLOGIES CORPORATION

**Resident Locations Sampled in the NPHE
 in Relation to Trash or Potential Hazardous Waste Sites
 Naples, Italy**

DWN:
 BR

PROJECT:

DATE:
 February 2010

FIGURE NO.:
 P-2

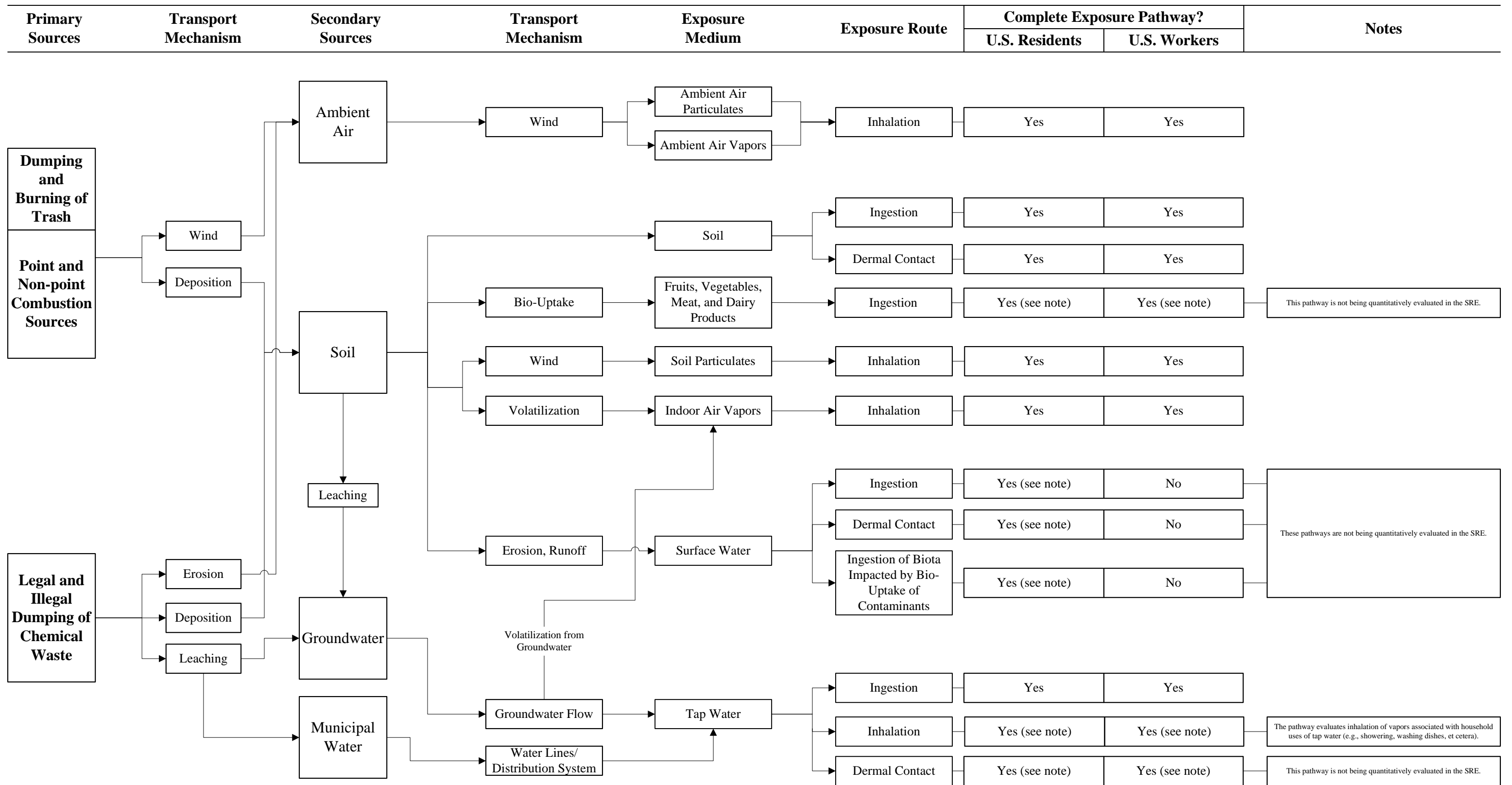



Figure P-3
Conceptual Site Model
 Naples, Italy Public Health Evaluation





Technical Memorandum: Identification of Chemicals in Soil Gas That May Be Associated with Vapor Intrusion

1.1 INTRODUCTION

The Navy and Marine Corps Public Health Center (NMCPHC) is performing a Public Health Evaluation (PHE) in the Campania Region of Italy in response to concerns by the United States (U.S.) Navy (USN) and their civilian personnel and families that poor waste disposal practices (dumping and open burning of uncollected trash and dumping of illegal waste) present a risk to USN personnel (active duty, civilians, and their families) who are residing on the economy in the Naples Province of Campania. Because the geographical area being investigated is very large (approximately 395 square miles), the region has been segregated into nine geographical study areas (see the Preface to this Memo for identification of the study areas) for evaluation purposes.

During the Naples PHE (NPHE), chemicals of potential concern (COPCs) were detected in soil gas at concentrations that exceeded United States Environmental Protection Agency (USEPA) inhalation Regional Screening Levels (RSLs) (USEPA, 2009). These soil gas concentrations may represent a subsurface (soil or groundwater) vapor intrusion (VI) source that could potentially impact indoor air.

VI is the migration of volatile organic compounds (VOCs) from the subsurface into overlying buildings. Under some conditions, VOCs in soil or groundwater may migrate via soil gas into nearby basements, buildings, and other enclosed spaces. However, not all chemicals detected in soil gas are associated with VI from a source in soil or groundwater. Some of the chemicals detected in soil gas may be associated with sources in ambient air and/or indoor air that are unrelated to subsurface contamination. For example, chemicals in ambient air can migrate down into the soil column via diffusion and advection (Scott, 2000). Oxygen transport from the atmosphere to soil gas beneath concrete slabs and adjacent to concrete slabs has been documented by investigators researching vapor migration of aerobically-biodegradable compounds (i.e., petroleum hydrocarbons) (Lundegard et. al., 2008). Both empirical data and modeling results have shown that VOCs detected in subsurface vapor samples can originate from indoor sources, migrating in response to pressure gradients via advective flow down through building foundations (McHugh et. al., 2006). The depth to which ambient and/or indoor air migrates downward into the soil column is limited by many of the same factors that affect upward diffusion and advection of soil gas, but the impact is typically more pronounced on shallow soil gas samples (i.e., the concentrations of chemicals that are associated with ambient air that are detected in soil gas samples are typically higher in shallow soil gas samples than in deeper soil gas samples).

The purpose of this Technical Memorandum (Memo) is to evaluate multimedia environmental data collected as part of the NPHE to identify inhalation COPCs that may be associated with a subsurface VI source versus other Non-VI sources (i.e., above-ground sources in ambient air and/or indoor air). It was not possible to differentiate between chemicals potentially resulting from poor waste disposal practices (dumping/burning of trash and hazardous waste) and other sources in this evaluation. Hence the focus of this Memo is to determine whether or not chemical concentrations found in soil gas are associated with subsurface VI sources that could contribute to VI in overlying buildings. This distinction is important so that the risks can be calculated appropriately and risk-management decisions can be made.

Uncontrolled waste-disposal practices (dumping and open-burning of uncollected trash and dumping of illegal waste) impact the environment both above-ground (ambient air/indoor air) and in the subsurface (soil and

groundwater). Other above-ground sources include typical urban contaminant sources such as nearby gasoline stations, automobile exhaust, dry cleaners, fuel storage tanks, diesel motors and generators, industrial facilities, agricultural practices, and landfills. Other subsurface VI sources include leaking underground storage tanks, leaking storage vessels, landfills, spills and releases associated with industrial, commercial and agricultural activities, and disposal of contaminated water through septic systems.

This Memo presents a review of soil gas and associated-media data that were collected in the nine study areas and uses a lines-of-evidence approach to identify COPCs that may be associated with a subsurface VI source versus above-ground ambient air sources.

It is important to note that none of the inhalation COPCs evaluated in this Memo were eliminated from the risk assessment. The results of this evaluation will be used to classify COPCs detected in soil gas into the following three groups so that the human health risks can be calculated appropriately.

- **Non-VI COPCs** – COPC(s) associated with ambient air and/or indoor air sources and not with a subsurface VI source. For these COPCs, human health risks for the inhalation pathway will be calculated based on ambient air concentrations.
- **Localized VI COPCs** – COPC(s) potentially associated with a subsurface VI source within a specific geographical area. Most COPCs fall into this category because subsurface VI is commonly associated with a localized release. This group also includes COPC(s) for which the determination was inconclusive. Risks for these COPCs will be calculated using either soil gas results or ambient air results depending on the determination at that location.
- **Global VI COPCs** – COPC(s) associated with a subsurface VI source at all locations. For these COPCs, there must be compelling evidence to indicate that subsurface VI is a site-wide issue. Risks for these COPCs will be calculated using soil gas results at all locations.

Note: The risks for these inhalation COPCs will be combined, as appropriate, with risks from other COPCs and exposure pathways in order to calculate cumulative human health risks at each sample location. Because the results of this Memo will be used to assist in making risk-management decisions, the tendency was to err toward identifying COPCs as being associated with a subsurface VI source rather than not.

1.2 BACKGROUND INFORMATION

1.2.1 Limitations

Summarized below are limitations that significantly impacted the NPHE and the development of this Memo:

- **Size of the Study Areas** – The total area of Campania covers approximately 5,250 square miles. The NPHE focused on the Naples Province of Campania where USN personnel work and live, which is approximately 395 square miles. The size of the study areas presents a challenge for developing sampling plans, interpreting the results, and developing conclusions about the area.
- **Jurisdiction for Sampling** – The USN does not have jurisdiction to collect samples in Italy other than at locations where U.S. personnel lease property. This fact presents a significant challenge/limitation for developing sampling plans because of the inability to gain access to some "desirable" locations to collect samples. The USN can only collect samples at locations where the tenant and landowner agree to grant access for sampling.

- **Lack of Site-Specific Geological/Hydrogeological Data** – At most environmental cleanup projects in the U.S. there is an abundance of historical geological and hydrogeological data available to develop sampling and analysis plans and also to assist in evaluating/interpreting the data. These data are also often supplemented by additional site-specific geological and hydrogeological information that is obtained during the environmental investigation. This is not the case in Italy. To date the USN has not been able to obtain reliable geological and/or hydrogeological data for the study areas. In addition, the USN cannot obtain site-specific data by collecting soil cores or installing monitoring wells on the economy because it does not have the authority to do so. This limitation impacts the VI investigation because depth to groundwater and geological characteristics are key inputs to assessing the potential for VI.
- **Lack of a Robust Paired (i.e., Co-located, Co-collected) Active Soil Gas and Ambient Air Data Set** – This Memo presents a comparison of soil gas and ambient air data (referred to as soil gas to ambient air ratios). A soil gas to ambient air ratio greater than one indicates that there is potentially a subsurface source of a COPC that could be a concern for VI. As this ratio increases, the indication of VI and associated subsurface contributing sources also increases. If the soil gas to ambient air ratio is less than or equal to one, this indicates that most likely the COPC is not associated with a subsurface VI source. For the NPHE, the vast majority of samples that were used to calculate the soil gas to ambient air ratios were not collected from the same location and were not collected at the same time (i.e., the soil gas and ambient air samples were not co-located or co-collected). The most significant limitations of this comparison are the temporal and spatial difference between the soil gas and ambient air samples. The ambient air samples used in the comparisons were obtained from U.S. Government-related sites that were typically located miles from the locations where the active soil gas samples were collected. These samples were also typically collected on different days than the active soil gas samples. These factors contribute uncertainty to the soil gas and ambient air comparisons. With greater distance and time between the samples collected, a higher degree of potential variability in concentrations is expected (assuming that there is no contribution from subsurface sources). However, in an effort to err on the side of being conservative, a soil gas to ambient air ratio of one or less was used as a line of evidence to identify a non-VI COPC.
- **Lack of Representative Background Ambient Air Concentrations for Naples, Italy** – Naples-specific background ambient air concentrations for the COPCs evaluated in this Memo were not available. This information would have been useful to provide context when evaluating the soil gas and ambient air data. In lieu of Naples-specific background ambient air data, chemical data from ambient air samples collected from six urban cities in the U.S. (San Diego, California, Los Angeles, California, Seattle, Washington, Houston, Texas, Midlothian, Texas, and Washington DC) from the 2007 USEPA Air Toxics Database [USEPA 2007]) were used to represent background concentrations from typical urban air. This limitation increases the uncertainty of this evaluation because there isn't any information to determine whether or not the ambient air data from the six U.S. cities are similar or different than the ambient air in Naples, Italy.
- **Single Sampling Event at Each Location** – In most cases, only one sample was collected from each medium (e.g., soil gas or tap water) at each location. In some cases this presents uncertainty because repeated or multiple samples would provide a more accurate representation of the concentrations to which people are exposed at each location. For example, it was assumed that the results of a single sampling event were representative of a 30-year exposure period. This limitation increased the uncertainty of the evaluation because it is likely that concentrations of the COPC in soil gas and tap water may change over time.

1.2.2 Sampling Events

For the NPHE, a phased approach was used to collect environmental data from within nine geographical study areas on the economy (Figure 1) (TetraTech, 2008). The first phase was conducted between June 9 and November 17, 2008 and was comprised of two components: 1) a month-long regional ambient air monitoring program at nine air sampling stations and 2) sampling of soil, passive soil gas, tap water (from both private well and municipal water sources) and irrigation wells, where available, from 130 residences (single-family homes and apartments) and 10 U.S. Government-related facilities¹. The results of Phase I sampling were assessed in a screening risk evaluation (SRE) to determine whether or not exposure to soil, indoor air, tap water, and ambient air posed an unacceptable risk to USN personnel, and whether or not additional assessment was necessary (PIONEER, 2009; TetraTech, 2008).

Based on the results of Phase I, Phase II was conducted to improve the geographic coverage of sampling locations in the nine study areas and to delineate clusters of residences that exceeded risk criteria (TetraTech, 2008). Approximately 200 residences have been sampled during Phase II (which is ongoing) and the ambient air monitoring program was continued for one full year. For Phase II, active (i.e., Summa Canister) sub-slab or near-slab soil gas samples were collected instead of the passive (i.e., Gore-Sorber®) sampling method that was used in Phase I. Soil sampling was discontinued midway through Phase II because results from Phase I samples indicated that soil had not been impacted to a degree that would pose a significant human health risk via incidental ingestion or dermal absorption.

As part of the Phase II sampling program, co-located ambient air and active soil gas samples were collected during the same sampling event (co-collected) at 27 locations to differentiate concentrations of COPCs in soil gas associated with subsurface sources from those associated with ambient air (i.e., outdoor air). Co-located groundwater and soil gas samples were also collected at select residential properties. Co-located samples were collected using the same sampling methodology as other Phase II samples (TetraTech, 2008).

1.2.3 Overview of the Data Sources Used in this Evaluation

The focus of this Memo is active soil gas data collected at 201 residences (locations) on the economy between November 2008 and July 2009. Data from the following media were included in this Memo:

- **Soil Gas:** Data from 204 active soil gas samples collected from 201 residences (locations) between November 2008 and July 2009 were included in this evaluation. Samples were collected from all nine study areas and included samples that were co-located and co-collected with ambient air and/or groundwater data. Only active soil gas samples collected from residential properties during Phase II were included in this evaluation. Active soil gas samples collected at U.S. Government-related facilities were not included because these facilities are being addressed separately.
- **Ambient Air:** Data from up to 392 ambient air samples were included in this evaluation. Samples were collected from nine ambient air monitoring stations located at U.S. Government-related facilities (air monitoring stations) (see Figure 1). Samples were collected approximately every six to nine days for one year (between June 2008 and July 2009) in order to determine representative air concentrations for each study area and also to capture random trash burning episodes, which typically peak in late spring and summer. Twenty-seven of the ambient air samples were co-located and co-collected with active soil gas samples at select residential properties.

¹ The 130 residences included the original seven pilot study residences.

- **Groundwater:** Phase I and Phase II groundwater data² from 88 residences were included in this evaluation. Tap water samples were documented as being from a private well or a public water system but only private well samples were used to represent subsurface groundwater because public water systems do not represent localized subsurface groundwater. Irrigation well samples were also collected and grouped with private tap water samples for the purpose of this evaluation. Twenty-eight of the 88 locations were co-located samples that were co-collected with active soil gas samples. All available groundwater data from Phase I and Phase II are included in this evaluation.

Data quality objectives and the sampling approaches for Phase I and Phase II are presented in the Project Specific Quality Assurance Project Plan (QAPP) Environmental Testing Support Assessment (TetraTech, 2008). Field sampling standard operating procedures (SOPs), sample collection methods, and analytical methods for the media evaluated in the Memo are summarized below (Note: Appendix E of the QAPP presents detailed field sampling SOPs and methods of collection for all media).

- **Ambient air samples** were collected from ambient air monitoring stations located five to six feet off the ground and upwind of other sampling devices. VOCs were collected using 6-liter SUMMA canisters over 24 hours and were analyzed using USEPA Method TO-15. SVOCs were collected using a polyurethane foam (PUF) sampler and were analyzed using USEPA Method TO-13A.
- **Ambient air samples** from select residential properties were co-collected with active soil gas samples from locations five to six feet off the ground upwind of the residence where soil gas samples were collected. They were collected using the same sampling protocol (6-liter SUMMA canisters over approximately two hours) as the soil gas samples and all chemicals (including SVOCs) were analyzed using USEPA Method TO-15.
- **Groundwater samples** were collected from tap water, private wells and irrigation wells. Tap water samples were collected from a faucet normally used for human use such as a kitchen or bathroom faucet. This evaluation only used tap water samples that originated from private wells. Samples were analyzed using USEPA Methods SW-846 8260 for VOCs and SW-846 8270 for SVOCs.
- **Active soil gas samples** were collected from residences by either a sub-slab or near-slab method. Samples were collected using 6-liter SUMMA canisters over a time period of 30 to 60 minutes. Sub-slab soil gas samples were collected from two to four inches beneath the floor slab of a garage or basement unless conditions prohibited access. Otherwise, near-slab soil gas samples were collected outside and within 10 feet of the building, at approximately five feet below ground surface (bgs). Active soil gas samples were analyzed for VOCs and select SVOCs using USEPA Method TO-15.

Naphthalene and acetaldehyde were among the chemicals tested for in soil gas and ambient air via USEPA Methods TO-13A and TO-15 for naphthalene and TO-11 and TO-15 for acetaldehyde. Inconsistencies in the results between the two methods (TO-13A and TO-15 for naphthalene and TO-11 and TO-15 for acetaldehyde) led to further research and it was determined that the active soil gas (and select ambient air) data for naphthalene and acetaldehyde analyzed by the USEPA Method TO-15 could not be sufficiently validated and should be rejected. Therefore, these COPCs were not included in this Memo. See Appendix F for a detailed discussion of the naphthalene and acetaldehyde data.

² Towards the end of Phase II, analyses of SVOCs (including hexachlorobutadiene) were discontinued because these COPCs were not shown to be of concern for groundwater. Three COPCs (1,3-butadiene, acrylonitrile and hexane) were not analyzed for groundwater because these COPCs are not included in USEPA's Methods SW-846 8260 (VOCs) and SW-846 8270 (SVOCs).

1.2.4 Statistical Summary of the of Data Used in this Evaluation

The environmental samples used in this evaluation were analyzed for various chemicals (noted in the QAPP), but only VOCs, SVOCs, and aldehydes were identified in soil gas samples at concentrations above their respective RSLs and these COPCs are the focus of this evaluation. Potential VI risks for each sample location were determined by calculating exceedance factors (EFs), which are the ratio of COPC concentrations to their RSLs³. Cancer EFs (CEFs) were calculated for COPCs that have been determined by the USEPA to be carcinogens. Noncarcinogenic (noncancer) EFs (NCEFs) were calculated for COPCs that have been determined by the USEPA to adversely affect human health via noncarcinogenic mechanisms.

Figure 2 presents the locations (to date) where active sub-slab and near-slab soil gas samples were collected in Phase II of the NPHE. About one-half of the samples were sub-slab samples and one half were near-slab samples. Twenty-two COPCs were identified as possibly contributing significantly to the cumulative risks at these residences because the COPC concentration in at least one soil gas sample exceeded its soil gas cancer or noncancer RSL (i.e., the CEF or NCEF was greater than one).

The analytical data for soil gas, ambient air, and groundwater data evaluated for each of the 22 COPCs in this Memo are summarized in Tables 1 through 3:

- **Table 1 – Soil Gas:** Summary statistics, cancer and noncancer RSLs, and the maximum CEF and NCEF for each of the 22 COPCs
- **Table 2 – Ambient Air:** Summary statistics, cancer and noncancer RSLs, and the maximum CEF and NCEF for each of the 22 COPCs
- **Table 3 – Groundwater:** Summary statistics, cancer and noncancer RSLs, and the maximum CEF and NCEF for each of the 22 COPCs

CEFs and NCEFs for each of the 22 COPCs in active soil gas and groundwater (where applicable) are presented on separate figures in Appendix A. This information is important to evaluate the spatial distribution of the CEFs and NCEFs.

1.3 DESCRIPTION OF THE LINE-OF-EVIDENCE APPROACH USED IN THIS EVALUATION

The line-of-evidence⁴ approach applied in this Memo incorporates a multi-faceted, multimedia evaluation of data from the nine study areas to determine whether or not the 22 COPCs with soil gas concentrations that exceeded their RSLs were chemicals that may be associated with VI (VI COPCs). This line-of-evidence approach was required because it is difficult to distinguish between chemicals in near-slab or sub-slab soil gas that are associated with VI from a subsurface VI source from those that are associated with a Non-VI (other) source (e.g., ambient air and/or indoor air). The results of this evaluation will be used to classify COPCs detected in soil gas into the following three groups so that the human health risks can be calculated appropriately.

- **Non-VI COPCs** – COPC(s) associated with ambient air and/or indoor air sources and not with a subsurface VI source. For these COPCs, human health risks for the inhalation pathway will be calculated based on ambient air concentrations.

³ The basis for the RSLs used in this Memo, is presented in the Phase I SRE (PTC, 2009) and the Preface to this Memo.

⁴ Multiple lines of evidence were evaluated systematically to make a determination (i.e., answer a question). Each line of evidence is evaluated separately using the data available for making a determination. The approach requires professional judgment for selecting and evaluating available information.

- **Localized VI COPCs** – COPC(s) potentially associated with a subsurface VI source within a specific geographical area. Most COPCs fall into this category because subsurface VI is commonly associated with a localized release. This group also includes COPCs for which the determination was inconclusive. Risks for these COPCs will be calculated based on soil gas concentrations at the specific locations where soil gas concentrations exceed the site-wide 95th percentile ambient air concentration⁵. At all other locations, the inhalation human health risks for these COPCs will be calculated based on ambient air concentrations.
- **Global VI COPCs** – COPCs associated with a subsurface VI source at all locations. For these COPCs, there must be compelling evidence to indicate that subsurface VI is a site-wide issue. For these COPCs, human health risks for the inhalation pathway will be calculated based on soil gas concentrations.

The lines of evidence that were used to classify the COPCs as Non-VI COPCs, Localized VI COPCs or Global VI COPCs are summarized below. Data and results used to support these lines of evidence and classifications are summarized on Table 4.

Primary Lines of Evidence – These are the key lines of evidence that were evaluated to classify the COPC as either associated with subsurface VI or not associated with VI.

1. **Was the COPC detected in groundwater? If so, was the Spatial Distribution of Groundwater Concentrations Consistent with Soil Gas Concentrations?** – For potential groundwater sources, the spatial distribution of COPC concentrations in soil gas should generally be consistent with the spatial distribution of groundwater concentrations (API, 2005). This relationship was evaluated by reviewing soil gas and groundwater figures (presented in Appendix A) as well as co-located/co-collected soil gas and groundwater data (for locations presented on Figure 3). For select COPCs, Figures 4a through 4f present co-located groundwater and soil gas sample locations where and indicate locations where the COPC was detected in both soil gas and groundwater.
 - **Decision Criteria:** If a COPC was detected in groundwater, and it was co-located with or proximate (within one mile) to a soil gas exceedance, then this line of evidence indicated that the COPC was potentially associated with a subsurface VI source. If the COPC was not detected in groundwater or was not co-located with or proximate to a soil gas exceedance, the conclusion that the COPC is not associated with a subsurface VI source is potentially true, but this conclusion is less certain. The absence of data from groundwater collected directly from a well, rather than from the tap, contributes to this uncertainty.

It is important to note that the evidence for groundwater as a potential VI source was supported by tetrachloroethene and trichloroethene data, which exhibited a strong spatial correlation between groundwater and active soil gas concentrations in Study Area 8 (see Figures 4a and 4b). Both tetrachloroethene and trichloroethene were frequently detected in groundwater and in active soil gas. These data provided very compelling evidence that groundwater was a source of these COPCs in soil gas in Study Area 8. It is also possible that there may be a source in soil in this area or hydraulically upgradient of the locations that were sampled in Study Area 8. The clear relationship between concentrations of tetrachloroethene in groundwater and active soil gas are contrasted by the lack of a relationship for 1,2-dichloropropane (Figure 4c), benzene (Figure 4d), chloroform (Figure 4e)⁶, and ethylbenzene (Figure 4f).

⁵ The 95th percentile concentrations for ambient air are based on the entire ambient air data set (collected over the 12+ months) and include non-detected values.

There is uncertainty associated with the groundwater data due to the lack of well-construction information, which is discussed in the Uncertainties section of the Memo (Section 1.5). The uncertainty analysis also includes an evaluation of the protectiveness of groundwater reporting limits, which are considered protective with respect to the VI pathway⁷.

2. **Soil Gas and Ambient Air Concentration Frequency Distribution Patterns** – Soil gas and ambient air data were plotted together on histograms in order to compare their distributions. These histograms are presented alphabetically, by COPC, in Appendix B. Histograms were created using all data⁸. The frequency distribution for soil gas and ambient air were compared for similarities or differences. A higher frequency of soil gas samples with concentrations in the upper range of the distribution (i.e., in the upper tail of the distribution) was a line of evidence for a localized subsurface VI source for that COPC. Conversely, a similar pattern and/or a higher frequency of ambient air samples in the upper range were evidence that the COPC concentrations in soil gas were likely associated with a Non-VI (ambient air) source. The 95th percentile concentration for ambient air was included for each COPC.

- **Decision Criteria:** If the concentration frequency distributions for a COPC were dissimilar and demonstrated higher soil gas concentrations (i.e., in the upper tail of the distribution), then this line of evidence indicated that the COPC was potentially associated with a VI source.

Note: The figures in Appendix B were annotated to identify similarities and differences observed on the frequency distributions (yellow annotation boxes) and to identify potential samples associated with localized subsurface VI (blue annotation boxes).

3. **Site-Wide Average Soil Gas to Average Ambient Air Ratios** – Average site-wide soil gas to average ambient air ratios were calculated for each COPC from all nine study areas. The average soil gas to ambient air ratio for each COPC is presented on Table 4.
 - **Decision Criteria:** If the site-wide average soil gas to average ambient air ratio exceeded one, then this line of evidence indicated that the COPC was potentially associated with a subsurface VI source. A Non-VI source was indicated if the average soil gas to average ambient air ratio was less than or equal to one⁹.
4. **Soil Gas to Ambient Air Ratios for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data** – Co-located, co-collected data provided direct, location-specific evidence whether or not ambient air concentrations impact soil gas concentrations at that location. The relationship between soil gas and ambient air was presented as a ratio. Twenty-seven locations were sampled for both active soil gas and ambient air and the results for these samples are presented in Appendix C (Table C-1) and the locations are presented on Figure 3. The minimum, maximum, mean, and median soil gas to ambient air ratios are summarized in Table 4. The active soil gas to ambient air ratios for co-located, co-collected samples are presented on Figures 5a through 5d for benzene, chloroform, ethylbenzene and tetrachloroethene, respectively.

⁶ Of the remaining COPCs, chloroform shows the most locations with co-located detections in soil gas and groundwater. However, the correlation is limited to a much smaller area within Area 8 and Location 0548 (Area 6), which had an anomalously high concentration in soil gas.

⁷ The analytical limits of detection for COPCs were low enough to allow for a comparison between calculated indoor air concentrations derived from actual groundwater or soil gas data and the appropriate RSL.

⁸ All data, including J-flagged data and non-detected data were used to create the histograms. Intervals (bins) were selected based on the spread of the data. The frequency for each interval is based on the number of data points included in the bin that are less than or equal to the value selected for the interval and greater than the value selected for the lower interval.

⁹ Due to the inherent limitations of the data (including spatial and temporal variability) (see Section 1.5.3), a soil gas to ambient air ratio of one was selected to minimize uncertainties, but this ratio likely errs toward associating subsurface soil gas with VI sources rather than not.

- **Decision Criteria:** If the mean or median of the site-specific soil gas to site-specific ambient air concentration ratio exceeded one, then this line of evidence indicated that the COPC was potentially associated with a VI source¹⁰. A Non-VI source was indicated if the mean and median soil gas to ambient air ratio was less than or equal to one.

The number of primary lines of evidence indicating a Subsurface VI source and Non-VI source were tallied to determine whether a COPC should be classified as a VI COPC or Non-VI COPC. If the lines of evidence were equal, the COPC was assumed to be a VI COPC. Once determined to be a VI COPC, secondary lines of evidence were evaluated to categorize the VI COPC as Localized or Global. If the COPC was determined to be a Non-VI COPC, no further evaluation was performed.

Secondary Lines of Evidence – These lines of evidence were used to classify a VI COPC as a Localized VI COPC or a Global VI COPC.

1. **Geographical Distribution – Were VI COPC Concentrations Presented as Anomalies, Localized Clusters, or Widely-Distributed Clusters?** – Geographically-clustered VI COPC exceedances (i.e., clusters of at least three exceedances adjacent to one another) or anomalies (isolated exceedances) were considered an indicator of a potential Localized VI source area (i.e., possibly from a chemical release). A figure for each COPC detected in soil gas that exceeded its RSL is presented in alphabetical order in Appendix A. These figures present the geographical distribution of soil gas and groundwater exceedances.
 - **Decision Criteria:** Widely distributed clusters of VI COPC exceedances were evidence of a Global VI COPC. Localized clusters and/or anomalies were indicative of Localized VI COPCs.
2. **Frequency That Soil Gas Concentrations Exceeded their RSLs** – The frequency that soil gas concentrations exceeded the RSL provided an indication whether the COPC was potentially associated with subsurface VI sources throughout the study area or localized subsurface VI sources.
 - **Decision Criteria:** If the frequency of exceedance of the soil gas RSL was greater than 25 percent, then this line of evidence indicated that the COPC was potentially a Global VI COPC. If the frequency of exceedance of the soil gas RSL was less than or equal to 25 percent then this line of evidence indicated that the COPC was potentially a Localized VI COPC.

To be classified as a Global VI COPC, both secondary lines of evidence had to indicate a Global Subsurface VI Source. Otherwise, the COPC was determined to be a Localized VI COPC. The exception to the above criteria was for COPCs that were degradation products of a Global VI COPC. As discussed below, these were classified as Global VI COPCs by association.

¹⁰ Due to the inherent limitations of the data (including spatial and temporal variability) (see Section 1.5.3), a soil gas to ambient air ratio of one was selected to minimize uncertainties, but this ratio likely errs toward associating subsurface soil gas with VI sources rather than not.

Comments and Discussion – This information was evaluated to provide additional context and discussion specific to each COPC.

1. **Was the COPC a degradation product of a Global VI COPC?** – In some cases, a VI COPC met the requirements of a Localized VI COPC but was classified as Global VI COPCs because it was a degradation product of a Global VI COPC.
2. **Was the COPC considered a typical source of VI in the U.S.?** – The USEPA maintains a Vapor Intrusion Database that quantifies the number of VI investigations and samples where select COPCs have been detected in groundwater, soil gas, and sub-slab soil gas (USEPA 2008)¹¹. While not comprehensive, the VOCs tracked on this database have been documented at VI sites in the U.S. Other COPCs, considered “target VOCs” for VI investigations, or those typically associated with petroleum products, are also noted (New Jersey Department of Environmental Protection [NJDEP] 2005, API 2005). If the COPC was not tracked on the USEPA database or “short-listed” in NJDEP VI guidance, the COPC was not considered a typical VI COPC even though it may be included in some more comprehensive lists in VI Guidance (USEPA 2002).
3. **Was the Naples soil gas and/or ambient air concentration greater than the U.S. ambient air concentration for this COPC?** – For some COPCs, literature and available data support an ambient air source. The New York State Department of Health (NYSDOH) Soil Vapor Intrusion Guidance Appendix C: Volatile Organic Chemicals in Air – Summary of Background Databases (NYSDOH 2006) and the USEPA Air Toxics Database (USEPA, 2007)¹² were consulted for typical outdoor air concentrations.

1.4 RESULTS OF THE LINE-OF-EVIDENCE APPROACH

Each of the 22 COPCs was evaluated using primary and secondary lines of evidence presented in section 1.3 and the results were summarized, along with additional information, and tallied on a “Scorecard” for each COPC. Supporting information for each COPC is presented in Table 4. The decision criteria for the lines of evidence are presented in Table 5.

¹¹ The USEPA’s Vapor Intrusion Database can be downloaded from the Indoor Air Vapor Intrusion (IAVI) website at: <http://iavi.rti.org/>.

¹² Data from the USEPA Air Toxics Database were compiled and summarized in Table 3-3 of the Phase I SRE (PIONEER, 2009).



VI Lines-of-Evidence Summary for: 1,1,1,2-Tetrachloroethane

Background Information: 1,1,1,2-Tetrachloroethane is a chlorinated hydrocarbon. It is a colorless liquid with a sweet chloroform-like odor. It is used as a solvent and in the production of wood stains and varnishes. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No (Detected in 0 of 88 groundwater samples)	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar a indicate higher frequency of soil gas concentrations in upper tail of distribution. See Figure B – 1	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	10	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Not detected in co-collected, co-located soil gas or ambient air samples ³ .	no	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>2</i>	<i>1</i>
Conclusion⁴:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A SUBSURFACE VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Anomalies See Figure A – 1	no	Yes
2. Frequency that Soil Gas Concentrations Exceed the RSL	1.5% – 3 of 201 locations.	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 7.6 ▪ This COPC is not considered a common VI COPC in the U.S. ▪ No U.S. background ambient air values are available for this COPC. ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁵:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³Soil gas and ambient air concentrations were non-detect in all co-located, co-collected samples, indicating that there was not a VI source and there was not an ambient air source at these locations.

⁴If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁵VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: 1,1,2,2-Tetrachloroethane

Background Information: 1,1,2,2-Tetrachloroethane is a manufactured, colorless, dense liquid that does not burn easily. It is volatile and has a sweet odor. In the past, it was used in large amounts to produce other chemicals, as an industrial solvent to clean and degrease metals, and as an ingredient in paints and pesticides. Commercial production of 1,1,2,2-tetrachloroethane for these uses has stopped in the United States. It presently is used only as a chemical intermediate in the production of other chemicals. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 88 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar. See Figure B – 2	no	Yes
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	1.1	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 1.0 and Median = 1.1	Yes	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		2	2
Conclusion³:		Data indicate that this COPC is potentially associated with a subsurface VI source.	
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Anomalies See Figure A – 3	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	1.5% – 3 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 2.2 ▪ This COPC is listed in NJDEP's VI Guidance (2007) but is not tracked in USEPA's VI Database (2008). ▪ Maximum soil gas (0.9 ug/m³) and maximum ambient air (1.1 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (0.5 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:		Localized VI COPC	

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: 1,2-Dibromo-3-Chloropropane

Background Information: 1,2-Dibromo-3-chloropropane is a manufactured chemical and is not found naturally in the environment. It is a colorless liquid with a sharp smell. It can be tasted in water at very low concentrations. Some industries use it to make another chemical that is used to make materials that resist burning. Large amounts of 1,2-dibromo-3-chloropropane were used in the past on certain farms to kill pests that harmed crops. Farmers in all states other than Hawaii stopped using this chemical in 1979. Hawaii stopped using it in 1985. We do not know exactly how much of it is currently made or used by industry, but it is probably a small amount. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 88 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar. See Figure B – 3	no	Yes
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	0.9	no	Yes
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 1.0 and Median = 1.0	no	Yes
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>0</i>	<i>4</i>
Conclusion³:	Data indicate this COPC is associated with a non-VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	N/A	N/A	N/A
2. Frequency that Soil Gas Concentrations Exceeded the RSL	N/A	N/A	N/A
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 185 ▪ This COPC is not considered a common VI COPC in the U.S. ▪ No U.S. background ambient air values are available for this COPC. ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Non-VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

N/A = Not applicable because the COPC is not considered a VI COPC.

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: 1,2-Dibromoethane

Background information: 1,2-Dibromoethane is a manufactured chemical. It also occurs naturally in small amounts in the ocean where it is formed, probably by algae and kelp. It is a colorless liquid with a mild, sweet odor. Other names for 1,2-dibromoethane are ethylene dibromide, EDB, and glycol bromide. Trade names include Bromofume and Dowfume. 1,2-Dibromoethane has been used as a pesticide in soil, and on citrus, vegetable, and grain crops. Most of these uses have been stopped by the Environmental Protection Agency (EPA) since 1984. Another major use was as an additive in leaded gasoline; however, since leaded gasoline is now banned, it is no longer used for this purpose. Uses today include treatment of logs for termites and beetles, control of moths in beehives, and as a preparation for dyes and waxes. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 88 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar. See Figure B – 4	no	Yes
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	1.3	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 1.0 and Median = 0.9	no	Yes
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>1</i>	<i>3</i>
Conclusion ³ :	Data indicate this COPC is associated with a non-VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	N/A	N/A	N/A
2. Frequency that Soil Gas Concentrations Exceeded the RSL	N/A	N/A	N/A
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 14.7 ▪ This COPC is listed in NJDEP's VI Guidance (2007) but is not tracked in USEPA's VI Database (2008). ▪ Maximum soil gas (0.6 ug/m³) and maximum ambient air (0.5 ug/m³) concentrations measured in Naples are less than maximum ambient air concentrations in the U.S (8.2 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion ⁴ :	Non-VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

N/A = Not applicable because the COPC was not classified as a VI COPC.

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: 1,2-Dichloroethane

Background Information: 1,2-Dichloroethane, also called ethylene dichloride, is a manufactured chemical that is not found naturally in the environment. It is a clear liquid and has a pleasant smell and sweet taste. The most common use of 1,2-dichloroethane is in the production of vinyl chloride which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts. It is also used as a solvent and is added to leaded gasoline to remove lead. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 88 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar. See Figure B – 5	no	Yes
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	2.2	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 0.9 and Median = 0.9	no	Yes
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>1</i>	<i>3</i>
Conclusion³:	Data indicate this COPC is associated with a non-VI source		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	N/A	N/A	N/A
2. Frequency that Soil Gas Concentrations Exceeded the RSL	N/A	N/A	N/A
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 2.2 ▪ This COPC is listed in NJDEP's VI Guidance (2007) but is not tracked in USEPA's VI Database (2008). ▪ Maximum soil gas (2.1 ug/m³) and maximum ambient air (1.9 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (0.3 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Non-VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

N/A = not applicable because the COPC was not classified as a VI COPC.

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: 1,2-Dichloropropane

Background Information: 1,2-Dichloropropane is a colorless, flammable liquid with a chloroform-like odor. It is moderately soluble in water and readily evaporates into air. It does not occur naturally in the environment. 1,2-Dichloropropane production in the United States has declined over the past 20 years. It was used in the past as a soil fumigant, chemical intermediate, and industrial solvent and was found in paint strippers, varnishes, and furniture finish removers. Most of these uses were discontinued. Today, almost all of the 1,2-dichloropropane is used as a chemical intermediate to make perchloroethylene and several other related chlorinated chemicals. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	Yes / Yes Detected in 1 of 88 groundwater samples See Figures A-11 & A-12 (from Appendix A). Detected in groundwater in the vicinity of Location 2051.	Yes	no
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar. See Figure B – 6	no	Yes
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	0.7	no	Yes
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 1.4 and Median = 0.7	Yes	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		2	2
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCS ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Localized clusters and anomalies See Figure A – 11	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	17% – 34 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 11 ▪ This COPC is listed in NJDEP's VI Guidance (2007) but is not tracked in USEPA's VI Database (2008). ▪ Maximum soil gas (26.5 ug/m³) and maximum ambient air (80.8 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (22 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: 1,3-Butadiene

Background Information: 1,3-Butadiene is a chemical made from the processing of petroleum. It is the 36th highest volume chemical produced in the United States. It is a colorless gas with a mild gasoline-like odor. About 75% of the manufactured 1,3-butadiene is used to make synthetic rubber. Synthetic rubber is widely used for tires on cars and trucks. 1,3-Butadiene is also used to make plastics including acrylics. Small amounts are found in gasoline. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	COPC was not analyzed for in groundwater	--	--
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar. See Figure B – 7	no	Yes
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	1.3	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Not detected in co-collected, co-located soil gas or ambient air samples ³	no	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>1</i>	<i>1</i>
Conclusion⁴:		Data indicate that this COPC is potentially associated with a subsurface VI source.	
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Localized clusters See Figure A – 13	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	3.5% – 7 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 4.6 ▪ This COPC is listed in NJDEP's VI Guidance (2007) but is not tracked in USEPA's VI Database (2008). ▪ Maximum soil gas (3.7 ug/m³) and maximum ambient air (2.1 ug/m³) concentrations measured in Naples are greater than the maximum ambient air concentrations in the U.S., which was not detected (<7.6 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁵		Localized VI COPC	

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³Soil gas and ambient air concentrations were non-detect in all co-located, co-collected samples, indicating that there was not a VI source and there was not an ambient air source at these locations.

⁴If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁵VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: 1,4-Dichlorobenzene

Background Information: There are three dichlorobenzene isomers- 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene. Dichlorobenzenes do not occur naturally. 1,2-Dichlorobenzene is a colorless to pale yellow liquid used to make herbicides. 1,3- Dichlorobenzene is a colorless liquid used to make herbicides, insecticides, medicine, and dyes. 1,4-Dichlorobenzene, the most important of the three chemicals, is a colorless to white solid with a strong, pungent odor. When exposed to air, it slowly changes from a solid to a vapor. Most people can smell 1,4- dichlorobenzene in the air at very low levels. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 88 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar but indicate higher frequency of soil gas concentrations in upper tail of distribution. See Figure B – 8	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	2.1	Yes	
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 1.1 and Median = 1.0	Yes	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>3</i>	<i>1</i>
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Anomalies See Figure A – 14	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	1% – 2 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 14.5 ▪ This COPC is listed in NJDEP's VI Guidance (2007) but is not tracked in USEPA's VI Database (2008). ▪ The maximum soil gas (31.8 ug/m³) concentration measured in Naples is greater than maximum ambient air concentrations in the U.S (7.1 ug/m³) and the maximum ambient air concentration measured in Naples (5.6 ug/m³) is less than the maximum ambient air in the U.S. (7.1 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Acrolein

Background Information: Acrolein is a colorless or yellow liquid with a disagreeable odor. It dissolves in water very easily and quickly changes to a vapor when heated. It also burns easily. Small amounts of acrolein can be formed and can enter the air when trees, tobacco, other plants, gasoline, and oil are burned. Acrolein is used as a pesticide to control algae, weeds, bacteria, and mollusks. It is also used to make other chemicals. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 73 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Ambient air concentrations were typically higher than soil gas concentrations. (Higher frequency of ambient air locations with higher concentrations than soil gas). See Figure B – 9	no	Yes
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	0.6	no	Yes
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 1.5 and Median = 1.1	Yes	no
Number of Primary Lines of Evidence Supporting Classification:		1	3
Conclusion³:	Data indicate this COPC is associated with a non-VI source		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	N/A	N/A	N/A
2. Frequency that Soil Gas Concentrations Exceeded the RSL	N/A	N/A	N/A
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum NCEF is 34.4 ▪ This COPC is not considered a common VI COPC in the U.S. ▪ Maximum soil gas (7.2 ug/m³) and maximum ambient air (21.5 ug/m³) concentrations measured in Naples are less than the maximum ambient air concentrations in the U.S (94.9 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Non-VI COPC		

Notes:

-- = No data

NCEF = Non Cancer Exceedance Factor

N/A = Not applicable because the COPC was not classified as a VI COPC

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Acrylonitrile

Background Information: Acrylonitrile is a colorless, liquid, man-made chemical with a sharp, onion- or garlic-like odor. It can be dissolved in water and evaporates quickly. Acrylonitrile is used to make other chemicals such as plastics, synthetic rubber, and acrylic fibers. A mixture of acrylonitrile and carbon tetrachloride was used as a pesticide in the past; however, all pesticide uses have stopped. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	COPC was not analyzed in groundwater.	--	--
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar but the frequency of the concentrations in the upper tail are slightly higher for ambient air. See Figure B – 10	no	Yes
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	1.7	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Not detected in co-collected, co-located soil gas or ambient air samples ³	no	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>1</i>	<i>1</i>
Conclusion⁴:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Localized clusters See Figure A – 18	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL Greater than 25%?	7% – 14 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 7.4 ▪ This COPC is not considered a common VI COPC in the U.S ▪ Maximum soil gas (2.7 ug/m³) and maximum ambient air (0.9 ug/m³) concentrations measured in Naples are less than maximum ambient air concentrations in the U.S (35.1 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁵:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³Soil gas and ambient air concentrations were non-detect in all co-located, co-collected samples, indicating that there was not a VI source and there was not an ambient air source at these locations.

⁴If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁵VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Benzene

Background Information: Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities. Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume. Some industries use benzene to make other chemicals which are used to make plastics, resins, and nylon and other synthetic fibers. Benzene is also used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from volcanoes and forest fires. Benzene is also a natural part of crude oil, gasoline, and cigarette smoke. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 88 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are not similar with higher frequency of soil gas in the upper tail of the distribution. See Figure B – 11	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	2.6	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 12 and Median = 2.5 See Figure 5a	Yes	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>3</i>	<i>1</i>
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Localized clusters and anomalies See Figures A-19	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	25% – 50 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 145 ▪ This COPC is considered a common VI COPC in the U.S and is tracked on USEPA's VI Database (2008) and listed in NJDEP's VI Guidance (2007). ▪ Maximum soil gas (451 ug/m³) and maximum ambient air (454 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (17 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Bromoform

Background Information: Bromoform and dibromochloromethane are colorless to yellow, heavy, nonflammable, liquids with a sweet odor. Small amounts are formed naturally by plants in the ocean. They are somewhat soluble in water and readily evaporate into the air. Most of the bromoform and dibromochloromethane that enters the environment is formed as byproducts when chlorine is added to drinking water to kill bacteria. Only small quantities of bromoform and dibromochloromethane currently are produced in the United States. These chemicals were used in the past as solvents and flame retardants, or to make other chemicals, but now they are used mainly as laboratory reagents. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	Yes / Yes Detected in 12 of 88 groundwater samples	YES	no
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar but indicate higher frequency of soil gas concentrations in upper tail of distribution See Figure B – 12	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	210.4	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Not detected in co-collected, co-located soil gas or ambient air samples ³	no	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>3</i>	<i>0</i>
Conclusion⁴:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Anomalies See Figure A – 21	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	<1% – 1 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 6.6 ▪ This COPC is listed in NJDEP's VI Guidance (2007) but is not tracked in USEPA's VI Database (2008). ▪ No U.S. background ambient air values are available for this COPC. ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁵:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³Soil gas and ambient air concentrations were non-detect in all co-located, co-collected samples, indicating that there was not a VI source and there was not an ambient air source at these locations.

⁴If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁵VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Carbon Tetrachloride

Background Information: Carbon tetrachloride is a manufactured chemical that does not occur naturally. It is a clear liquid with a sweet smell that can be detected at low levels. It is also called carbon chloride, methane tetrachloride, perchloromethane, tetrachloroethane, or benziform. Carbon tetrachloride is most often found in the air as a colorless gas. It is not flammable and does not dissolve in water very easily. It was used in the production of refrigeration fluid and propellants for aerosol cans, as a pesticide, as a cleaning fluid and degreasing agent, in fire extinguishers, and in spot removers. Because of its harmful effects, these uses are now banned and it is only used in some industrial applications. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	Yes / Yes Detected in 2 of 88 groundwater samples	Yes	no
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air concentration distribution patterns are not similar but indicate higher frequencies of elevated soil gas concentrations in the upper tail of the distribution. See Figure B – 13	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	2.1	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 2.7 and Median = 0.5	Yes	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>4</i>	<i>0</i>
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Anomalies See Figure A – 23	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	1.5% – 3 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 33 ▪ This COPC is considered a common VI COPC in the U.S and is tracked on USEPA's VI Database (2008) and listed in NJDEP's VI Guidance (2007). ▪ Maximum soil gas (52.8 ug/m³) and maximum ambient air (1.2 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (0.7 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information 		
Conclusion⁴:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Chloroform

Background Information: Chloroform is a colorless liquid with a pleasant, nonirritating odor and a slightly sweet taste. It will burn only when it reaches very high temperatures. In the past, chloroform was used as an inhaled anesthetic during surgery, but it isn't used that way today. Today, chloroform is used to make other chemicals and can also be formed in small amounts when chlorine is added to water. Other names for chloroform are trichloromethane and methyl trichloride. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	Yes / Yes Detected in 37 of 88 groundwater samples See Figures A-25 & A-26 (from Appendix A) for all groundwater and soil gas sample locations and Figure 4e for co-located groundwater and soil gas samples only.	Yes	no
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air concentration distribution patterns are not similar and indicate higher frequencies of elevated soil gas concentrations in the upper tail of the distribution. See Figure B – 14	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	126	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 2576 and Median = 6.7 See Figure 5b	Yes	no
Number of Primary Lines of Evidence Supporting Classification:		4	0
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Localized clusters and anomalies See Figures A-25	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	36% – 73 of 201 locations	Yes	no
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 28,000 ▪ This COPC is considered a common VI COPC in the U.S and is tracked on USEPA's VI Database (2008) and listed in NJDEP's VI Guidance (2007). ▪ Maximum soil gas (30,800 ug/m³) and maximum ambient air (41.3 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (1.3 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.



VI Lines-of-Evidence Summary for: Chloromethane

Background Information: Chloromethane is also known as methyl chloride. It is a clear, colorless gas. It has a faint, sweet odor that is noticeable only at levels that may be toxic. It is heavier than air, and it is extremely flammable. Source: <http://www.atsdr.cdc.gov/toxfag.html>¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	Yes / No Detected in 1 of 88 groundwater samples See Figures A-27 and A-28	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air concentration distribution patterns are not similar and indicate higher frequencies of elevated ambient air concentrations in the upper tail. See Figure B – 14	no	Yes
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	0.5	no	Yes
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 0.2 and Median = 0.1	no	Yes
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>0</i>	<i>4</i>
Conclusion³:	Data indicate this COPC is associated with a non-VI source		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	N/A	N/A	N/A
2. Frequency that Soil Gas Concentrations Exceeded the RSL	N/A	N/A	N/A
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 3.4 ▪ This COPC is not considered a common VI COPC in the U.S ▪ Maximum soil gas (47.4 ug/m³) and maximum ambient air (94.1 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (13 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Non-VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

N/A = Not applicable because the COPC was not classified as a VI COPC.

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Ethylbenzene

Background Information: Ethylbenzene is a colorless, flammable liquid that smells like gasoline. It is naturally found in coal tar and petroleum and is also found in manufactured products such as inks, pesticides, and paints. Ethylbenzene is used primarily to make another chemical, styrene. Other uses include as a solvent, in fuels, and to make other chemicals. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 88 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are not similar, with higher frequency of soil gas in the upper tail of the distribution. See Figure B – 16	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	8.4	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 21 and Median = 2.8 See Figure 5c	Yes	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>3</i>	<i>1</i>
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Localized clusters and anomalies See Figures A – 29	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	20% – 41 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 14.9 ▪ This COPC is considered a common VI COPC in the U.S and is tracked on USEPA's VI Database (2008) and listed in NJDEP's VI Guidance (2007). ▪ Maximum soil gas (145 ug/m³) and maximum ambient air (26.6 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (21 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Hexachlorobutadiene

Background Information: Hexachlorobutadiene is a colorless liquid with a turpentine-like odor. It is also called perchlorobutadiene. Hexachlorobutadiene is not found naturally in the environment. It is formed when other chemicals are made. Most hexachlorobutadiene used commercially in the United States is imported from Germany. It is mainly used to make rubber compounds. It is also used as a solvent, and to make lubricants, in gyroscopes, as a heat transfer liquid, and as a hydraulic fluid. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 61 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are similar but show slightly higher frequency of soil gas concentrations in the upper tail of the distribution. See Figure B – 17	YES	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	1.3	YES	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 1.0 and Median = 1.0	no	Yes
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		2	2
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Localized clusters and anomalies See Figure A – 31	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	16% – 33 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 2.9 ▪ This COPC is listed in NJDEP's VI Guidance (2007) but is not tracked in USEPA's VI Database (2008). ▪ Maximum soil gas (3.2 ug/m³) and maximum ambient air (3.2 ug/m³) concentrations measured in Naples are less than maximum ambient air concentrations in the U.S (27 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Hexane

Background Information: n-Hexane is a chemical made from crude oil. Pure n-hexane is a colorless liquid with a slightly disagreeable odor. It is highly flammable, and its vapors can be explosive. Pure n-hexane is used in laboratories. Most of the n-hexane used in industry is mixed with similar chemicals called solvents. The major use for solvents containing n-hexane is to extract vegetable oils from crops such as soybeans. These solvents are also used as cleaning agents in the printing, textile, furniture, and shoemaking industries. Certain kinds of special glues used in the roofing and shoe and leather industries also contain n-hexane. Several consumer products contain n-hexane, such as gasoline, quick-drying glues used in various hobbies, and rubber cement. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	COPC was not analyzed in groundwater.	--	--
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are not similar with higher frequency of ambient air at the higher concentrations (in general) but at the highest concentration, soil gas is more frequent. See Figure B – 18	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	3.4	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 9.0 and Median = 1.4	Yes	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>3</i>	<i>0</i>
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Anomalies See Figure A – 33	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	1% – 2 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum NCEF is 1.2 ▪ This COPC is listed in NJDEP's VI Guidance (2007) but is not tracked in USEPA's VI Database (2008). ▪ Maximum soil gas (8,870 ug/m³) and maximum ambient air (5,880 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (67 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Localized VI COPC		

Notes:

-- = No data

NCEF = Non Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Methyl Tert-Butyl Ether

Background Information: Methyl tert-butyl ether (MTBE) is a flammable liquid with a distinctive, disagreeable odor. It is made from blending chemicals such as isobutylene and methanol, and has been used since the 1980s as an additive for unleaded gasolines to achieve more efficient burning. MTBE is also used to dissolve gallstones. Patients treated in this way have MTBE delivered directly to their gall bladders through special tubes that are surgically inserted. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	Yes / No Detected in 1 of 88 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air distributions are not similar with ambient air consistently higher than soil gas but potential VI locations are indicated in the very upper tail of the distribution. See Figure B – 19	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	12	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 3.5 and Median = 3.3	Yes	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>3</i>	<i>1</i>
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Anomalies See Figure A – 34	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	<1% – 1 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 2.4 ▪ This COPC is considered a common VI COPC in the U.S and is tracked on USEPA's VI Database (2008) and listed in NJDEP's VI Guidance (2007). ▪ Maximum soil gas (227 ug/m³) concentration measured in Naples is greater than maximum ambient air concentrations in the U.S (36 ug/m³) but maximum Naples ambient air concentration (12.4 ug/m³) is less than maximum ambient air concentrations in the U.S. ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Localized VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Tetrachloroethene

Background Information: Tetrachloroethene is a manufactured chemical that is widely used for dry cleaning of fabrics and for metal-degreasing. It is also used to make other chemicals and is used in some consumer products. Other names for tetrachloroethene include perchloroethylene, PCE, and tetrachloroethene. It is a nonflammable liquid at room temperature. It evaporates easily into the air and has a sharp, sweet odor. Most people can smell tetrachloroethene when it is present in the air at a level of 1 part tetrachloroethene per million parts of air (1 ppm) or more, although some can smell it at even lower levels. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	Yes / Yes Detected in 64 of 88 groundwater samples See Figures A-36 & A-37 (from Appendix A) for all groundwater and soil gas sample locations and Figure 4a for co-located groundwater and soil gas samples only.	Yes	no
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air concentration distribution patterns are not similar and indicate higher frequencies of elevated soil gas concentrations in the upper tail of the distribution. See Figure B – 20	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	23	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 61 and Median = 18 See Figure 5d	Yes	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>4</i>	<i>0</i>
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Clustered and widely distributed See Figure A – 36	Yes	no
2. Frequency that Soil Gas Concentrations Exceeded the RSL	65% – 131 of 201 locations	Yes	no
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 798 ▪ This COPC is considered a common VI COPC in the U.S and is tracked on USEPA's VI Database (2008) and listed in NJDEP's VI Guidance (2007). ▪ Maximum soil gas (3,270 ug/m³) and maximum ambient air (56.7 ug/m³) concentrations measured in Naples are greater than maximum ambient air concentrations in the U.S (20 ug/m³). ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Global VI COPC		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

VI Lines-of-Evidence Summary for: Trichloroethene

Background Information: Trichloroethene (TCE) is a nonflammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste. It is used mainly as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers. Trichloroethene is not thought to occur naturally in the environment. However, it has been found in underground water sources and many surface waters as a result of the manufacture, use, and disposal of the chemical. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	Yes / Yes Detected in 33 of 88 groundwater samples See Figures A-38 & A-39 (from Appendix A) for all groundwater and soil gas sample locations and Figure 4b for co-located groundwater and soil gas samples only.	Yes	no
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air concentration distribution patterns are not similar and indicate higher frequencies of elevated soil gas concentrations in the upper tail of the distribution. See Figure B – 21	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	39	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Mean = 5.3 and Median = 1.0	Yes	no
Number of Primary Lines of Evidence Supporting Classification:		4	0
Conclusion³:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Localized cluster in Area 8 and anomalies See Figures A – 38 and A – 39	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	2.5% – 5 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 16.7 ▪ This COPC is considered a common VI COPC in the U.S and is tracked on USEPA's VI Database (2008) and listed in NJDEP's VI Guidance (2007) ▪ The maximum soil gas (200 ug/m³) concentration measured in Naples is greater than maximum ambient air concentrations in the U.S (1.3 ug/m³) and maximum ambient air concentration measured in Naples (1.3 ug/m³) is equal to the maximum ambient air in the U.S. (1.3 ug/m³). ▪ Trichloroethene is a degradation product of tetrachloroethene. ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁴:	Global VI COPC⁵		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³If the number of Primary Lines of Evidence supporting a Subsurface VI Source was greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC was assumed to be associated with a Subsurface VI Source.

⁴VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

⁵Because trichloroethene is a degradation product of tetrachloroethene (which is classified as a Global VI COPC), trichloroethene is classified as a Global VI COPC

VI Lines-of-Evidence Summary for: Vinyl Chloride

Background Information: Vinyl chloride is a colorless gas. It burns easily and it is not stable at high temperatures. It has a mild, sweet odor. It is a manufactured substance that does not occur naturally. It can be formed when other substances such as trichloroethane, trichloroethene, and tetrachloroethene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC). PVC is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials. Vinyl chloride is also known as chloroethene, chloroethylene, and ethylene monochloride. Source: <http://www.atsdr.cdc.gov/toxfaq.html>.¹

PRIMARY LINES OF EVIDENCE	DATA/RESULTS	DATA INDICATE A SUBSURFACE VI SOURCE	DATA INDICATE A NON-VI SOURCE
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas? ²	No / No Detected in 0 of 88 groundwater samples	no	Yes
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	Soil gas and ambient air concentration distribution patterns are not similar and indicate higher frequencies of elevated soil gas concentrations in the upper tail of the distribution. See Figure B – 22	Yes	no
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	22.5	Yes	no
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	Not detected in co-collected, co-located soil gas or ambient air samples ³	no	no
<i>Number of Primary Lines of Evidence Supporting Classification:</i>		<i>2</i>	<i>1</i>
Conclusion⁴:	Data indicate that this COPC is potentially associated with a subsurface VI source.		
SECONDARY LINES OF EVIDENCE (FOR COPCs ASSOCIATED WITH A VI SOURCE)	DATA/RESULTS	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	Anomalies See Figures A – 40 and A – 41	no	Yes
2. Frequency that Soil Gas Concentrations Exceeded the RSL	<1% – 1 of 201 locations	no	Yes
Comments/Discussion:	<ul style="list-style-type: none"> ▪ Maximum CEF is 2.9 ▪ This COPC is considered a common VI COPC in the U.S and is tracked on USEPA's VI Database (2008) and listed in NJDEP's VI Guidance (2007). ▪ Maximum soil gas (4.7 ug/m³) and maximum ambient air (0.4 ug/m³) concentrations measured in Naples are less than maximum ambient air concentrations in the U.S (4.8 ug/m³). ▪ Vinyl chloride is a degradation product of tetrachloroethene. ▪ See Table 4, Appendix A, and Appendix B for detailed information. 		
Conclusion⁵:	Global VI COPC⁶		

Notes:

-- = No data

CEF = Cancer Exceedance Factor

¹No data are available regarding the use of this chemical in Italy.

²The presence or absence of a COPC in groundwater is a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for a subsurface VI source, the converse relationship (associating the absence of a COPC in tap water or irrigation well water with the absence of a subsurface VI source) is less certain.

³Soil gas and ambient air concentrations were non-detect in all co-located, co-collected samples, indicating that there was not a VI source and there was not an ambient air source at these locations.

⁴If the number of Primary Lines of Evidence supporting a VI Source is greater than or equal to the number of Primary Lines of Evidence Supporting a Non-VI Source, then the COPC is assumed to be associated with a VI Source.

⁵VI COPCs were assumed to be Localized VI COPCs unless there was compelling evidence to indicate that the VI COPC was a Global VI COPC. Both Secondary Lines of Evidence and additional information were used to make this determination.

⁶Because vinyl chloride is a degradation product of tetrachloroethene (which is classified as a Global VI COPC), vinyl chloride is classified as a Global VI COPC.

1.5 UNCERTAINTIES

There are many confounding factors that must be considered when identifying COPCs that may be potentially associated with VI to indoor air, including the chemical/physical properties of the COPCs, soil and groundwater characteristics, ambient air conditions, and the construction and ventilation features of the buildings. The results, analyses, conclusions, and recommendations presented in this Memo depend on the quality and quantity of the data and should be considered in the context of the key uncertainties associated with the collection, analyses, and interpretation of groundwater, soil gas, and ambient air data that are discussed in the following sections.

1.5.1 Groundwater

At most VI sites, COPCs in groundwater are the primary source of VI. Therefore, groundwater quality provides a key line of evidence to identify VI COPCs because, when groundwater is a source of VI, the spatial distribution of COPC concentrations in soil gas should be generally consistent with the spatial distribution of groundwater concentrations (API, 2005). Key uncertainties associated with the groundwater results used in this evaluation are discussed in the following sections.

1.5.1.1 Collection of Groundwater Samples

The Navy was only able to obtain information regarding groundwater quality at locations (residences) that obtain their tap water from private wells because the Navy was not authorized to install groundwater monitoring wells as part of the NPHE. As a result, groundwater results were not available in most study areas to compare with soil gas results. For example, all of the locations sampled in Study Areas 2, 3 and 4 obtain their tap water from public water systems, so no groundwater results were available from these areas. Only one location in Study Area 6 (Location 0548) obtains their tap water from a private well. The lack of groundwater data in these Study Areas is a significant data gap that increases the uncertainty in identifying COPCs associated with VI.

Groundwater samples were collected by sampling the kitchen or bathroom tap water at locations connected to private wells (not public water systems) or, if tap water was unavailable, samples were collected from irrigation wells. No information was available regarding the construction of the private wells (e.g., depth to groundwater, screen interval, screen size, casing diameter, lithology, et cetera). This is a significant uncertainty because the screen intervals for private wells were assumed to be shallow, which maximizes the potential for VI from a source in groundwater. This assumption may overestimate or underestimate the potential for VI from groundwater.

The presence or absence of a COPC in groundwater one a line of evidence used to determine whether elevated concentrations in soil gas were associated with subsurface VI or not. Although the presence of a chemical in tap water or irrigation well water is a clear line of evidence to support the potential for subsurface VI, the converse relationship (associating the absence of a COPC in groundwater with the absence of a subsurface VI source) is less certain. Many domestic water systems have a holding tank where groundwater is initially pumped. The water sits in the holding tank until needed by members of the household. Many of these tanks have elevated levels of bacteria in them. Aerobically-biodegradable chemicals such as benzene and ethylbenzene, if present in groundwater, could degrade to non-detected levels while sitting in the holding tank. This could explain why these chemicals, which are ubiquitous in water-table groundwater in the U.S., were not detected in any tap water samples collected in Naples. Tetrachloroethene and trichloroethene, in contrast, are biodegradable, but conditions need to be correct (anaerobic conditions and presence of a carbon substrate) for these chemicals to be degraded. In other words, tetrachloroethene and trichloroethene are not likely to biodegrade in the aerobic conditions likely present in the holding tanks. However, this does not explain why other chemicals, detected at a high frequency in soil gas but not

in tap water (e.g., 1,2-dichloropropane, acrolein, hexachlorobutadiene) would not persist in tap water if they were associated with a VI subsurface source, since they would also not be expected to degrade as readily.

1.5.1.2 Analysis and Interpretation of Groundwater Samples

Not all of the COPCs identified in soil gas were analyzed in groundwater samples. The lack of groundwater data created an uncertainty in determining whether or not impacted groundwater was a source of subsurface VI for these COPCs.

- Hexachlorobutadiene was only analyzed in 61 of 83 groundwater samples. Therefore, it was not possible to evaluate groundwater data as a line of evidence for this COPC at some locations (including locations with co-located, co-collected soil gas samples) that obtain their tap water from a private well (i.e., groundwater).
- Three soil gas COPCs (acrylonitrile, 1,3 butadiene, and hexane) were not analyzed for in groundwater samples because they are not included in USEPA Methods SW-846 8260 (VOCs) and SW-846 8270 (SVOCs). Therefore, it was not possible to evaluate groundwater data as a line of evidence for these COPCs.

Note: Groundwater reporting limits are not a significant uncertainty with regard to evaluating the VI pathway. This is demonstrated by using Henry's Law to back-calculate the groundwater concentration that would be expected to result in the minimum soil gas concentration observed for each COPC. As shown on Table 6, for all COPCs, the minimum and maximum groundwater reporting limits are protective of the VI pathway (i.e., the groundwater reporting limits are lower than groundwater concentrations predicted using soil gas concentrations and Henry's Law), thus indicating that the groundwater reporting limits are protective of VI to indoor air. Therefore, locations with exceedances in soil gas should correlate with detected concentrations in the groundwater if there is a VI source.

1.5.2 Soil Gas

Key uncertainties associated with soil gas are discussed in the following sections.

1.5.2.1 Collection of Active Soil Gas Samples

The Navy could only obtain soil gas samples from locations in the greater Naples area of the Campania Region that were occupied by U.S. personnel, and where access was granted by the landlord/property owner to collect the samples. Therefore, soil gas samples were not evenly distributed throughout the nine Study Areas. The majority of soil gas samples collected were from Study Areas 1, 2, 7 and 8 and only a small percentage were collected in the remaining areas.

The nine study areas comprise approximately 395 square miles. Spatial variability in sub-slab concentrations can span orders of magnitude (Folkes et al., 2009). Because the soil gas samples evaluated in this Memo were collected from locations throughout the study areas, spatial variability adds to the uncertainty. Variations in subsurface conditions, sub-slab conditions, building size, and operating pressures within each building, in addition to natural fluctuations in barometric pressures over time increased the uncertainty and subsequently resulted in under-estimating or over-estimating concentrations associated with VI. In most cases, only one soil gas sample was collected for each structure, which is insufficient to represent conditions at some buildings.

At most locations, the soil gas evaluation was based on one sampling event and these results were compared to an average of ambient air data that were collected over a period of one year. Studies have shown a significant variability between soil gas samples collected over a longer-term (months) period (McHugh and Nickels, 2007).

Soil gas samples were collected either directly beneath the floor of the residence or garage (i.e., two to four inches below the bottom of the concrete slab) (sub-slab) or within 10 feet of the residence at a depth of approximately five feet below ground surface (near-slab). Almost one-half of the soil gas samples (49 percent) were near-slab samples. Studies conducted by the USEPA and various state agencies have raised concerns as to the appropriateness of near-slab soil gas data in the investigation of the VI pathway (NJDEP, 2005). NJDEP points to concerns with false negatives as a function of soil type, soil moisture, or impermeable layers that do not represent conditions beneath the slab (NJDEP, 2005).

A comparison of near slab and sub-slab data for several COPCs (benzene, ethylbenzene, chloroform, tetrachloroethene, 1,2-dichloropropane, carbon tetrachloride, trichloroethene) from the Naples region revealed that there was a higher frequency of elevated soil gas to ambient air ratios for sub-slab versus near-slab samples. Sixty-one (61) percent of the near-slab soil gas samples had soil gas to ambient air ratios at or below one in comparison to 38 percent of the sub-slab soil gas samples. This could indicate a false negative bias for the near-slab samples or it could represent more influence from ambient air concentrations.

Oxygen transport from the atmosphere to soil gas beneath a slab-on-grade has been studied in regards to biodegradation of petroleum-contaminated soil (Lundegard et. al., 2008). These studies have shown a rapid replenishment of oxygen following nitrogen flooding (to remove oxygen from subsurface soil). This is attributed to both vertical exchange across the concrete slab and advective transport immediately below the concrete slab. A similar recovery was noted for near-slab soil gas. The broad scope and multiple variables associated with the Naples soil gas sampling program are too substantial to fully understand the factors contributing to sub-slab versus near-slab soil gas concentrations and the information necessary to further evaluate these factors (e.g., lithology, building type, and hydrogeology) have not been readily available. However, the data indicate that additional field information should be collected to the extent possible during future sampling events.

For these reasons, more than one line of evidence was used to determine whether or not a VI source was possible at each soil gas location.

1.5.2.2 Analysis and Interpretation of Soil Gas Samples

Inhalation risks associated with VI of chemicals in soil gas to indoor air can vary by orders of magnitude depending on the degree of the attenuation that occurs between soil gas and indoor air. Subsurface conditions and building characteristics vary across the nine study areas, and because building access was not always achievable, some soil gas samples were collected sub-slab and some were collected outside of the building (near-slab). However, all soil gas sample concentrations, regardless of how they were collected, are compared to RSLs that were calculated using the USEPA's default VAF (α) of 0.1 (normally used for sub-slab soil gas), which is also the VAF specified in the QAPP. Applying a VAF of 0.1 is considered a very conservative assumption because VAFs can range from 0.1 to 0.0001 (or more) depending on groundwater-specific/soil-specific/building-specific characteristics (USEPA, 2008a). The use of a 0.1 VAF will likely overestimate the actual risk associated with VI, especially for samples that were collected near slab versus sub-slab. However, because groundwater-specific/soil-specific/building-specific characteristics are not available in Naples, for this screening assessment it is not appropriate to develop site-specific VAFs that might be less conservative.

1.5.3 Ambient Air

1.5.3.1 Representativeness of Ambient Air Data with Regard to Impact on Soil Gas Concentrations

There are uncertainties associated with the representativeness of the ambient air data with regard to their impact on soil gas concentrations. With the exception of the co-located, co-collected data, the ambient air data represent a broad area (i.e., nine study areas). Concentrations of the COPCs were considered regional because of the movement and mixing of ambient air over large areas (PIONEER, 2009). However, there is uncertainty with comparing ambient air data detected in the nine study areas to specific soil gas results (that were not collected at the same time and location) in order to determine the potential impact of ambient air on the soil gas concentrations.

Spikes in localized ambient air concentrations resulting from point and non-point combustion sources may significantly impact single soil gas samples but may not significantly impact year-long, average ambient air concentrations because of the large number of samples that were collected over the year. Consequently, analysis of the ambient air data on a micro scale is needed to correlate temporal and spatial trends in ambient air concentrations with possible anomalies in soil gas.

If concentrations of a chemical in ambient air were homogenous over space and time (and there was not a subsurface source), then the shallow soil gas concentration measured in "aerobic" soil should be equal to or less than the ambient air concentration. However, chemical concentrations in ambient air can change significantly over space and time. For example, some chemicals in ambient air have predictable cycles that are tied to automobile exhaust. Concentrations for these chemicals peak in urban areas twice-a-day during the morning and evening commutes. In order to reduce the impact of the potential heterogeneity in ambient air concentrations many VI investigators recommend collecting co-located and co-collected sample soil gas and ambient air samples. However, this does not completely eliminate all confounding factors. For example, since concentrations in ambient air and soil gas are not in equilibrium, it is expected that there will be "latency" in the movement of chemicals from one location to another. This "latency" is impacted by a number of processes (e.g., diffusion rate, barometric pumping, advection, soil moisture content, etc). Therefore, even though concentrations were measured at the same place and same time for soil gas and ambient air, the concentrations may be different because the system is not in equilibrium and also because it is feasible that the localized ambient air concentration has recently been impacted by a release from point or non-point sources (a spike in automobile exhaust during rush hour, sporadic agricultural burning, sporadic trash burning, et cetera).

Because of the limitations of the data, decision criteria for the primary lines of evidence were established to maximize protectiveness and err toward presuming a COPC was associated with a subsurface VI source rather than not. This conservative default position was retained by requiring an average soil gas to ambient air ratio of one or less to indicate a Non-VI (i.e., ambient and/or indoor air) source. The same, stringent criterion was used for site-specific (co-collected and co-located) data. Within the co-located data, mean and median soil gas to ambient air ratios of one or less were used as evidence of a Non-VI source. In reality, based on the inherent variability of the data discussed above, a soil gas to ambient air ratio of one or less may over-predict an association with a subsurface VI source. In other words, a chemical with a soil gas to ambient air ratio of 50 is much more likely associated with a subsurface soil gas VI source than a chemical with a soil gas to ambient air ratio of one.

1.5.4 Volcanic Activity

The potential contribution of volcanic activity to soil gas concentration was evaluated and it was determined that the potential contribution could not be quantified (see Appendix E for a detailed discussion of the potential contribution of volcanic activity to soil gas concentrations in Naples, Italy).

1.6 CONCLUSIONS AND RECOMMENDATIONS

1.6.1 Conclusions

The purpose of this Memo was to evaluate multimedia environmental data collected as part of the NPHE to identify inhalation COPCs that may be associated with a subsurface VI source versus other Non-VI sources (i.e., above-ground sources in ambient air and/or indoor air). It was not possible to differentiate between chemicals potentially resulting from poor waste disposal practices (dumping/burning of trash and hazardous waste) and other sources in this evaluation. Hence the focus of this Memo is to determine whether or not chemical concentrations found in soil gas are associated with subsurface VI sources that could contribute to VI in overlying buildings. This distinction is important so that the risks can be calculated appropriately and risk-management decisions can be made.

Twenty-two COPCs were evaluated in this Memo and it is important to note that none of these were eliminated from the risk assessment. The results of this evaluation will be used to classify COPCs detected in soil gas so that the human health risks can be calculated correctly.

The list of COPCs was developed by identifying all chemicals that exceeded their cancer RSL and/or noncancer RSL for soil gas (with the exception of naphthalene and acetaldehyde [see Section 1.2.3]). These COPCs were evaluated using multiple lines of evidence and were ultimately grouped into the following categories:

Non-VI COPCs	Localized VI COPCs	Global VI COPCs
1,2-Dibromo-3-chloropropane 1,2-Dibromomethane 1,2-Dichloroethane Acrolein Chloromethane	1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,2-Dichloropropane 1,3-Butadiene 1,4-Dichlorobenzene Acrylonitrile Bromoform Benzene Carbon tetrachloride Chloroform Ethylbenzene Hexane Hexachlorobutadiene Methyl-tert-butyl ether	Tetrachloroethene Trichloroethene Vinyl chloride
Notes: 1. Non-VI COPCs – COPC(s) associated with ambient air and/or indoor air sources and not with a subsurface VI source. For these COPCs, human health risks for the inhalation pathway will be calculated based on ambient air concentrations. 2. Localized VI COPCs – COPC(s) potentially associated with a subsurface VI source within a specific geographical area. Most COPCs fall into this category because subsurface VI is commonly associated with a localized release. This group also includes COPC(s) for which the determination was inconclusive. Risks for these COPCs will be calculated based on soil gas concentrations at the specific locations where soil gas concentrations exceed the site-wide 95th percentile ambient air concentration. At all other locations, the inhalation human health risks for these COPCs will be calculated based on ambient air concentrations. 3. Global VI COPCs – COPC(s) associated with a subsurface VI source at all locations. For these COPCs, there must be compelling evidence to indicate that subsurface VI is a site-wide issue. For these COPCs, human health risks for the inhalation pathway will be calculated based on soil gas concentrations.		



The results of this classification will be applied to the NPHE risk management process as follows:

- At each location, all COPCs detected in soil gas will be included in the Total Risk calculations for soil gas (i.e., Non-VI COPCs + Global VI COPCs + Localized VI COPCs) at that location.
- At each soil gas sampling location, incremental risks will be calculated to support risk management decisions as follows:
 - For Non-VI COPCs, the human health risks for the inhalation pathway will be calculated based on ambient air concentrations¹³.
 - Incremental risks for ambient air will be calculated only for chemicals with a 95% UCL on the mean that is greater than background (i.e., the 95%UCL on the mean for the 2007 U.S. Air Toxics data¹⁴).
 - For Global VI COPCs, the human health risks for the inhalation pathway will be calculated based on the soil gas concentration (presumed to be VI) at that location.
 - For Localized VI COPCs, the human health risks for the inhalation pathway will be calculated as follows:
 - If the soil gas concentration at a location is greater than the 95th percentile ambient air concentration¹⁵, the human health risks for the inhalation pathway at that location will be calculated based on the soil gas concentration (presumed to be VI) at that location.
 - If the soil gas concentration at a location is less than the 95th percentile ambient air concentration, the human health risks for the inhalation pathway at that location will be calculated based on the ambient air concentration.

Table 7 summarizes the information for each COPC and presents the number of locations where the COPC is included in the soil gas (VI) risk calculations. For Global VI COPCs, all detected soil gas concentrations at all locations will be included in the cumulative VI risk calculations for the inhalation pathway. For Localized VI COPCs only those locations with detected soil gas concentrations greater than the 95th percentile ambient air concentration will be included in the cumulative VI risk calculations for the inhalation pathway.

Table 8 presents CEFs/NCEFs, by location, for each Localized and Global VI COPC. A complete list of CEFs/NCEFs by location for all 22 COPCs is presented in Appendix D. The soil gas risk-based screening values (Soil Gas RSLs) used to calculate the CEFs and NCEFs are based on the Residential Ambient Air RSLs, which are corrected by a factor of 0.1 to account for attenuation that occurs as soil gas vapors migrate into indoor air. The cumulative CEF (and NCEF for hexane) for the VI inhalation pathway are presented for each location. Those locations determined to be unacceptable based on the risk management criteria for the NPHE (i.e., cumulative CEF greater than 10 and/or cumulative NCEF greater than one) are recommended for Risk Management Action(s) at that location. These locations are presented on Figure 6.

¹³ Ambient air risks will be determined by calculating the 95% UCL on the mean per Study Area. The Log 95% UCL on the mean will be used if the data are lognormally distributed, and the 95% UCL on the mean will be used if the data are normally distributed. The maximum detected concentration will be used if the Log 95% UCL or 95% UCL on the mean exceed the maximum detected concentration.

¹⁴ In lieu of Naples-specific background ambient air data, chemical data from ambient air samples collected from six urban cities in the U.S. (San Diego, California, Los Angeles, California, Seattle, Washington, Houston, Texas, Midlothian, Texas, and Washington DC) from the 2007 USEPA Air Toxics Database (USEPA, 2007) will be used to represent background concentrations from typical urban air.

¹⁵ The 95th percentile concentrations for ambient air are based on the entire (12 month) ambient air data set and include non-detected values.

1.6.2 Recommendations

The following recommendations are based on the information presented in this Memo:

1. For future soil gas sampling events, collect contemporaneous, co-located ambient air samples in order to facilitate evaluation of the potential contribution of chemicals in ambient air to the soil gas samples. Also, if there is a well on the property, collect a water sample from the well as it may be indicative of the chemicals present in groundwater that may contribute to VI at this location.
2. Where available, future soil gas sampling events should include:
 - a. Additional data about building characteristics (e.g., square footage, condition of concrete slab, preferential pathways),
 - b. Whether the sample is sub-slab or near slab,
 - c. Sample depth and lithology, and
 - d. Other site-specific information that might allow the VAF to be refined based on a representative subset of residences in Naples.
3. As presented in Table 8, there are a number of locations with unacceptable concentrations of chloroform in soil gas. Many of these locations are not co-located with detections of chloroform in groundwater. The laboratory and analytical data validator should perform another review of the soil gas and ambient air results for chloroform to ensure that cross-contamination has not occurred. No information is currently available that indicates that cross-contamination has occurred on these soil gas samples. However, cross-contamination for chloroform was identified in some ambient air samples on this project.
4. In future reports, all soil gas sample results should be presented with their corresponding helium leak-test results in order to provide an indication of the potential for chemicals in ambient air (for near-slab soil gas samples) or indoor air/ambient air (for sub-slab soil gas samples) to "leak" into the sample train and impact the results.
5. The TO-15 results for naphthalene and acetaldehyde were rejected and, therefore, were not included in this Memo. However, some of the "rejected" results for naphthalene and acetaldehyde were unacceptable based on the risk management criteria used in the NPHE (see Appendix F for a detailed discussion of the naphthalene and acetaldehyde data). Although these results were rejected, a work plan should be developed to collect and analyze soil gas and ambient air samples via another analytical method approved by the NPHE Team, from a statistically-significant number of locations that had "rejected" unacceptable results, to determine whether or not naphthalene and/or acetaldehyde are potentially a concern to human health.



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TABLES

Table 1 - Statistical Summary of COPCs Detected in Soil Gas Samples (ug/m³)

COPC ¹	Cas No.	Number of Samples ²	Number of Detections	Frequency of Detection (%)	Minimum Detection	Maximum Detection	Mean ³	Standard Deviation ³	Cancer RSL ⁴	Noncancer RSL ⁴	Maximum CEF	Maximum NCEF
1,1,1,2-Tetrachloroethane	630-20-6	204	5	2	0.24	25.2	13.5	11	3.3	--	7.64	--
1,1,2,2-Tetrachloroethane	79-34-5	204	10	5	0.16	0.903	0.36	0.22	0.42	--	2.15	--
1,2-Dibromo-3-chloropropane	96-12-8	185	1	1	0.30	0.296	0.30	0	0.0016	2.1	185	0.14
1,2-Dibromoethane	106-93-4	204	9	4	0.16	0.586	0.30	0.13	0.040	94	14.7	0.0062
1,2-Dichloroethane	107-06-2	204	8	4	0.11	2.06	0.48	0.65	0.94	25000	2.19	0.000082
1,2-Dichloropropane	78-87-5	204	101	50	0.13	26.5	3.1	4.7	2.4	42	11.0	0.63
1,3-Butadiene	106-99-0	204	19	9	0.51	3.73	1.0	0.83	0.81	21	4.60	0.18
1,4-Dichlorobenzene	106-46-7	204	55	27	0.11	31.8	1.2	4.2	2.2	8300	14.5	0.0038
Acrolein	107-02-8	204	112	55	0.42	7.22	1.6	1.3	--	0.21	--	34.4
Acrylonitrile	107-13-1	204	20	10	0.23	2.65	0.72	0.60	0.36	21	7.36	0.13
Benzene	71-43-2	204	189	93	0.09	451	8.3	42	3.1	310	145	1.5
Bromoform	75-25-2	240	3	1	0.38	145	49	83	22	--	6.59	--
Carbon tetrachloride	56-23-5	204	95	47	0.13	52.8	1.3	6.0	1.6	2000	33.0	0.026
Chloroform	67-66-3	204	146	72	0.12	30800	270	2600	1.1	1000	28000	31
Chloromethane	74-87-3	204	63	31	0.07	47.4	1.1	5.9	14	940	3.39	0.050
Ethylbenzene	100-41-4	204	181	89	0.06	145	9.3	19	9.7	10000	14.9	0.015
Hexachlorobutadiene	87-68-3	204	80	39	0.26	3.17	0.94	0.64	1.1	--	2.88	--
Hexane	110-54-3	204	166	81	0.17	8870	110	910	--	7300	--	1.2
Methyl tert-Butyl Ether	1634-04-4	204	15	7	0.20	227	20	58	94	31000	2.41	0.0073
Tetrachloroethene	127-18-4	204	180	88	1.55	3270	96	390	4.1	2800	798	1.2
Trichloroethene	79-01-6	204	45	22	0.13	200	11	35	12	--	16.7	--
Vinyl chloride	75-01-4	204	1	0	4.7	4.7	4.7	0	1.6	1000	2.94	0.0047

Notes

-- No value

COPC - Chemical of potential concern.

Maximum CEF = Maximum cancer exceedance factor (Maximum detected value/Cancer RSL)

Maximum NCEF = Maximum noncancer exceedance factor (Maximum detected value/Noncancer RSL)

RSL = United States Environmental Protection Agency (USEPA) Regional Screening Level

¹Chemicals with concentrations that exceed USEPA RSL in at least one soil gas sample.

²Includes all active soil gas data, excluding data collected at United States Government-related facilities, collected between November 2008 and July 2009.

³Mean and standard deviation were calculated for detected results only.

⁴The RSL for soil gas was 10 times the RSL for ambient air to account for the attenuation that occurs as soil gas migrates into indoor air.

Table 2 - Statistical Summary of COPCs Detected in Ambient Air (ug/m³)

COPC ¹	Cas No.	Number of Samples ²	Number of Detections	Frequency of Detection (%)	Minimum Detection	Maximum Detection	Mean ³	Standard Deviation ³	Cancer RSL ⁵	Noncancer RSL ⁵	Maximum CEF	Maximum NCEF
1,1,1,2-Tetrachloroethane	630-20-6	349	5	1	0.206	5.55	1.3	2.4	0.33	--	16.8	--
1,1,1,2,2-Tetrachloroethane	79-34-5	349	40	11	0.0984	1.10	0.32	0.19	0.04	--	26.2	--
1,2-Dibromo-3-chloropropane	96-12-8	319	6	2	0.180	0.600	0.33	0.14	0.0002	0.21	3750	2.9
1,2-Dibromoethane	106-93-4	349	17	5	0.120	0.454	0.23	0.10	0.004	9.40	111	0.048
1,2-Dichloroethane	107-06-2	349	72	21	0.100	1.93	0.22	0.22	0.09	2500	20.5	0.00077
1,2-Dichloropropane	78-87-5	349	265	76	0.104	80.8	4.2	6.8	0.24	4.20	337	19
1,3-Butadiene	106-99-0	349	28	8	0.490	2.06	0.78	0.32	0.08	2.10	25.4	0.98
1,4-Dichlorobenzene	106-46-7	339	79	23	0.0937	5.61	0.58	0.68	0.22	830	25.5	0.0068
Acrolein	107-02-8	349	236	68	0.435	21.5	2.8	2.1	--	0.02	--	1024
Acrylonitrile	107-13-1	349	36	10	0.205	0.918	0.43	0.18	0.04	2.10	25.5	0.44
Benzene	71-43-2	349	346	99	0.229	454	3.2	24	0.31	31	1465	14.6
Bromoform	75-25-2	349	1	0.3	0.231	0.231	0.23	0	2.20	--	0.11	--
Carbon tetrachloride	56-23-5	349	338	97	0.297	1.22	0.62	0.14	0.16	200	7.63	0.0061
Chloroform	67-66-3	349	150	43	0.115	41.3	2.2	7.9	0.11	100	375	0.41
Chloromethane	74-87-3	349	326	93	0.514	94.1	2.2	5.8	1.40	94	67.2	1.0
Ethylbenzene	100-41-4	349	335	96	0.129	26.6	1.1	1.6	0.97	1000	27.4	0.027
Hexachlorobutadiene ⁴	87-68-3	392	125	32	0.240	3.20	0.72	0.63	0.11	--	29.1	--
Hexane	110-54-3	349	327	94	0.184	5880	33	330	--	730	--	8.1
Methyl tert-Butyl Ether	1634-04-4	349	131	38	0.227	12.4	1.7	1.9	9.40	3100	1.32	0.0040
Tetrachloroethene	127-18-4	349	229	66	1.46	56.7	4.1	5.8	0.41	280	138	0.20
Trichloroethene	79-01-6	349	101	29	0.088	1.26	0.28	0.21	1.20	--	1.05	--
Vinyl chloride	75-01-4	349	8	2	0.0964	0.351	0.21	0.081	0.16	100	2.19	0.0035

Notes

-- No value

COPC - Chemical of potential concern

Maximum CEF = Maximum cancer exceedance factor (Maximum detected value/Cancer RSL)

Maximum NCEF = Maximum noncancer exceedance factor (Maximum detected value/Noncancer RSL)

RSL = United States Environmental Protection Agency (USEPA) Regional Screening Level

¹Chemicals with concentrations that exceed USEPA RSL in at least one soil gas sample.

²Includes all samples from United States Government-related facilities.

³Mean and standard deviation were calculated for detected results only.

⁴The data summary presented in this table for hexachlorobutadiene is based on results from both co-located and air monitoring station ambient air samples that were collected and analyzed using different methodologies.

⁵USEPA 2008 RSL - Website Updated Master April 2009. http://www.epa.gov/reg3hwm/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_APRIL2009.pdf

Table 3 - Statistical Summary of COPCs Detected in Groundwater² (ug/L)

COPC ¹	Cas No.	Number of Samples	Number of Detections	Frequency of Detection (%)	Minimum Detection	Maximum Detection	Cancer RSL ³	Noncancer RSL ³	Maximum CEF	Maximum NCEF
1,1,1,2-Tetrachloroethane	630-20-6	88	0	0	0	0	0.66	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	88	0	0	0	0	0.08	--	--	--
1,2-Dibromo-3-chloropropane	96-12-8	88	0	0	0	0	3.20E-04	0.42	--	--
1,2-Dibromoethane	106-93-4	88	0	0	0	0	0.01	19	--	--
1,2-Dichloroethane	107-06-2	88	0	0	0	0	0.19	5100	--	--
1,2-Dichloropropane	78-87-5	88	1	1	0.212	0.212	0.49	8.30	0.43	0.026
1,3-Butadiene	106-99-0	n/a	n/a	n/a	0	0	0.16	4.20	--	--
1,4-Dichlorobenzene	106-46-7	88	0	0	0	0	0.44	1700	--	--
Acrolein	107-02-8	73	0	0	0	0	--	0.04	--	--
Acrylonitrile	107-13-1	n/a	n/a	n/a	0	0	0.07	4.20	--	--
Benzene	71-43-2	88	0	0	0	0	0.62	63	--	--
Bromoform	75-25-2	88	12	14	0.577	5.32	--	--	--	--
Carbon tetrachloride	56-23-5	88	2	2	1.05	2.56	0.32	390	8.0	0.0066
Chloroform	67-66-3	88	37	42	0.097	1.19	0.21	200	5.7	0.0060
Chloromethane	74-87-3	88	1	1	0.227	0.227	2.7	190	0.084	0.0012
Ethylbenzene	100-41-4	88	0	0	0	0	1.90	2100	--	--
Hexachlorobutadiene	87-68-3	61	0	0	0	0	--	--	--	--
Hexane	110-54-3	n/a	n/a	n/a	0	0	--	1500	--	--
Methyl tert-Butyl Ether	1634-04-4	88	1	1	0.180	0.180	19	6300	0.0095	2.86E-05
Tetrachloroethene	127-18-4	88	64	73	0.174	94.2	0.82	570	115	0.17
Trichloroethene	79-01-6	88	33	38	0.131	1.11	2.40	--	0.46	--
Vinyl chloride	75-01-4	88	0	0	0	0	0.32	210	--	--

Notes:

-- No value

n/a = Not analyzed

COPC - Chemical of potential concern

Maximum CEF = Maximum cancer exceedance factor (Maximum detected value/Cancer RSL)

Maximum NCEF = Maximum noncancer exceedance factor (Maximum detected value/Noncancer RSL)

RSL = United States Environmental Protection Agency (USEPA) Regional Screening Level

¹Chemicals with concentrations that exceed USEPA RSL in at least one soil gas sample.

²Groundwater includes tap water, irrigation wells, and private wells.

³USEPA 2008 RSL - Website Updated Master April 2009. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_run_APRIL2009.pdf

Table 4 - Summary of Information Supporting Lines of Evidence



COPC ¹	Data for Primary Lines of Evidence											Additional Information					Conclusion
	Detected in GW?		Site-Wide Comparison of Soil Gas Concentrations and Ambient Air Concentrations					Co-located, Co-collected SG, AA and GW Data ³ Soil Gas to Ambient Air Ratios				Soil Gas Frequency of Exceedance	Magnitude of Exceedance	Typical VI COPC in the United States?	Typically Detected in AA in the United States? ⁹		
	Frequency of Detection in GW	SG Co-located with or Located Proximal to GW?	Average SG Concentration (ug/m ³) ²	Average AA Concentration (ug/m ³) ²	Average SG/Average AA Ratio ³	Maximum SG Concentration (ug/m ³) ²	Maximum AA Concentration (ug/m ³) ²	Minimum	Maximum	Mean	Median	Number of Locations with Soil Gas Concentrations Exceeding the RSL ^{4,5}	Maximum SG CEF (NCEF)	USEPA Database and Other Categories ⁶	Frequency of Detection in AA % (N Samples)	Maximum AA Concentration (ug/m ³) ² (source) ⁷	
1,1,1,2-Tetrachloroethane	0/88 (0%)	No	13.5	1.3	10	25.2	5.6	ND	ND	ND	ND	3/201 (1.5%)	7.6	No (4)	--	--	Localized VI COPC
1,1,2,2-Tetrachloroethane	0/88 (0%)	No	0.36	0.3	1.1	0.9	1.1	0.9	1.1	1.0	1.1	3/201 (1.5%)	2.2	Yes (2)	<1% (200)	0.5 (1)	Localized VI COPC
1,2-Dibromo-3-Chloropropane	0/88 (0%)	No	0.3	0.3	0.9	0.3	0.6	1.0	1.0	1.0	1.0	1/182 (<1%)	185	No (4)	--	--	Non-VI COPC
1,2-Dibromoethane	0/88 (0%)	No	0.3	0.2	1.3	0.6	0.5	0.8	1.3	1.0	0.9	9/201 (4.5%)	14.7	Yes (2)	<1% (200)	8.2 (1)	Non-VI COPC
1,2-Dichloroethane	0/88 (0%)	No	0.5	0.2	2.2	2.1	1.9	0.7	1.1	0.9	0.9	1/201 (<1%)	2.2	Yes (2)	<1% (200)	0.3 (1)	Non-VI COPC
1,2-Dichloropropane	1/88 (1%)	Yes	3.1	4.2	0.7	26.5	80.8	0.1	6.8	1.4	0.7	34/201 (17%)	11.0	Yes (2)	3% (200)	22 (1)	Localized VI COPC
1,3-Butadiene	n/a	n/a	1.0	0.8	1.3	3.7	2.1	ND	ND	ND	ND	7/201 (3.5%)	4.6	Yes (2)	0% (13)	< 7.6 (2)	Localized VI COPC
1,4-Dichlorobenzene	0/88 (0%)	No	1.2	0.6	2.1	31.8	5.6	0.6	1.5	1.1	1.0	2/201 (1%)	14.5	Yes (2)	18% (200)	7.1 (1)	Localized VI COPC
Acrolein	0/73 (0%)	No	1.6	2.8	0.6	7.2	21.5	0.6	4.8	1.5	1.1	111/201 (55%)	(34.4)	No (4)	--	94.9 (2)	Non-VI COPC
Acrylonitrile	n/a	n/a	0.7	0.4	1.7	2.7	0.9	ND	ND	ND	ND	14/201 (7%)	7.4	No (4)	--	35.1 (3)	Localized VI COPC
Benzene	0/88 (0%)	No	8.3	3.2	2.6	451	454	0.1	99	12	2.5	50/201 (25%)	145	Yes (1,2,3)	91% (200)	17.0	Localized VI COPC
Bromoform	12/88 (14%)	No	48.6	0.2	210	145	0.2	ND	ND	ND	ND	1/201 (< 1%)	6.6	Yes (2)	--	--	Localized VI COPC
Carbon tetrachloride	2/88 (2%)	Yes	1.3	0.6	2.1	52.8	1.2	0.2	38	2.7	0.5	3/201 (1.5%)	33.0	Yes (1,2)	46% (200)	0.7	Localized VI COPC
Chloroform	37/88 (42%)	Yes	270	2.2	126	30800	41.3	0.9	28218	2576	6.7	73/201 (36%)	28000	Yes (1,2)	16% (200)	1.3 (1)	Localized VI COPC
Chloromethane	1/88 (1%)	No	1.1	2.2	0.5	47.4	94.1	0.1	0.6	0.2	0.1	1/201 (<1%)	3.4	No (4)	2% (200)	13.0 (1)	Non-VI COPC
Ethylbenzene	0/88 (0%)	No	9.3	1.1	8.4	145	26.6	0.3	228	21	2.8	41/201 (20%)	14.9	Yes (1,2,3)	47% (200)	21.0 (1)	Localized VI COPC
Hexachlorobutadiene	0/61 (0%)	No	0.9	0.7	1.3	3.2	3.2	0.8	1.3	1.0	1.0	33/201 (16%)	2.9	Yes (2)	19% (200)	27.0 (1)	Localized VI COPC
Hexane	n/a	n/a	110	32.7	3.4	8870	5880	0.2	81	9.0	1.4	2/201 (1%)	(1.22)	Yes (2)	71% (200)	67.0 (1)	Localized VI COPC
Methyl tert-Butyl Ether	1/88 (1%)	No	20.4	1.7	12	227	12.4	0.5	6.8	3.5	3.3	1/201 (<1%)	2.4	Yes (1,2,3)	23% (87)	36 (2)	Localized VI COPC

Table 4 - Summary of Information Supporting Lines of Evidence



COPC ¹	Data for Primary Lines of Evidence											Additional Information					Conclusion
	Detected in GW?		Site-Wide Comparison of Soil Gas Concentrations and Ambient Air Concentrations					Co-located, Co-collected SG, AA and GW Data ³ Soil Gas to Ambient Air Ratios				Soil Gas Frequency of Exceedance	Magnitude of Exceedance	Typical VI COPC in the United States?	Typically Detected in AA in the United States? ⁹		
	Frequency of Detection in GW	SG Co-located with or Located Proximal to GW?	Average SG Concentration (ug/m ³) ²	Average AA Concentration (ug/m ³) ²	Average SG/Average AA Ratio ³	Maximum SG Concentration (ug/m ³) ²	Maximum AA Concentration (ug/m ³) ²	Minimum	Maximum	Mean	Median	Number of Locations with Soil Gas Concentrations Exceeding the RSL ^{4,5}	Maximum SG CEF (NCEF)	USEPA Database and Other Categories ⁶	Frequency of Detection in AA % (N Samples)	Maximum AA Concentration (ug/m ³) ² (source) ⁷	
Tetrachloroethene	64/88 (73%)	Yes	96.3	4.1	23	3270	56.7	11	153	61	18	131/201 (65%)	798	Yes (1,2)	29% (200)	20 (1)	Global VI COPC
Trichloroethene	33/88 (38%)	Yes	10.7	0.3	39	200	1.3	0.3	58	5.3	1.0	5/201 (2.5%)	16.7	Yes (1,2)	12% (200)	1.3 (1)	Global VI COPC ⁹
Vinyl chloride ⁸	0/88 (0%)	No	4.7	0.2	22.5	4.7	0.4	ND	ND	ND	ND	1/201 (<1%)	2.9	Yes (1,2)	2% (200)	4.8 (1)	Global VI COPC ⁹

Notes

-- = No value

AA = Ambient air

CEF = Cancer exceedance factor. NCEF = Noncancer exceedance factor

GW = Groundwater

n/a = Not analyzed

ND = Not detected

N Samples = Number of samples

RSL = Regional screening level

SG = Soil gas

ug/m³ = Microgram per cubic meter

USEPA = United States Environmental Protection Agency

¹Chemicals with concentrations that exceed United States Environmental Protection Agency (USEPA) RSL in at least one soil gas sample.

² Average ambient air and soil gas concentrations were calculated using detected data only. Average SG to Average AA Ratio is the site-wide average detected soil gas concentration over the site-wide average detected ambient air concentration

³ Soil gas to ambient air concentration ratios for co-located, co-collected data and co-located groundwater data are presented in Table C-1.

⁴ Number of exceedances is per location. In some locations more than one soil gas sample was collected at a location.

⁵ Frequency of Exceedance is the number of locations with concentrations that exceed the RSL/Total number of locations.

⁶ Typical VI COPCs are:

(1) tracked on USEPA's VI Database (USEPA, 2008).

(2) Target chemicals short-listed in New Jersey Department of Environmental Protection's regulatory VI Guidance (NJDEP, 2007).

(3) Petroleum-related chemicals commonly associated with petroleum-release sites (API, 2005).

(4) Other chemicals included in USEPA's VI Guidance but not a common VI COPC.

⁷ Background outdoor air values obtained from several sources:

(1) Table C1: New York State Department of Health (NYSDOH) 2003: Study of volatile organic chemicals in outdoor air of fuel oil heated homes (NYSDOH, 2006)

(2) Table C2: EPA 2001: building assessment and survey evaluation (BASE) database (Outdoor Air), SUMMA canister method (NYSDOH, 2006);

(3) U.S. EPA Air Toxics Database: San Diego County, California (211 Records) 2. Los Angeles County, California (458 Records) 3. King County (Seattle), Washington (137 Records) 4. Harris County (Houston), Texas (1129 Records) 5. Ellis County (Midlothian), Texas (234 Records) 7. Washington DC (150 Records). http://www.epa.gov/aqspub1/annual_summary.html (USEPA, 2007).

⁸ COPC was detected in only one sample. No average calculated.

⁹ Trichloroethene and vinyl chloride did not meet the criteria for Global VI COPC but are classified thus because they are by-products of tetrachloroethene which is a Global VI COPC

Table 5 – Classification Decision Criteria



Chemical Name		
Chemical Information:		
PRIMARY LINES OF EVIDENCE	DATA INDICATE A SUBSURFACE VI SOURCE (YES)	DATA INDICATE A NON-VI SOURCE (YES)
1. COPC Detected in Groundwater/Spatial Distribution of Groundwater is Consistent with Soil Gas?	groundwater = detected and groundwater/soil gas = spatially associated	groundwater = not detected or groundwater/soil gas ≠ spatially associated
2. Soil Gas & Ambient Air Concentration Frequency Distribution Patterns.	soil gas/ambient air distributions ≠ similar and/or soil gas frequency > ambient air frequency (in upper tail of the distribution)	soil gas/ambient air distributions = similar and/or ambient air frequency > soil gas frequency (in upper tail of the distribution)
3. Site-Wide Average Soil Gas to Average Ambient Air Ratio Greater than 1?	average soil gas to ambient air ratio > 1	average soil gas to ambient air ratio ≤ 1
4. Mean or Median Soil Gas to Ambient Air Ratio for Locations with Co-located, Co-collected Soil Gas and Ambient Air Data Greater than 1?	mean ratio or median ratio > 1	mean ratio and median ratio ≤ 1
Scoring:	Score is the total number of “yes” from each of the Primary Lines of Evidence listed above.	Score is the total number of “yes” from each of the Primary Lines of Evidence listed above.
Moving On:	If the score for the “Data Indicate a Subsurface VI Source” column is ≥ the score for the “Data Indicate a Non-VI Source” column, then the chemical is determined to be a VI COPC.	
SECONDARY LINES OF EVIDENCE (FOR COPCS ASSOCIATED WITH A VI SOURCE)	DATA INDICATE A GLOBAL VI COPC	DATA INDICATE A LOCALIZED VI COPC
1. Geographical Distribution	exceedances = widely distributed clusters	exceedances = localized clusters or anomalies
2. Frequency that Soil Gas Concentrations Exceeded the RSL	Frequency > 25%	Frequency ≤ 25%
Comments/Discussion:	Additional information described here	
Classification	Global VI COPC, Localized VI COPC, or Non-VI COPC	

Table 6 - Evaluation of the Protectiveness of Groundwater Reporting Limits Relative to the Vapor Intrusion Pathway

Cas Number	COPC ¹	Minimum Soil Gas RSL (ug/m ³) ²	Dimensionless Henry's Law Constant	Shallow Groundwater Concentration Predicted Based on the Minimum Soil Gas RSL (ug/L) ³	Minimum Groundwater Reporting Limit (ug/L)	Maximum Groundwater Reporting Limit (ug/L)	Ratio of Minimum Groundwater Reporting Limit to Predicted Groundwater Concentration	Ratio of Maximum Groundwater Reporting Limit to Predicted Groundwater Concentration
630-20-6	1,1,1,2-Tetrachloroethane	3.30	0.099	3.33	0.1	0.11	0.03	0.03
79-34-5	1,1,1,2-tetrachloroethane	0.42	0.014	2.98	0.05	0.5	0.02	0.17
96-12-8	1,2-Dibromo-3-chloropropane	2.1	0.006	34.15	0.2	0.25	0.01	0.01
106-93-4	1,2-Dibromoethane	0.04	0.027	0.15	0.09	0.1	0.59	0.65
107-06-2	1,2-Dichloroethane	0.94	0.040	2.35	0.08	0.1	0.03	0.04
78-87-5	1,2-Dichloropropane	2.40	0.115	2.10	0.1	0.15	0.05	0.07
106-99-0	1,3-Butadiene	0.81	3.010	0.03	n/a	n/a	--	--
106-46-7	1,4-Dichlorobenzene	2.20	0.098	2.24	0.07	0.1	0.03	0.04
107-02-8	Acrolein	0.21	0.005	4.21	0.4	1.3	0.10	0.31
107-13-1	Acrylonitrile	0.36	0.004	8.55	n/a	n/a	--	--
71-43-2	Benzene	3.10	0.227	1.37	0.05	0.11	0.04	0.08
75-25-2	Bromoform	22	0.024	91.3	0.06	2.63	0.00	0.03
56-23-5	Carbon tetrachloride	1.60	1.243	0.13	0.08	0.08	0.62	0.62
67-66-3	Chloroform	1.10	0.150	0.73	0.09	0.33	0.12	0.45
74-87-3	Chloromethane	14.00	0.361	3.88	0.2	0.21	0.05	0.05
100-41-4	Ethylbenzene	9.70	0.322	3.01	0.05	0.05	0.02	0.02
87-68-3	Hexachlorobutadiene	1.10	0.422	0.26	0.18	0.232	0.69	0.89
110-54-3	Hexane	7300	68.16	10.7	n/a	n/a	--	--
1634-04-4	Methyl tert-butyl ether	94	0.024	391	0.1	0.11	0.00	0.00
127-18-4	Tetrachloroethene	4.10	0.753	0.54	0.07	0.1	0.13	0.18
79-01-6	Trichloroethene	12	0.421	2.85	0.13	0.13	0.05	0.05
75-01-4	Vinyl chloride ⁴	1.60	1.111	0.14	0.1	0.15	0.69	1.04

Notes

-- No value

n/a = Not analyzed for in groundwater

COPC - Chemical of potential concern

RSL = United States Environmental Protection Agency (USEPA) Regional Screening Level. The value presented is the minimum of the cancer and noncancer RSLs.

Bolded values identify groundwater reporting limits that are not protective of the Vapor Intrusion (VI) pathway based on the migration of COPCs in groundwater to soil gas to indoor air, assuming Henry's law and an attenuation factor of 0.01.

¹ Chemicals with concentrations that exceed USEPA RSL in at least one soil gas sample.

² The RSL for soil gas was 10 times the RSL for ambient air to account for the attenuation that occurs as soil gas migrates into indoor air.

³ Calculated using the Minimum USEPA RSL for soil gas and Dimensionless Henry's Law Constant. An attenuation factor of 0.01 was used to account for the attenuation that occurs as soil gas migrates from the water table interface to sub-slab soil gas. This attenuation factor is consistent with the empirical attenuation factor for tetrachloroethene (PCE) at Location 0488 where PCE was detected in groundwater at 0.533 ug/L and in soil gas at 3.93 ug/m³. Using 0.533 ug/L * Dimensionless H-Law (0.753) * 1,000 (L/m³) = 401 ug/m³. The attenuation factor for PCE in shallow soil gas and PCE in soil gas at the water table interface = 3.93 ug/m³ / 401 ug/m³ = 0.01.

**Table 7 - Summary of COPC Classification and
Number of Locations Included in VI Risk Calculations**

COPC ¹	VI Classification	Number of Samples	Number of Detections	Maximum Detected Soil Gas Concentration (ug/m ³)	Minimum Soil Gas RSL (ug/m ³)	Number of Locations with Soil Gas Concentrations Exceeding the Minimum Soil Gas RSL	95th Percentile Ambient Air Screening Value (ug/m ³) ¹	Number of Locations COPC is Included in VI Risk Calculations ¹	Number of Locations with CEF > 10 and/or NCEF > 1
1,1,1,2-Tetrachloroethane	Localized VI COPC	204	5	25.2	3.3	3/201	0.18	5	0
1,1,2,2-Tetrachloroethane	Localized VI COPC	204	10	0.903	0.42	3/201	0.34	5	0
1,2-Dibromo-3-chloropropane	Non-VI COPC	--	--	--	--	--	--	--	--
1,2-Dibromoethane	Non-VI COPC	--	--	--	--	--	--	--	--
1,2-Dichloroethane	Non-VI COPC	--	--	--	--	--	--	--	--
1,2-Dichloropropane	Localized VI COPC	204	101	26.5	2.4	34/201	11.5	8	1
1,3-Butadiene	Localized VI COPC	204	19	3.73	0.81	7/201	0.77	9	0
1,4-Dichlorobenzene	Localized VI COPC	204	55	31.8	2.2	2/201	0.870	11	1
Acrolein	Non-VI COPC	--	--	--	--	--	--	--	--
Acrylonitrile	Localized VI COPC	204	20	2.65	0.36	14/201	0.44	11	0
Benzene	Localized VI COPC	204	189	451	3.1	50/201	4.62	35	5
Bromoform	Localized VI COPC	240	3	145	22	1/201	0.11	3	0
Carbon tetrachloride	Localized VI COPC	204	95	52.8	1.6	3/201	0.91	4	1
Chloroform	Localized VI COPC	204	146	30800	1.1	73/201	0.63	95	18
Chloromethane	Non-VI COPC	--	--	--	--	--	--	--	--
Ethylbenzene	Localized VI COPC	204	181	145	9.7	41/201	2.5	82	2
Hexachlorobutadiene	Localized VI COPC	204	80	3.17	1.1	33/201	1.6	11	0
Hexane	Localized VI COPC	204	166	8870	7300	2/201	48.8	2	2
Methyl tert-Butyl Ether	Localized VI COPC	204	15	227	94	1/201	3	6	0
Tetrachloroethene	Global VI COPC	204	180	3270	4.1	131/201	7.4	177	37
Trichloroethene	Global VI COPC	204	45	200	12	5/201	0.41	43	1
Vinyl chloride	Global VI COPC	204	1	4.70	1.6	1/201	0.07	1	0

Notes

-- COPCs classified as Non-VI COPCs are not included in VI risk calculations but are included in ambient air risk calculations.

COPC - Chemical of potential concern

CEF = cancer exceedance factor (Detected value/Cancer Soil Gas RSL)

NCEF = Noncancer exceedance factor (Detected value/Noncancer Soil Gas RSL)

VI = Vapor Intrusion

Minimum Soil Gas RSL= United States Environmental Protection Agency (USEPA) Regional Screening Level. The RSL for soil gas was 10 times the RSL for ambient air to account for the attenuation that occurs as soil gas migrates into indoor air. The minimum of the cancer or noncancer RSL is provided.

¹ 95th Percentile Ambient Air Screening Value - This is the 95th percentile of the site-wide ambient air concentrations (detected and non-detected data) collected over a period of 12+ months. Only soil gas concentrations for localized VI COPCs exceeding this threshold are included in the CEF/NCEF calculations for VI.

**Table 8 – CEFs and NCEFs Calculated from
Soil Gas Concentrations for Global and Localized VI COPCs**

VI COPC Classification	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Global	Global	Global	Localized				
Soil Gas RSL (ug/m3)	3.30	0.42	2.4	0.81	2.2	0.36	3.1	22	1.6	1.1	9.7	1.1	94	4.1	12	1.6	7300				
95th Percentile Ambient Air Screening Value (ug/m ³) ¹	0.18	0.34	11.54	0.77	0.87	0.45	4.63	0.11	0.91	0.63	2.52	0.55	3.03	7.4	0.41	0.07	48.8				
Study Area	Sample Location	1,1,1,2-Tetrachloroethane (630-20-6) CEF	1,1,2,2-Tetrachloroethane (79-34-5) CEF	1,2-Dichloropropane (78-87-5) CEF	1,3-Butadiene (106-99-0) CEF	1,4-Dichlorobenzene (106-46-7) CEF	Acrylonitrile (107-13-1) CEF	Benzene (71-43-2) CEF	Bromoform (75-25-2) CEF	Carbon Tetrachloride (56-23-5) CEF	Chloroform (67-66-3) CEF	Ethylbenzene (100-41-4) CEF	Hexachlorobutadiene (87-68-3) CEF	Methyl tert-Butyl Ether (1634-04-4) CEF	Tetrachloroethene (127-18-4) CEF	Trichloroethene (79-01-6) CEF	Vinyl Chloride (75-01-4) CEF	Hexane (110-54-3) NCEF	Total CEF	Total NCEF	Co-located CEF/NCEF Unacceptable Locations
00	1194														49.27	0.014			49.28		TRUE
00	2105										0.44	1.44							1.88		FALSE
01	0010										1.01				2.18				3.19		FALSE
01	0021					0.51													0.51		FALSE
01	0024																				FALSE
01	0082																				FALSE
01	0085					0.57					1.16				1.13				2.86		FALSE
01	0167														2.98				2.98		FALSE
01	0171		0.97										1.91		0.64	0.027			3.55		FALSE
01	0180										0.96				15.76	2.02			18.74		TRUE
01	0185										29.73				3.76	0.92			34.41		TRUE
01	0588										0.68				0.86				1.54		FALSE
01	0589										1.32								1.32		FALSE
01	0598							6.59			31.18				26.83	16.67			81.27		TRUE
01	1227														0.74				0.74		FALSE
01	1312			11.04		0.55					296.36	0.47			4.44				312.86		TRUE
01	1443														6.34				6.34		FALSE
01	1450	0.81									1.47				0.43				2.71		FALSE
01	1456							1.75			0.65				0.73				3.13		FALSE
01	1459										0.85				1.11				1.96		FALSE
01	1529										32.36	4.77			0.90				38.03		TRUE
01	1811										0.74				1.06				1.80		FALSE
01	1839											0.38			1.52				1.90		FALSE
01	1867					14.45		2.73				0.71			2.36				20.25		TRUE
01	1928					0.47					2.86				1.35				4.68		FALSE
01	2090										10.82	0.52							11.34		TRUE
01	2103										1.44								1.44		FALSE
01	2139													2.41	0.58				2.99		FALSE
01	2140										39.18	2.76			4.76				46.70		TRUE
02	1334							1.79				0.27			3.68			0.010	5.74	0.01	FALSE
02	1384														1.52				1.52		FALSE
02	1389										1.12	0.50			2.10				3.72		FALSE
02	1785	6.82													0.38				7.20		FALSE
02	1788										0.78				1.74				2.52		FALSE
02	1794								0.63	23.09	0.38				2.44	0.14			26.68		TRUE
02	1817										1.26				3.73				4.99		FALSE
02	2110																				FALSE
03	0479										6.23				1.19				7.42		FALSE
03	1989										1.7	2.94	1.44		4.93				11.01		TRUE
03	2044							6.06				0.86			1.83				8.75		FALSE
03	2045							2.04				0.33			0.79				3.16		FALSE
03	2079							4.90				0.38			0.73			0.016	6.01	0.02	FALSE
03	2106										0.64				1.14				1.78		FALSE

**Table 8 – CEFs and NCEFs Calculated from
Soil Gas Concentrations for Global and Localized VI COPCs**

VI COPC Classification		Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Global	Global	Global	Localized			
Soil Gas RSL (ug/m3)		3.30	0.42	2.4	0.81	2.2	0.36	3.1	22	1.6	1.1	9.7	1.1	94	4.1	12	1.6	7300			
95th Percentile Ambient Air Screening Value (ug/m ³) ¹		0.18	0.34	11.54	0.77	0.87	0.45	4.63	0.11	0.91	0.63	2.52	0.55	3.03	7.4	0.41	0.07	48.8			
Study Area	Sample Location	1,1,1,2-Tetrachloroethane (630-20-6) CEF	1,1,2,2-Tetrachloroethane (79-34-5) CEF	1,2-Dichloropropane (78-87-5) CEF	1,3-Butadiene (106-99-0) CEF	1,4-Dichlorobenzene (106-46-7) CEF	Acrylonitrile (107-13-1) CEF	Benzene (71-43-2) CEF	Bromoform (75-25-2) CEF	Carbon Tetrachloride (56-23-5) CEF	Chloroform (67-66-3) CEF	Ethylbenzene (100-41-4) CEF	Hexachlorobutadiene (87-68-3) CEF	Methyl tert-Butyl Ether (1634-04-4) CEF	Tetrachloroethene (127-18-4) CEF	Trichloroethene (79-01-6) CEF	Vinyl Chloride (75-01-4) CEF	Hexane (110-54-3) NCEF	Total CEF	Total NCEF	Co-located CEF/NCEF Unacceptable Locations
	03 2108			4.92											0.49				5.41		FALSE
	03 2111										1.15								1.15		FALSE
	03 2112						1.94	2.96			1.67	0.85		0.16	38.29	0.36			46.23		TRUE
	04 0114											0.30			4.27				4.57		FALSE
	04 0771							1.70							3.68				5.38		FALSE
	04 1562							111.29				5.88						1.050	117.17	1.05	TRUE
	04 1569														1.33				1.33		FALSE
	04 1570																				FALSE
	04 1872														0.92				0.92		FALSE
	04 2060														1.26				1.26		FALSE
	04 2071														2.30				2.30		FALSE
	04 2073														1.04				1.04		FALSE
	04 2093										0.58		1.48		12.90				14.96		TRUE
	04 2152										2.23	2.40			1.76				6.39		FALSE
	05 0564										1.09				1.01	0.017			2.12		FALSE
	05 0574																				FALSE
	05 0882														0.38				0.38		FALSE
	05 0894										2.05								2.05		FALSE
	05 0917										2.23				1.80				4.03		FALSE
	05 0923										13.55	0.50			0.38	0.024			14.45		TRUE
	05 0949											8.63			19.93				28.56		TRUE
	05 0975										42.55				0.76				43.31		TRUE
	05 1020							2.36			1.04	0.36							3.76		FALSE
	05 1119	5.09									1.31				4.66	0.036			11.10		TRUE
	05 1120										1.23				0.87				2.10		FALSE
	05 1132														1.17				1.17		FALSE
	05 1148										2.74	2.07							4.81		FALSE
	05 1151										5.66		2.88		18.51				27.05		TRUE
	05 1157											0.37			10.15				10.52		TRUE
	05 1182																				FALSE
	05 1315										1.24								1.24		FALSE
	05 1694														1.19				1.19		FALSE
	05 1699														2.07				2.07		FALSE
	05 1751								0.02		2.93	0.72			41.46	0.026			45.16		TRUE
	05 1756										0.87				70.24				71.11		TRUE
	05 1766										0.74				0.75				1.49		FALSE
	05 1813																				FALSE
	05 1842											0.72			11.54				12.26		TRUE
	05 1843										274.55				0.67				275.22		TRUE
	05 1849										1.3				1.96				3.26		FALSE
	05 1945		0.97										1.81		0.41				3.19		FALSE
	05 1969														0.65	0.012			0.66		FALSE
	05 2016										2.1	0.55			0.45				3.10		FALSE

Table 8 – CEFs and NCEFs Calculated from Soil Gas Concentrations for Global and Localized VI COPCs

VI COPC Classification	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Global	Global	Global	Localized			
Soil Gas RSL (ug/m3)	3.30	0.42	2.4	0.81	2.2	0.36	3.1	22	1.6	1.1	9.7	1.1	94	4.1	12	1.6	7300				
95th Percentile Ambient Air Screening Value (ug/m ³) ¹	0.18	0.34	11.54	0.77	0.87	0.45	4.63	0.11	0.91	0.63	2.52	0.55	3.03	7.4	0.41	0.07	48.8				
Study Area	Sample Location	1,1,1,2-Tetrachloroethane (630-20-6) CEF	1,1,2,2-Tetrachloroethane (79-34-5) CEF	1,2-Dichloropropane (78-87-5) CEF	1,3-Butadiene (106-99-0) CEF	1,4-Dichlorobenzene (106-46-7) CEF	Acrylonitrile (107-13-1) CEF	Benzene (71-43-2) CEF	Bromoform (75-25-2) CEF	Carbon Tetrachloride (56-23-5) CEF	Chloroform (67-66-3) CEF	Ethylbenzene (100-41-4) CEF	Hexachlorobutadiene (87-68-3) CEF	Methyl tert-Butyl Ether (1634-04-4) CEF	Tetrachloroethene (127-18-4) CEF	Trichloroethene (79-01-6) CEF	Vinyl Chloride (75-01-4) CEF	Hexane (110-54-3) NCEF	Total CEF	Total NCEF	Co-located CEF/NCEF Unacceptable Locations
05	2021														0.39				0.39		FALSE
05	2049									0.85					0.82				1.67		FALSE
05	2051			7.67				1.54							3.59				12.80		TRUE
06	0198														1.91				1.91		FALSE
06	0199									1.12					43.66				44.78		TRUE
06	0548						7.35		33.00	28000	5.61			0.038	63.66	0.14	2.94		28112.74		TRUE
06	0789									1.25					1.85	0.75			3.85		FALSE
06	0801												1.43		0.65				2.08		FALSE
06	0805	0.07						0.017		1.54	0.31				402.44	0.048			404.43		TRUE
06	0813														1.26				1.26		FALSE
06	0814														97.56				97.56		TRUE
06	0815						1.69								3.29				4.98		FALSE
06	0822														0.43				0.43		FALSE
06	0827		1.09				1.99												3.08		FALSE
06	0831									4.04	0.32				787.80	4.76			796.92		TRUE
06	0837														233.90	0.036			233.94		TRUE
06	0838				1					2.02					1.10				4.12		FALSE
06	0848							3.55		2.25	1.07				17.05				23.92		TRUE
06	0851							2.06		1.99	0.84				1.88				6.77		FALSE
06	1201										0.56				3.15				3.71		FALSE
06	1363									12.09					2.83				14.92		TRUE
06	1364														0.86				0.86		FALSE
06	1659														8.12				8.12		FALSE
06	1704														3.29				3.29		FALSE
06	1850														0.86				0.86		FALSE
06	1866									0.63	1.82				1.06				3.51		FALSE
06	1942						4.17	7.23		0.88	1.42		0.045		1.79				15.54		TRUE
06	2017									2					0.64				2.64		FALSE
06	2055														1.19				1.19		FALSE
06	2080										0.32				4.05				4.37		FALSE
06	2081				4.6		2.89	18.23		0.64	2.39				4.22	0.03			33.00		TRUE
06	2082									14.73					6.73				21.46		TRUE
07	0104										1.51				1.11				2.62		FALSE
07	0459										0.97	0.44			0.79				2.20		FALSE
07	1370						2.26			7.44					0.80				10.50		TRUE
07	1633														4.85	0.093			4.94		FALSE
07	1635										0.42				4.39				4.81		FALSE
07	1749														0.73				0.73		FALSE
07	1810														1.59				1.59		FALSE
07	1911									3.67	0.27				0.48				4.42		FALSE
07	1923									4.74					0.81				5.55		FALSE
07	1926		1.02			0.41					4.87	2.13			1.10	0.027			9.56		FALSE
07	2023														0.60				0.60		FALSE

Table 8 – CEFs and NCEFs Calculated from Soil Gas Concentrations for Global and Localized VI COPCs

VI COPC Classification		Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Localized	Global	Global	Global	Localized			
Soil Gas RSL (ug/m3)		3.30	0.42	2.4	0.81	2.2	0.36	3.1	22	1.6	1.1	9.7	1.1	94	4.1	12	1.6	7300			
95th Percentile Ambient Air Screening Value (ug/m ³) ¹		0.18	0.34	11.54	0.77	0.87	0.45	4.63	0.11	0.91	0.63	2.52	0.55	3.03	7.4	0.41	0.07	48.8			
Study Area	Sample Location	1,1,1,2-Tetrachloroethane (630-20-6) CEF	1,1,2,2-Tetrachloroethane (79-34-5) CEF	1,2-Dichloropropane (78-87-5) CEF	1,3-Butadiene (106-99-0) CEF	1,4-Dichlorobenzene (106-46-7) CEF	Acrylonitrile (107-13-1) CEF	Benzene (71-43-2) CEF	Bromoform (75-25-2) CEF	Carbon Tetrachloride (56-23-5) CEF	Chloroform (67-66-3) CEF	Ethylbenzene (100-41-4) CEF	Hexachlorobutadiene (87-68-3) CEF	Methyl tert-Butyl Ether (1634-04-4) CEF	Tetrachloroethene (127-18-4) CEF	Trichloroethene (79-01-6) CEF	Vinyl Chloride (75-01-4) CEF	Hexane (110-54-3) NCEF	Total CEF	Total NCEF	Co-located CEF/NCEF Unacceptable Locations
08	0462			5.92				4.61			0.61	0.92							12.06		TRUE
08	0488					0.47		5.29			1.86	0.27	2.17		0.96	0.034			11.05		TRUE
08	0502														0.90				0.90		FALSE
08	0512											11.44			4.37				15.81		TRUE
08	0525							145.48				6.00			1.42			1.22	152.90	1.22	TRUE
08	1621														7.90	0.011			7.91		FALSE
08	1742										2.64				1.35				3.99		FALSE
08	1827									0.91					2.95				3.86		FALSE
08	1835					0.45				34.36	1.21				43.41	0.019			79.45		TRUE
08	1846														13.90				13.90		TRUE
08	1847			6.33	1.3						2.21				62.20				72.04		TRUE
08	1857														10.00	0.032			10.03		TRUE
08	1859									0.76									0.76		FALSE
08	1865					0.76									1.41				2.17		FALSE
08	1874									1.42					2.01				3.43		FALSE
08	1897					0.46		7.77		1.73	1.35				1.27	0.022			12.60		TRUE
08	1899				1.16		1.74	4.45			2.06				1.00				10.41		TRUE
08	1995									1.67					2.42	0.25			4.34		FALSE
08	2018			6.71						0.72					2.16				9.59		FALSE
08	2032																				FALSE
08	2074				1.6										6.56	0.03			8.19		FALSE
08	2075									3.65					22.88	0.59			27.12		TRUE
09	0551			7.63						0.95					1.04				9.62		FALSE
09	0552									5.05					0.65				5.70		FALSE
09	1771							4.48		1.23	0.52				8.32				14.55		TRUE
09	2003										0.76				1.50				2.26		FALSE
09	2040														1.35				1.35		FALSE
09	2078							2.17			1.28				1.78			0.025	5.23	0.03	FALSE
09	2102							1.66			1.25	3.13	1.52						7.56		FALSE
# of Locations COPC is Included in VI Risk Calculations		5	5	8	9	11	11	35	3	4	95	82	11	6	177	43	1	6		2	
# of Locations with CEF > 10 and/or NCEF > 1		0	0	1	0	1	0	5	0	1	18	2	0	0	37	1	0	2	73	2	73

Notes:

CEF = Cancer exceedance factor (Detected Soil Gas Concentration/Cancer RSL)

COPC = Chemical of potential concern

NCEF = Noncancer exceedance factor (Detected Soil Gas Concentration/Noncancer RSL).

RSL = United States Environmental Protection Agency (USEPA) Regional Screening Level

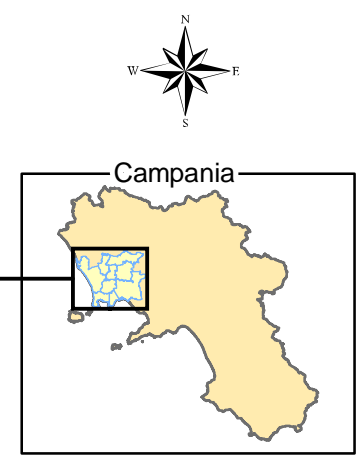
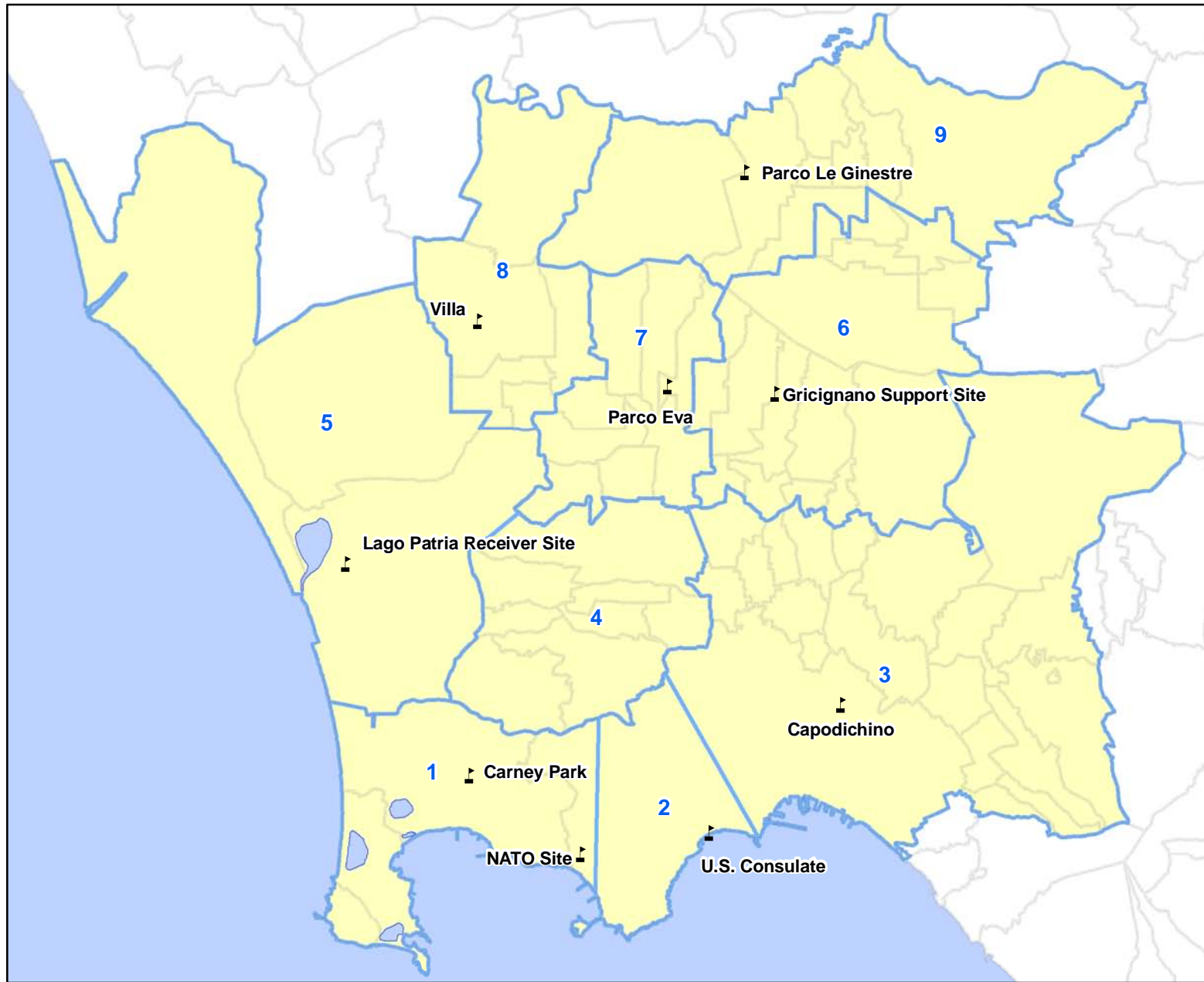
VI = Vapor Intrusion

The RSL for soil gas was 10 times the RSL for ambient air to account for the attenuation that occurs as soil gas migrates into indoor air.

¹ Only soil gas concentrations for Localized VI COPCs exceeding this threshold are included in the CEF/NCEF Calculations for Vapor Intrusion. Global VI COPCs are included in all VI Calculations regardless of soil gas concentration.

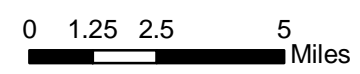
22.88 Bolded cells represent locations where the CEF was greater than 10 or NCEF for Hexane was greater than 1.

FIGURES



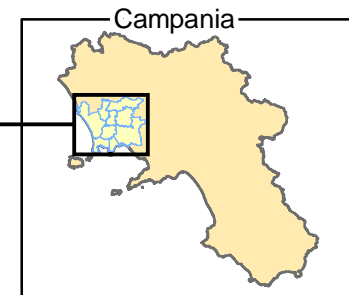
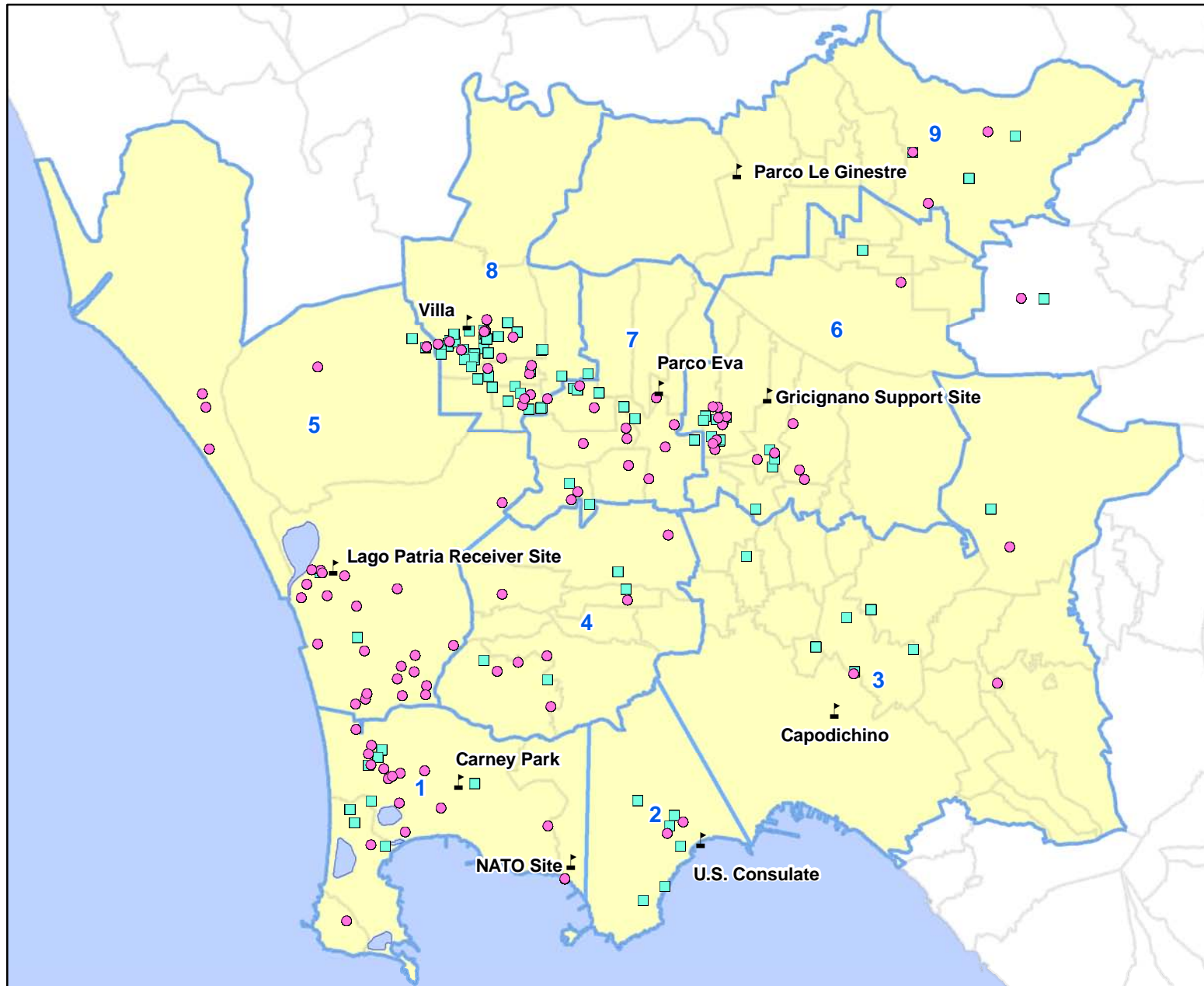
Legend

- Ambient Air Monitoring Station
- Study Area Boundary (1-9)
- Comune Borders (Campania)



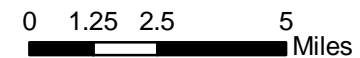
**Study Areas
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 1



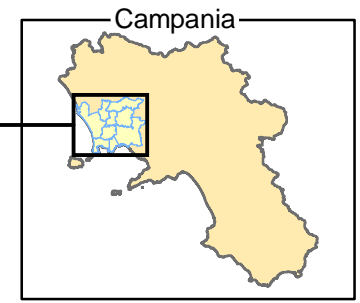
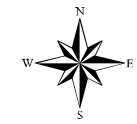
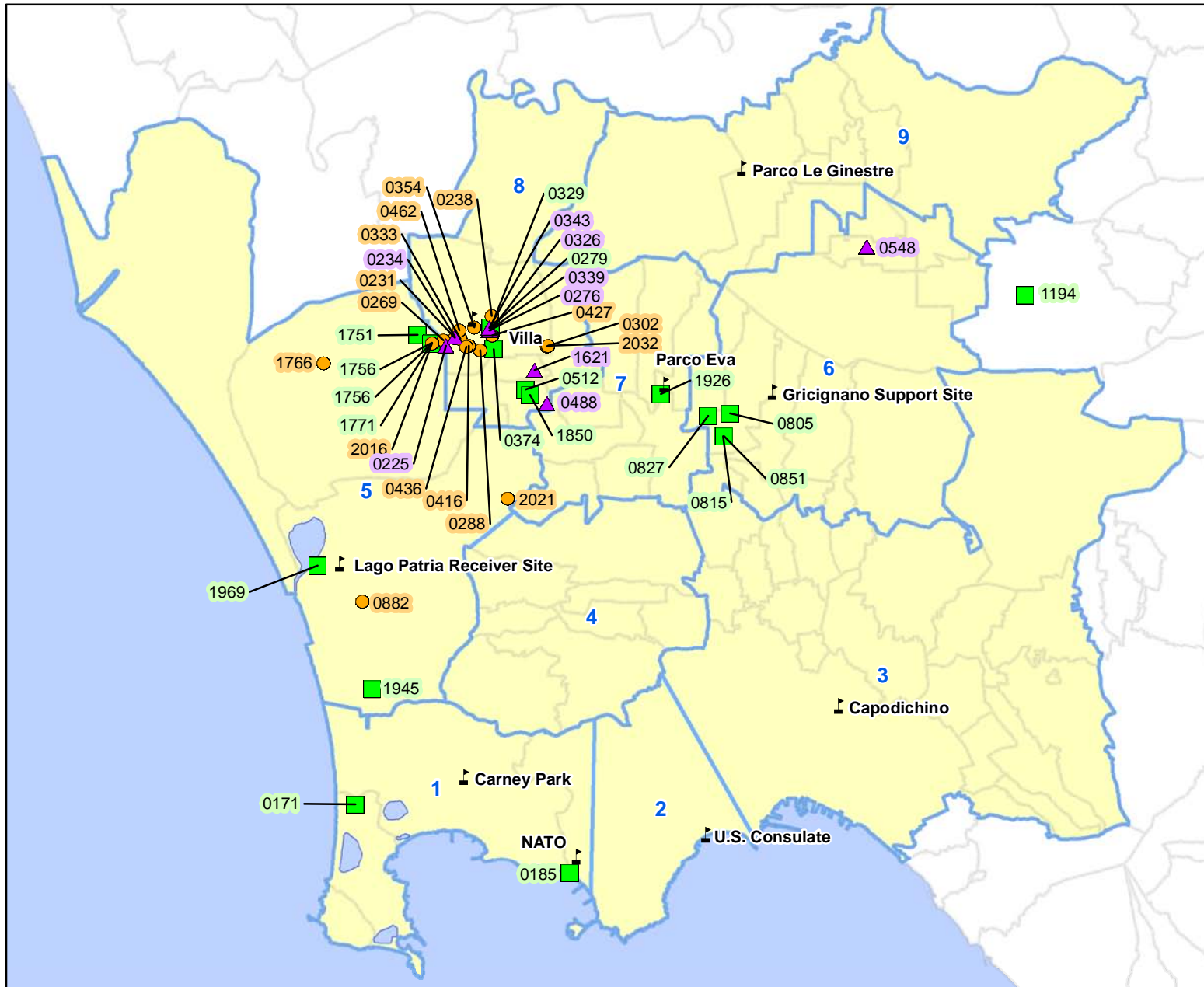
- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Soil Gas Sample Locations**
 - Near-slab
 - Sub-slab

Note:
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents active soil gas locations received through August 12, 2009 and co-located and co-collected active soil gas locations received through September 5, 2009.



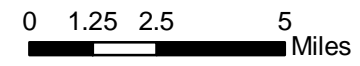
**Active Soil Gas Sample Locations
 Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 2



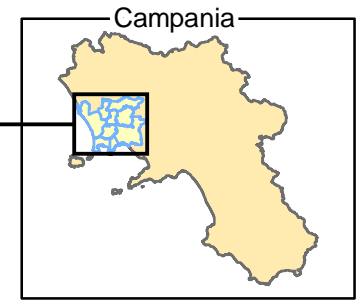
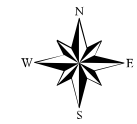
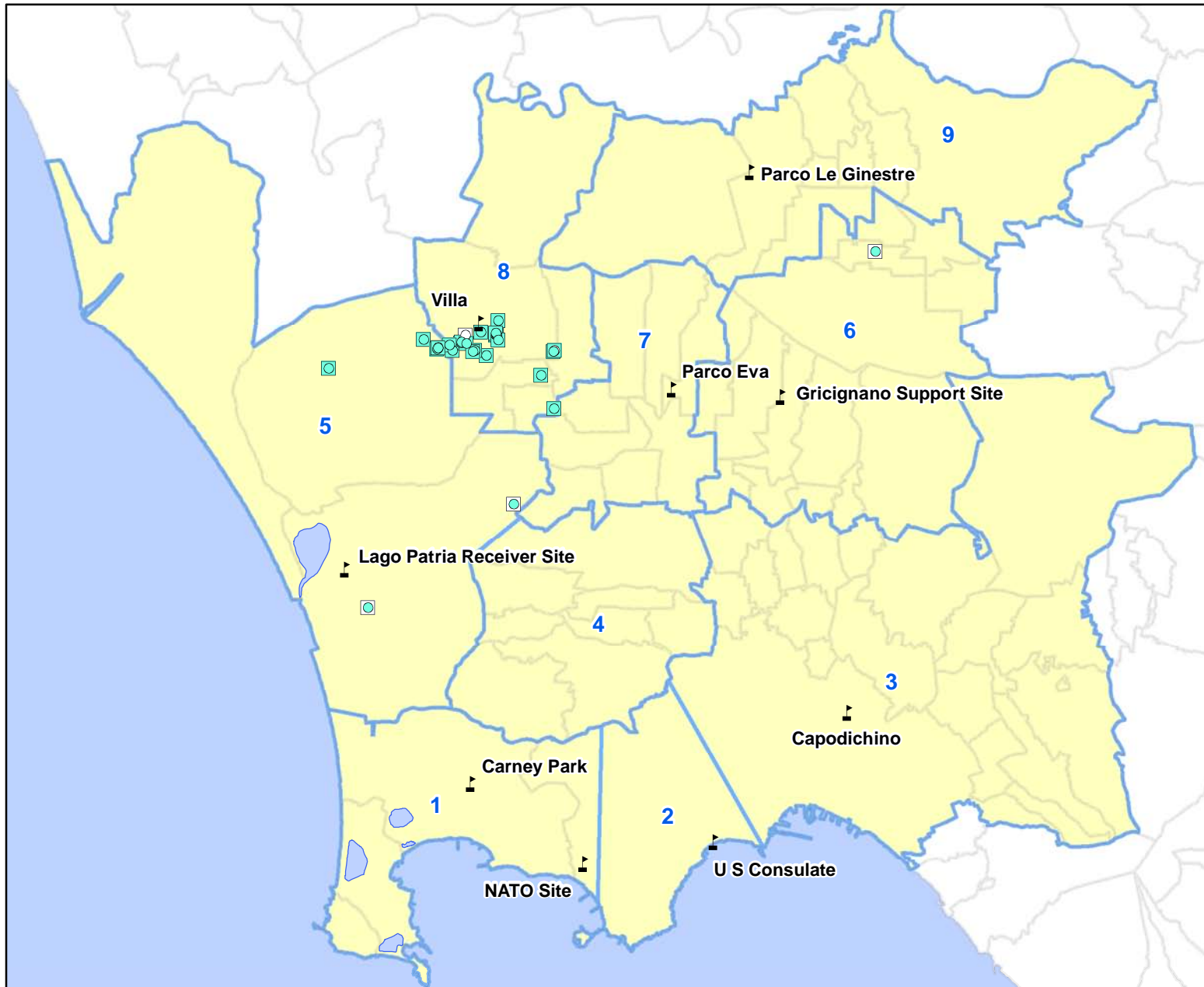
- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - ▲ Location with GW, ASG, and AA Samples
 - Location with GW and ASG Samples
 - Location with ASG and AA Samples

Note:
 -AA = Ambient Air
 -GW = Groundwater
 -ASG = Active Soil Gas
 -Figure presents co-located and co-collected sample locations received through September 5, 2009.



**Co-located and Co-collected Sample Locations
Naples, Italy**

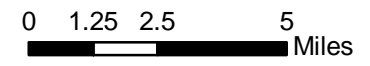
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 3



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater Results**
 - Detects
 - Non-detects
 - Active Soil Gas Results**
 - Detects
 - Non-detects

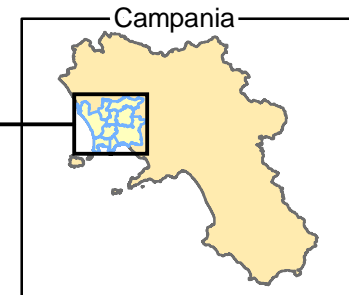
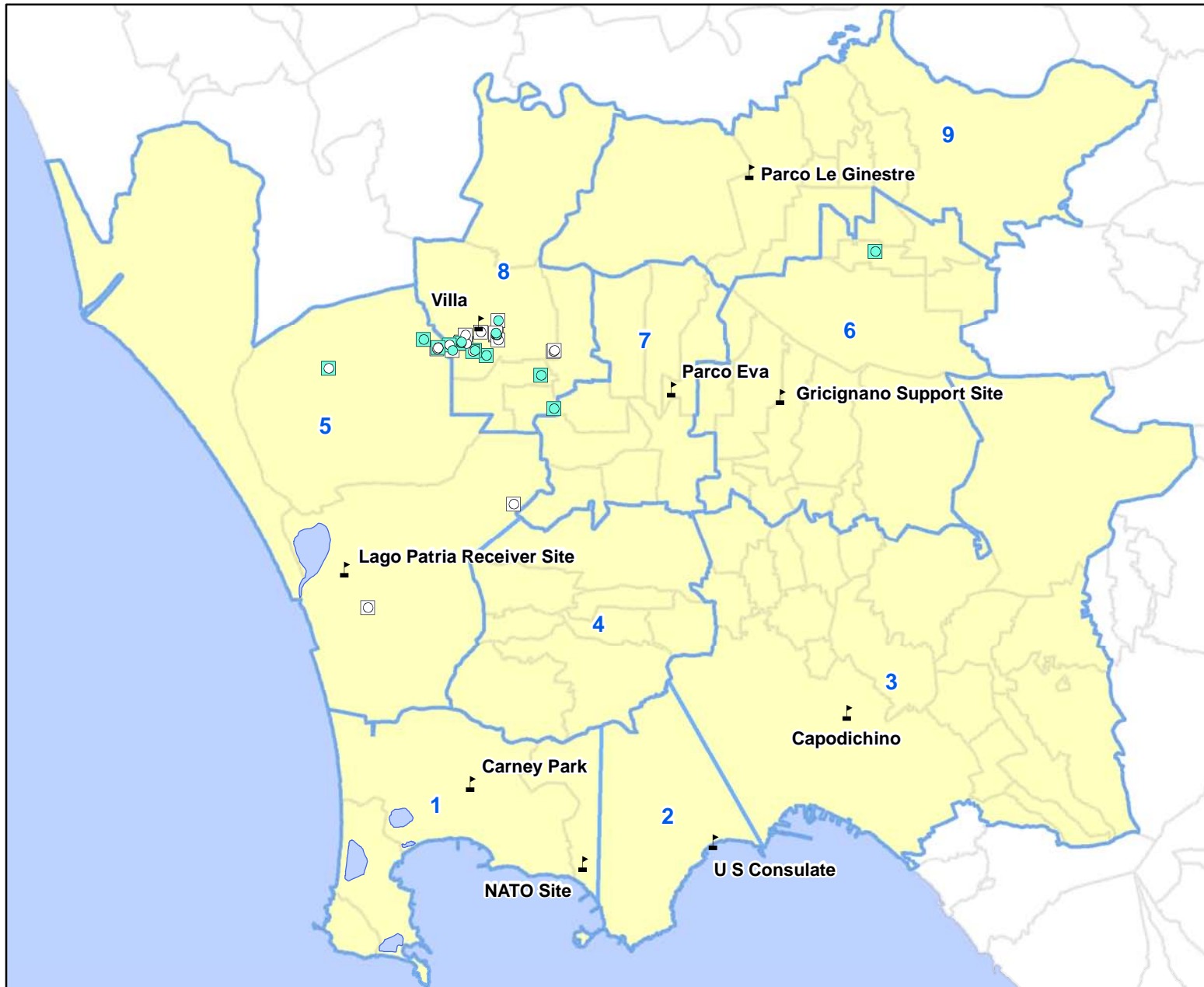
Note:

- Groundwater samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents results received through August 12, 2009 and co-located results received through September 5, 2009.



**Co-Located Active Soil Gas and Groundwater Results for Tetrachloroethene
Naples, Italy**

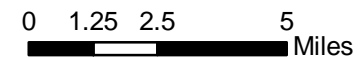
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 4a



Legend

- ▲ Ambient Air Monitoring Station
- ▭ Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Groundwater Results**
- Detections
- Non-detections
- Active Soil Gas Results**
- Detections
- Non-detections

Note:
 -Groundwater samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents results received through August 12, 2009 and co-located results received through September 5, 2009.



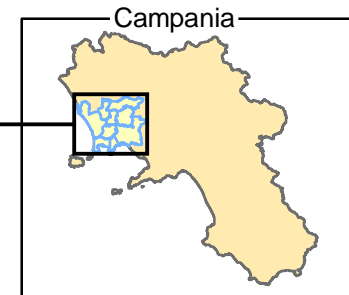
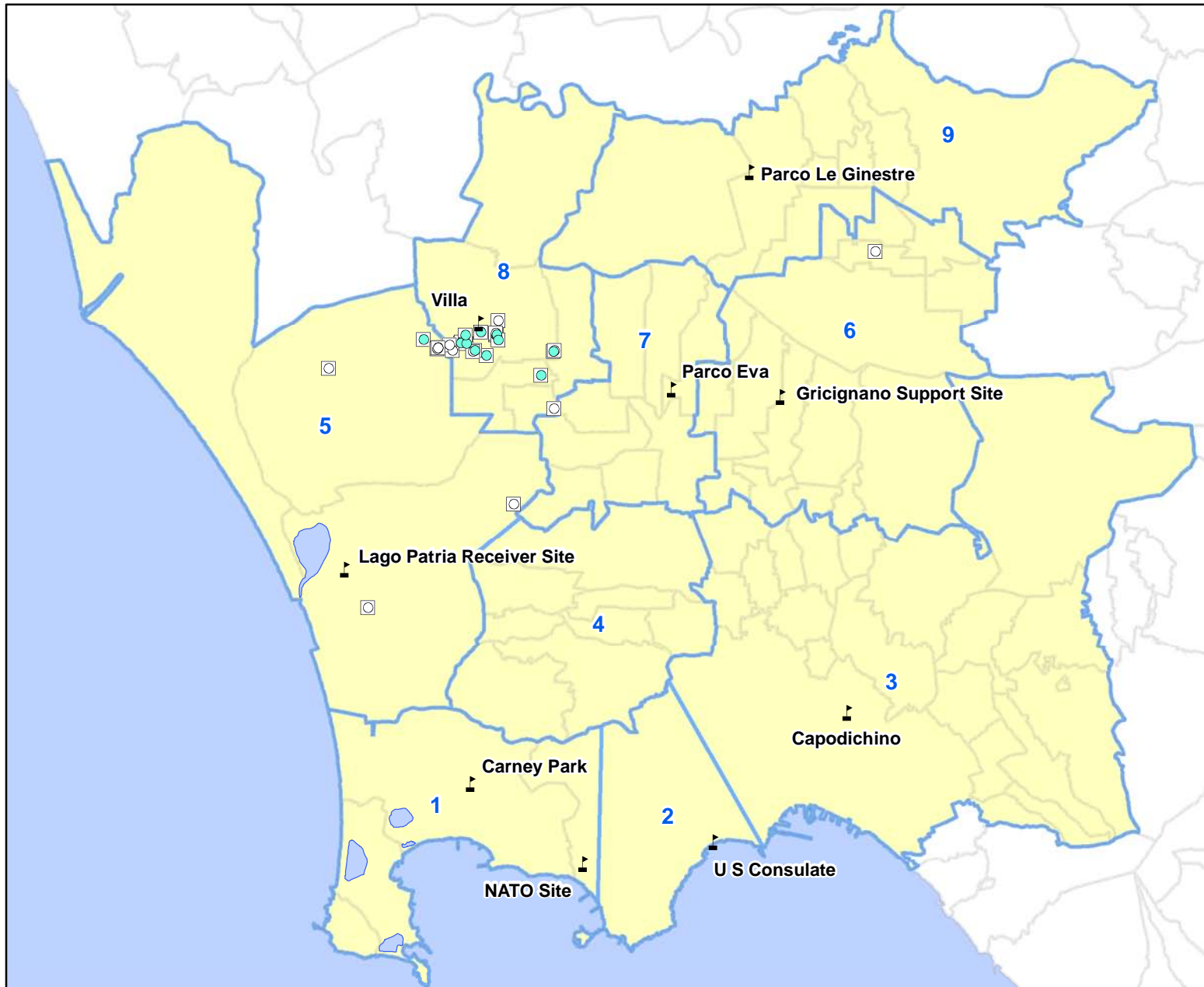
**Co-located Active Soil Gas and Groundwater Results for Trichloroethene
 Naples, Italy**

DWN:
KR

PROJECT:

DATE:
February 2010

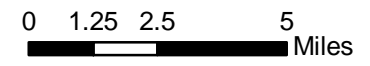
FIGURE NO.:
4b



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater Results**
 - Detections
 - Non-detections
 - Active Soil Gas Results**
 - Detections
 - Non-detections

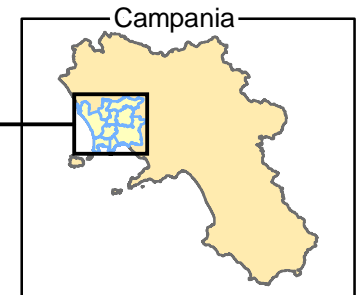
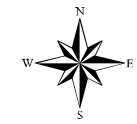
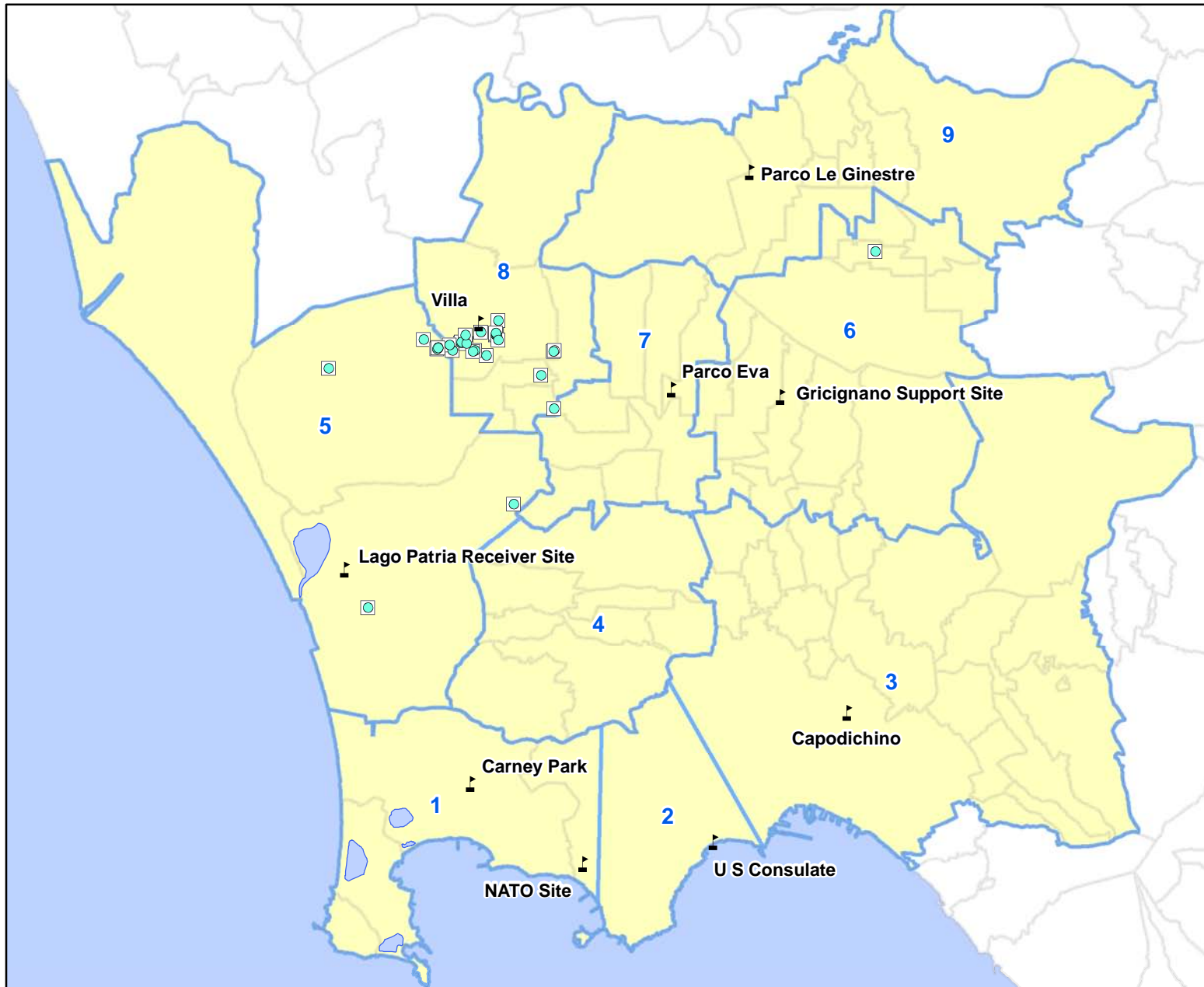
Note:

- Groundwater samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents results received through August 12, 2009 and co-located results received through September 5, 2009.



**Co-Located Active Soil Gas and Groundwater Results for 1,2-Dichloropropane
Naples, Italy**

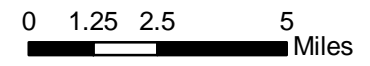
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 4c



Legend

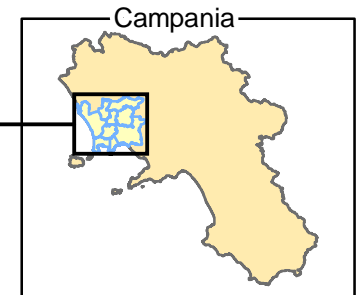
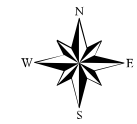
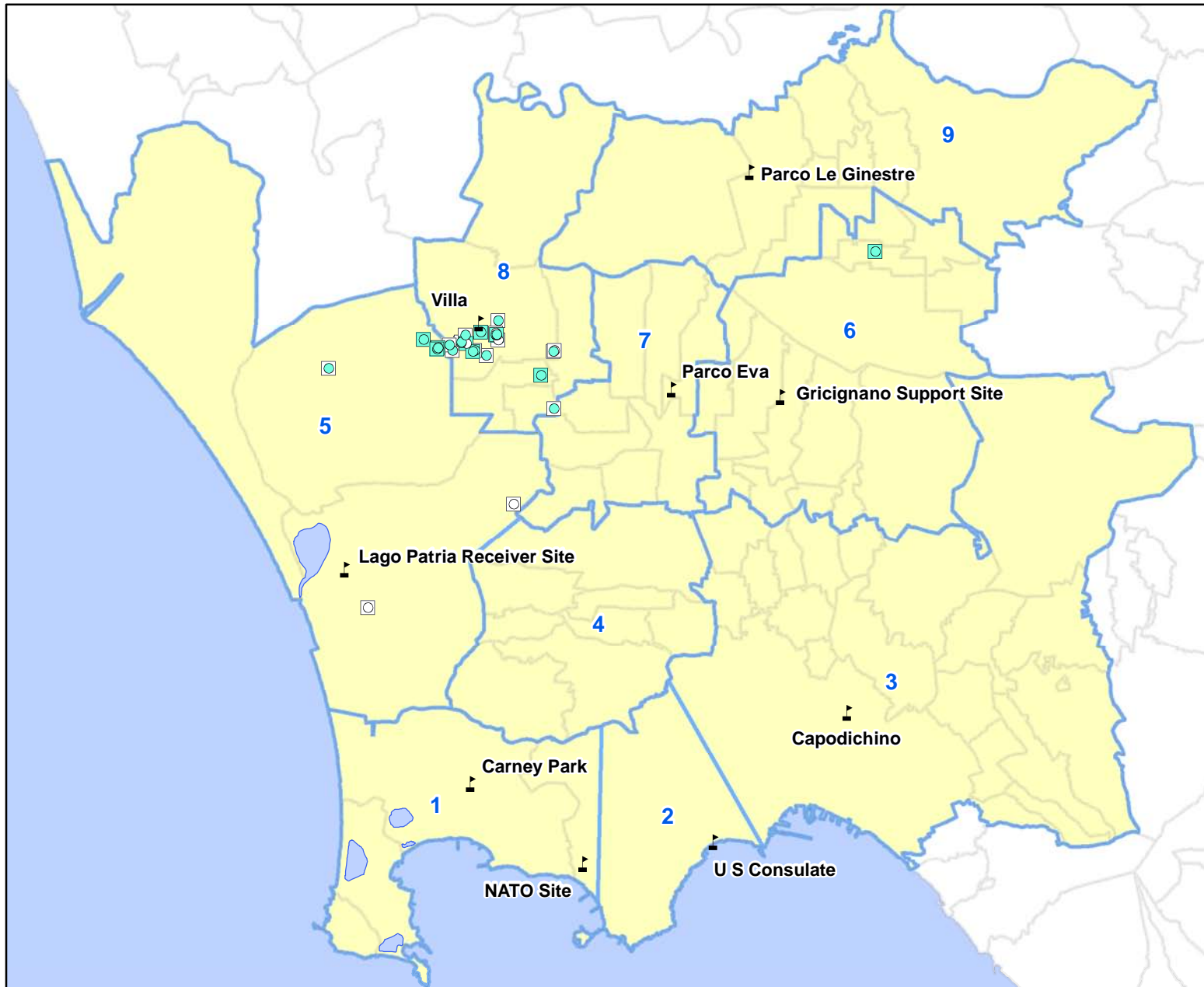
- ▲ Ambient Air Monitoring Station
- ▭ Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Groundwater Results**
- Detects
- Non-detects
- Active Soil Gas Results**
- Detects
- Non-detects

Note:
 -Groundwater samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents results received through August 12, 2009 and co-located results received through September 5, 2009.



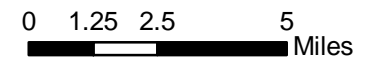
**Co-Located Active Soil Gas and Groundwater Results for Benzene
 Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 4d



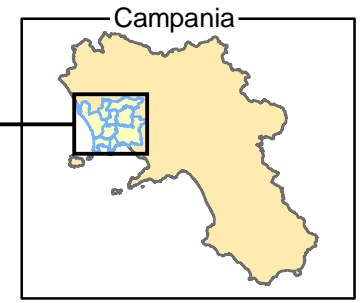
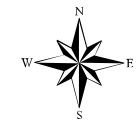
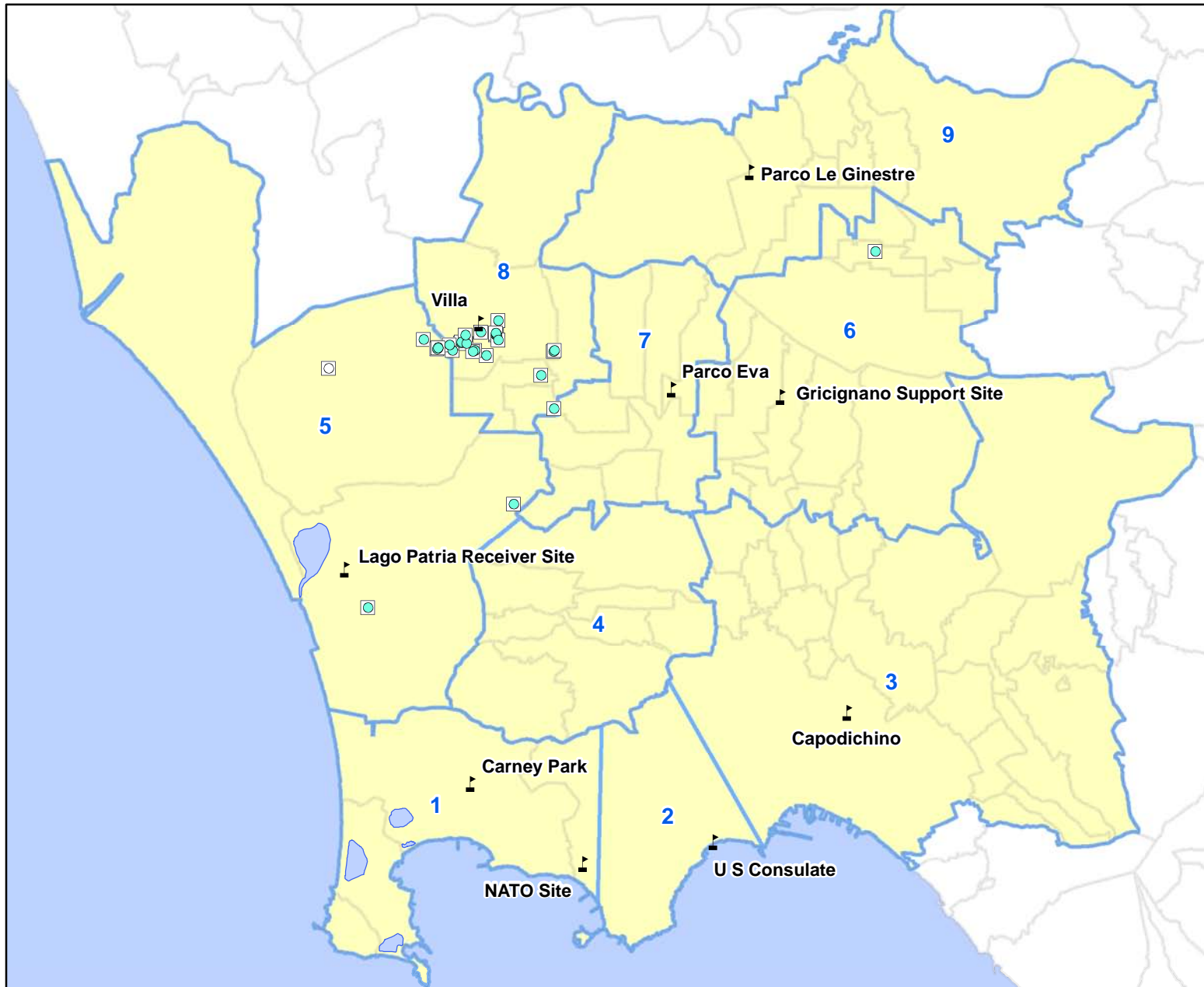
- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater Results**
 - Detects
 - Non-detects
 - Active Soil Gas Results**
 - Detects
 - Non-detects

Note:
 -Groundwater samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents results received through August 12, 2009 and co-located results received through September 5, 2009.



**Co-Located Active Soil Gas and Groundwater Results for Chloroform
 Naples, Italy**

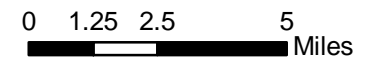
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 4e



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater Results**
 - Detects
 - Non-detects
 - Active Soil Gas Results**
 - Detects
 - Non-detects

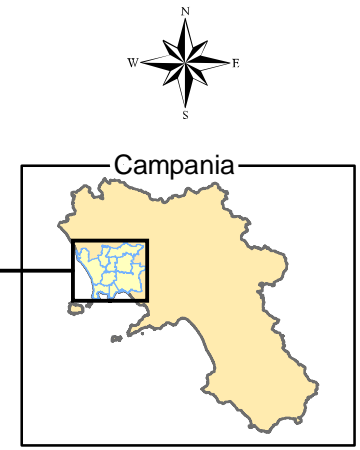
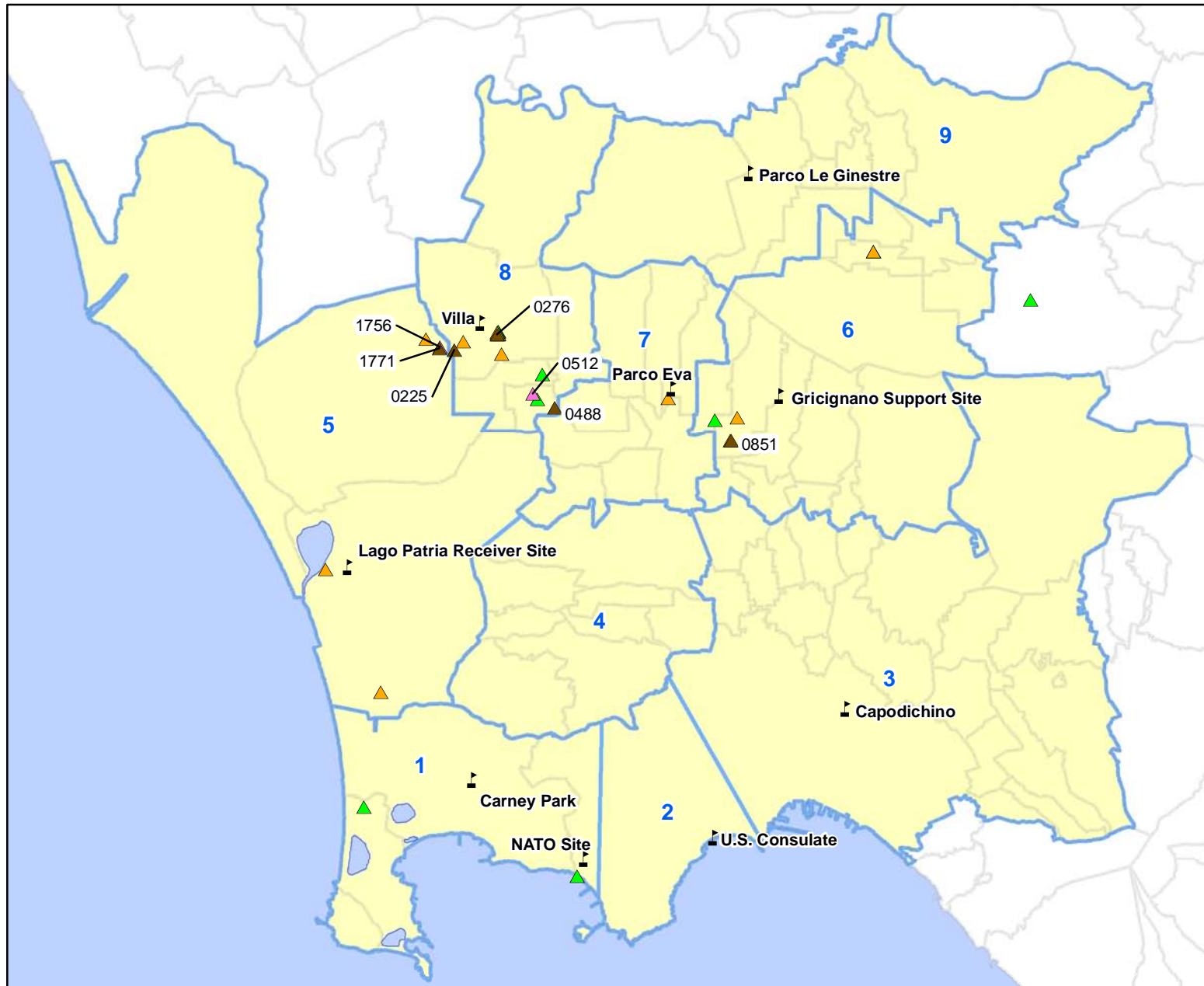
Note:

- Groundwater samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents results received through August 12, 2009 and co-located results received through September 5, 2009.



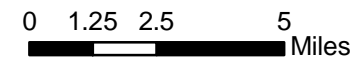
**Co-Located Active Soil Gas and Groundwater Results for Ethylbenzene
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 4f



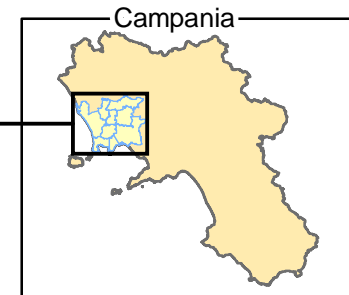
- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Co-collected ASG and AA Ratio**
 - ▲ ≤ 1
 - ▲ > 1 and ≤ 5
 - ▲ > 5 and ≤ 10
 - ▲ > 10

Note:
 -AA = Ambient Air
 -ASG = Active Soil Gas
 -Non-detected soil gas and ambient air values in ratios were replaced with the reporting limit.
 -Figure uses co-located and co-collected sample results received through September 5, 2009.



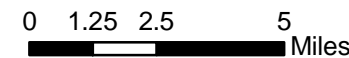
**Benzene Active Soil Gas to Ambient Air Ratios
 Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 5a



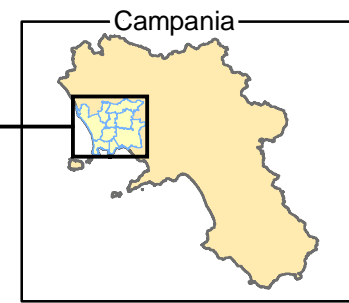
- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Co-collected ASG and AA Ratio**
 - ▲ ≤ 1
 - ▲ > 1 and ≤ 5
 - ▲ > 5 and ≤ 10
 - ▲ > 10

Note:
 -AA = Ambient Air
 -ASG = Active Soil Gas
 -Non-detected soil gas and ambient air values in ratios were replaced with the reporting limit.
 -Figure uses co-located and co-collected sample results received through September 5, 2009.



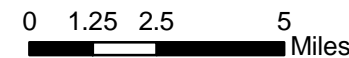
**Chloroform Active Soil Gas to Ambient Air Ratios
 Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 5b



- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Co-collected ASG and AA Ratio**
 - ▲ ≤ 1
 - ▲ > 1 and ≤ 5
 - ▲ > 5 and ≤ 10
 - ▲ > 10

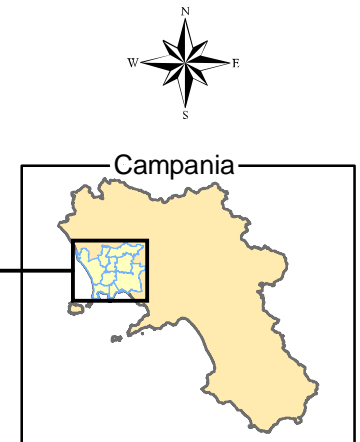
Note:
 -AA = Ambient Air
 -ASG = Active Soil Gas
 -Non-detected soil gas and ambient air values in ratios were replaced with the reporting limit.
 -Figure uses co-located and co-collected sample results received through September 5, 2009.



**Ethylbenzene Active Soil Gas to Ambient Air Ratios
 Naples, Italy**

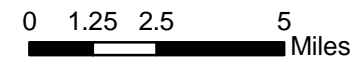
DWN:
 KR
 DATE:
 February 2010

PROJECT:
 FIGURE NO.:
 5c



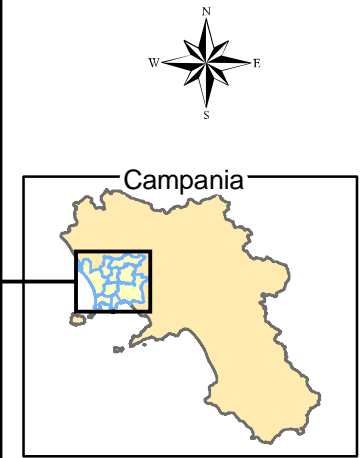
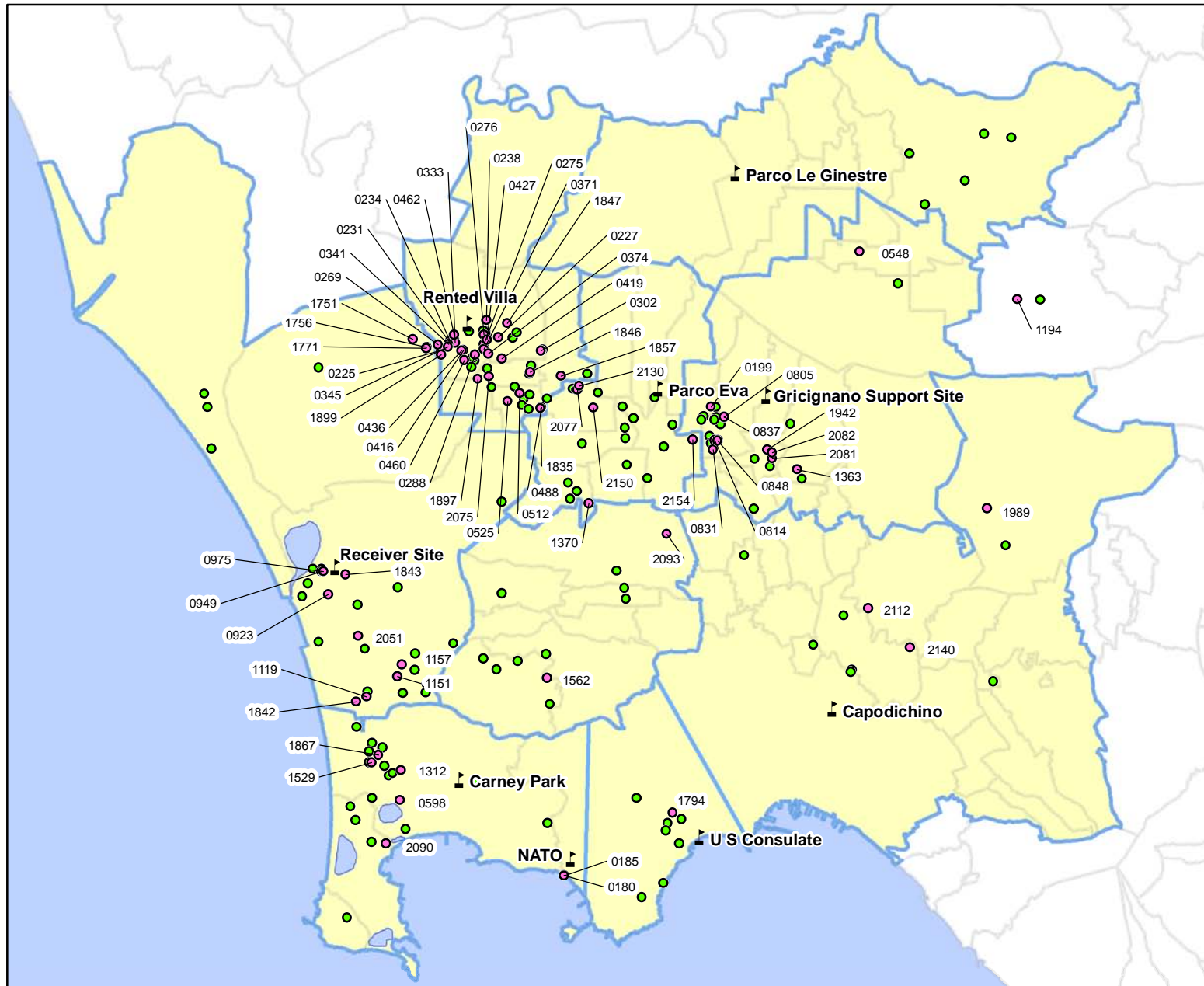
- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Co-collected ASG and AA Ratio**
 - ▲ ≤ 1
 - ▲ > 1 and ≤ 5
 - ▲ > 5 and ≤ 10
 - ▲ > 10

Note:
 -AA = Ambient Air
 -ASG = Active Soil Gas
 -Non-detected soil gas and ambient air values in ratios were replaced with the reporting limit.
 -Figure uses co-located and co-collected sample results received through September 5, 2009.

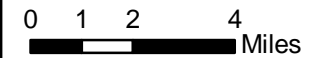


**Tetrachloroethene Active Soil Gas to Ambient Air Ratios
 Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 5d



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Location is Unacceptable for Active Soil Gas
 - Location is Acceptable for Active Soil Gas

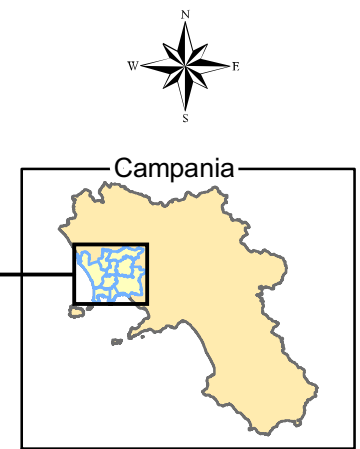
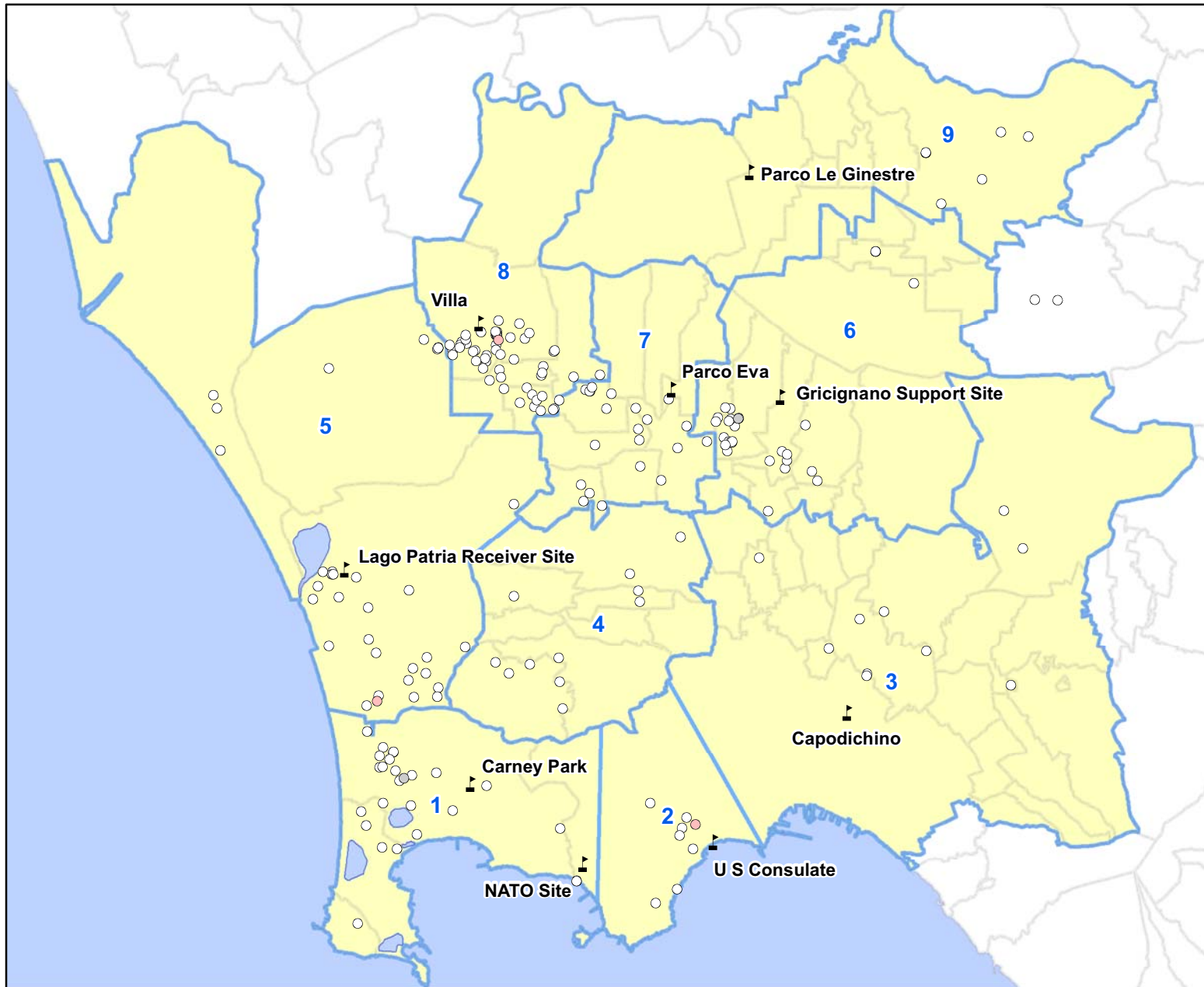


**Sample Locations with Unacceptable Active Soil Gas Concentrations
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: 6

Appendix A

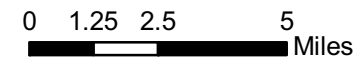
CEFs and NCEFs for Each COPC in Active Soil Gas and Groundwater



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF ≤ 1 or NCEF ≤ 0.5
- Soil Gas Cancer RSL**
- 1 < CEF ≤ 5
 - 5 < CEF ≤ 10
 - CEF > 10
- Soil Gas Noncancer RSL**
- 0.5 < NCEF ≤ 1
 - NCEF > 1

Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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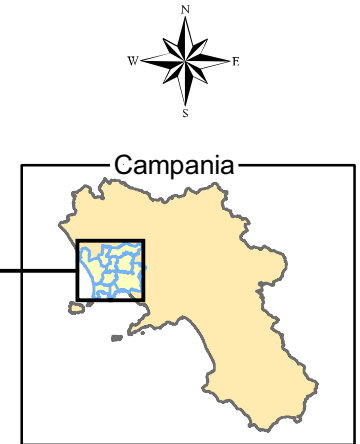
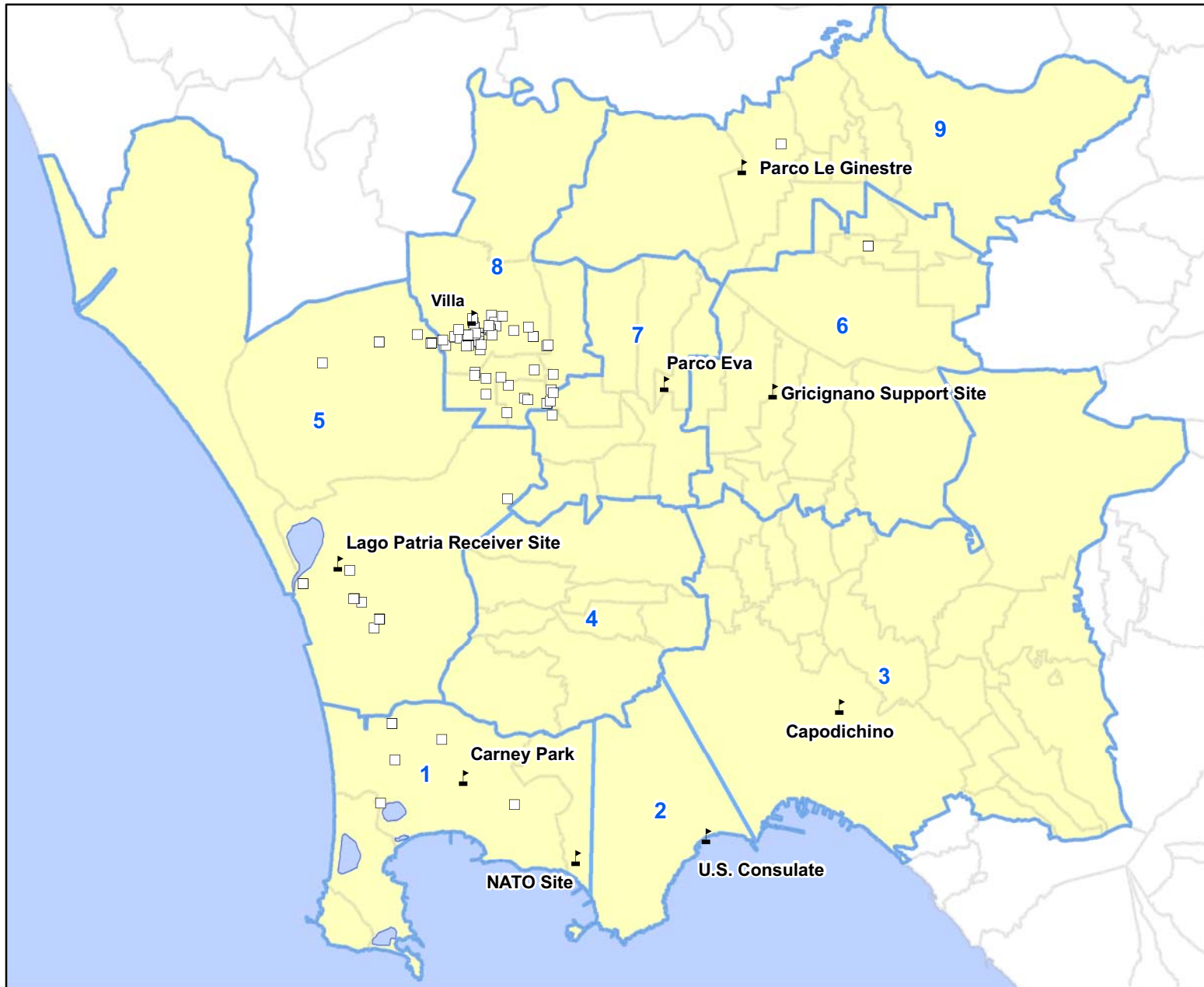
Active Soil Gas Screening Results for 1,1,1,2-Tetrachloroethane Naples, Italy

DWN:
KR

PROJECT:

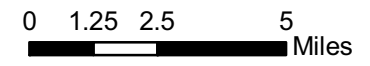
DATE:
February 2010

FIGURE NO.:
A-1



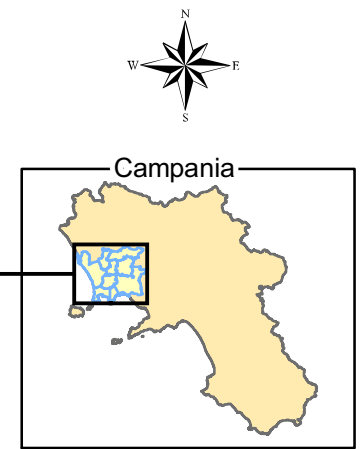
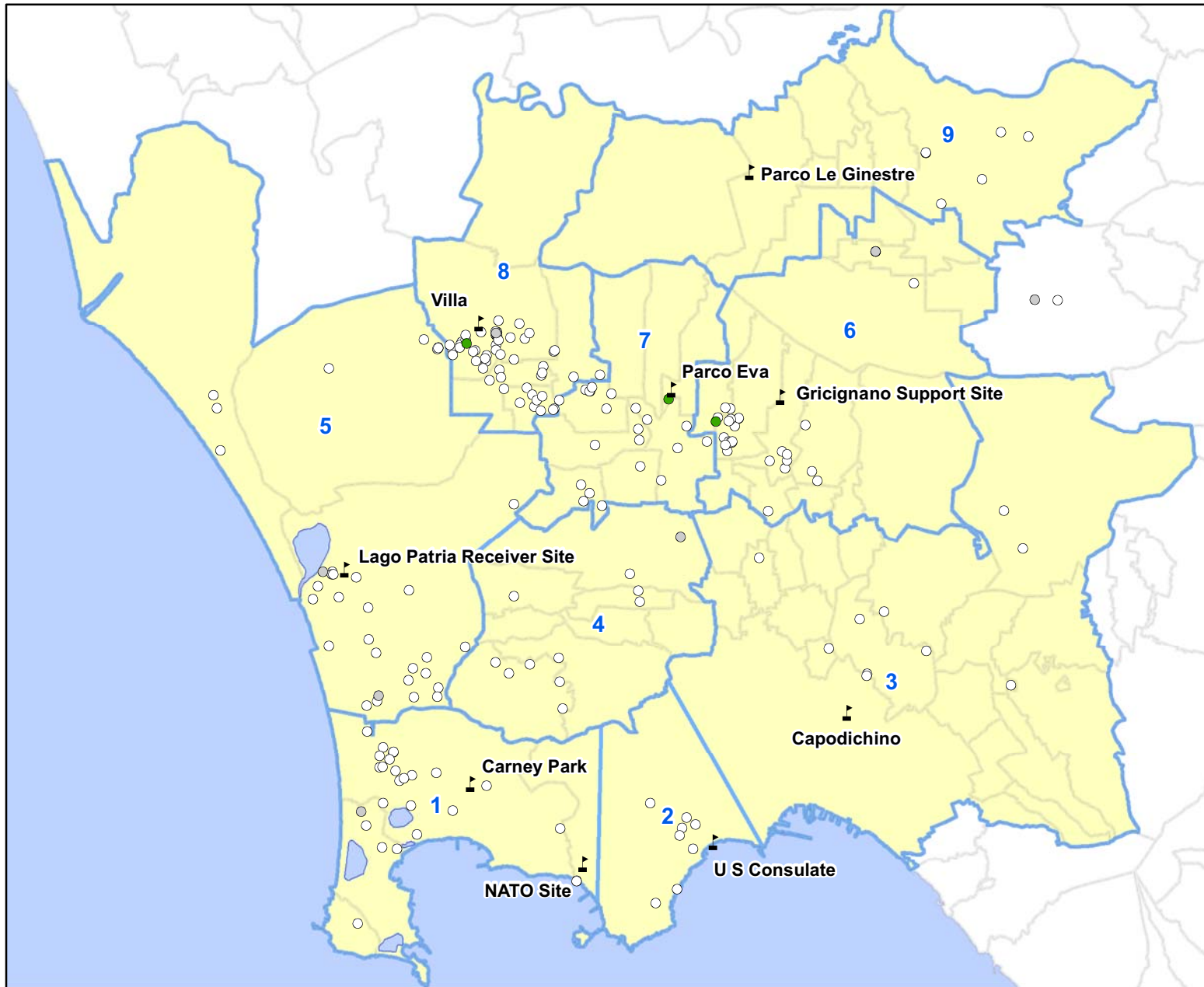
- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for 1,1,1,2-Tetrachloroethane
Naples, Italy**

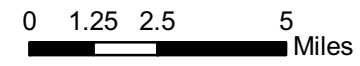
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-2



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

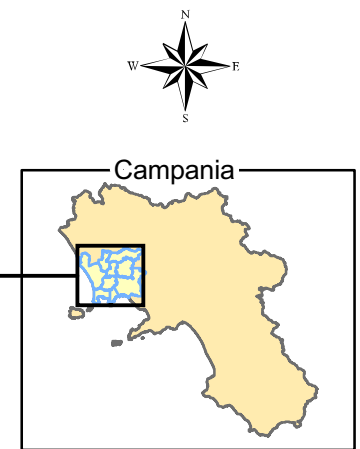
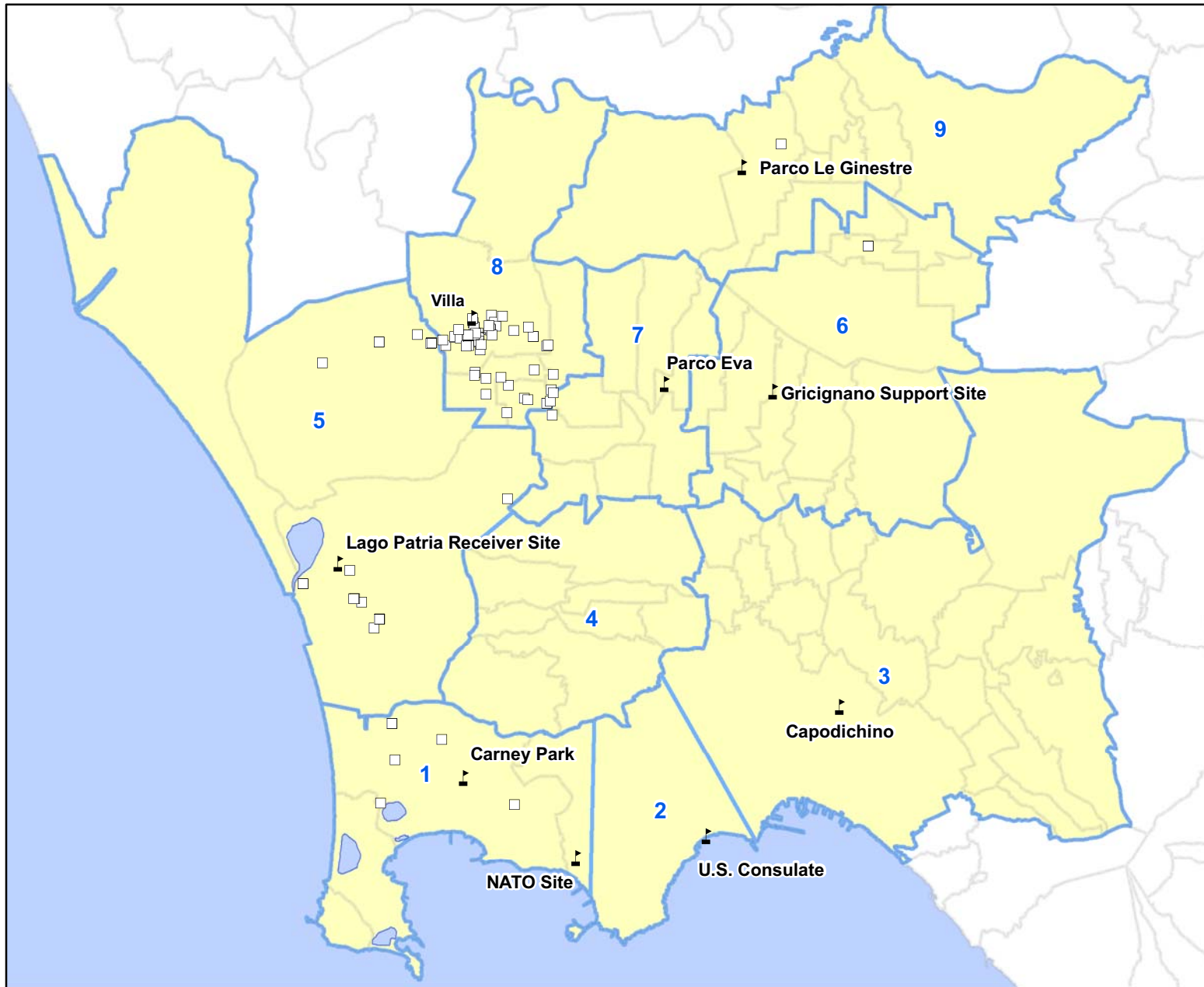
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



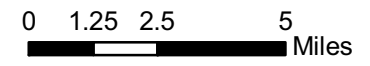
**Active Soil Gas Screening Results for 1,1,2,2-Tetrachloroethane
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-3



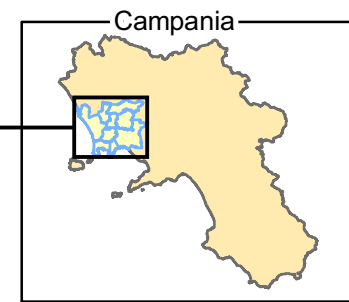
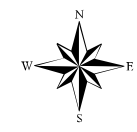
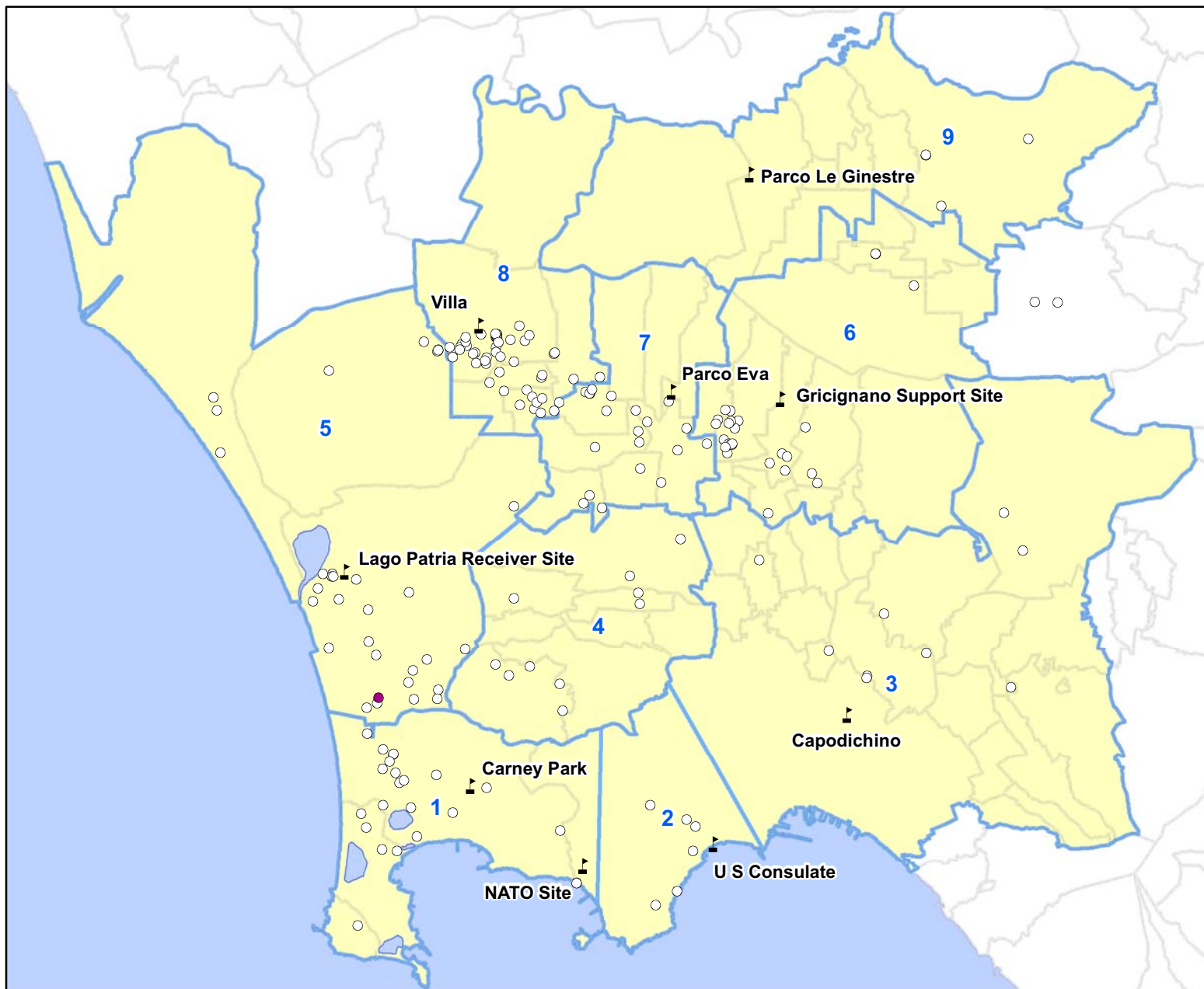
- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for 1,1,2,2-Tetrachloroethane
 Naples, Italy**

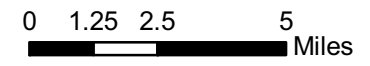
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-4



- Legend**
- ▬ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF ≤ 1 or NCEF ≤ 0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF ≤ 5
 - 5 < CEF ≤ 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF ≤ 1
 - NCEF > 1

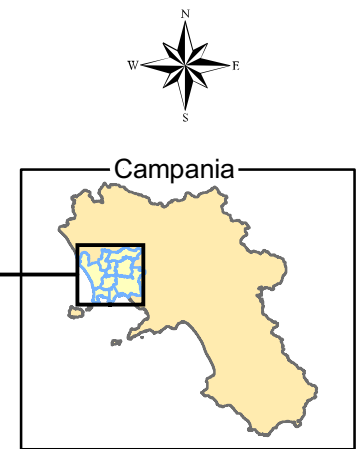
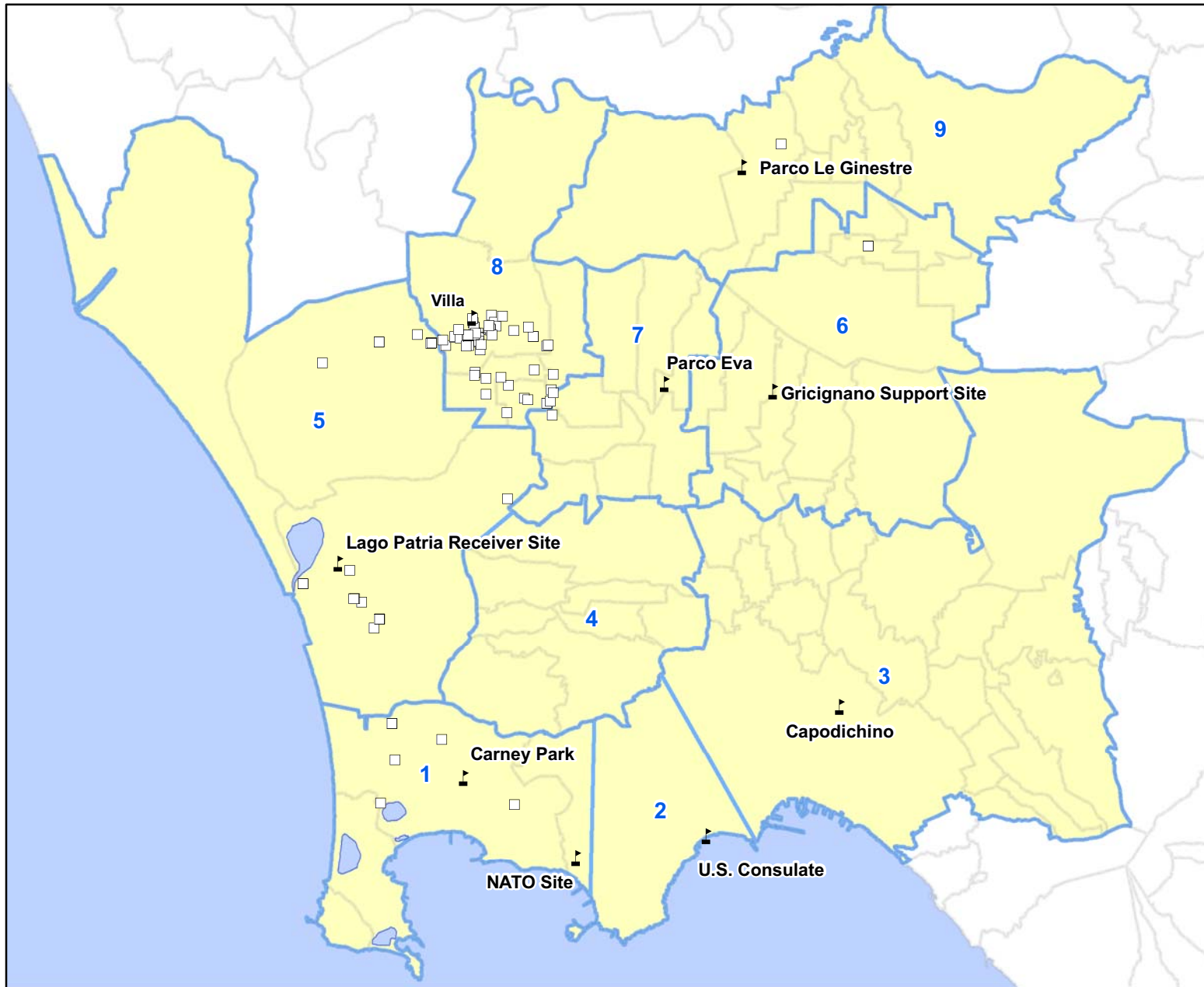
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



Active Soil Gas Screening Results for 1,2-Dibromo-3-Chloropropane Naples, Italy

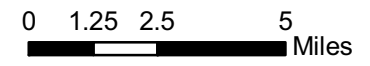
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-5



- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

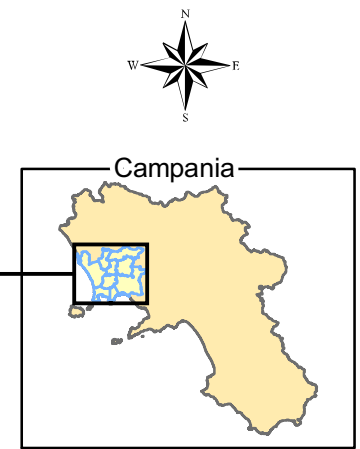
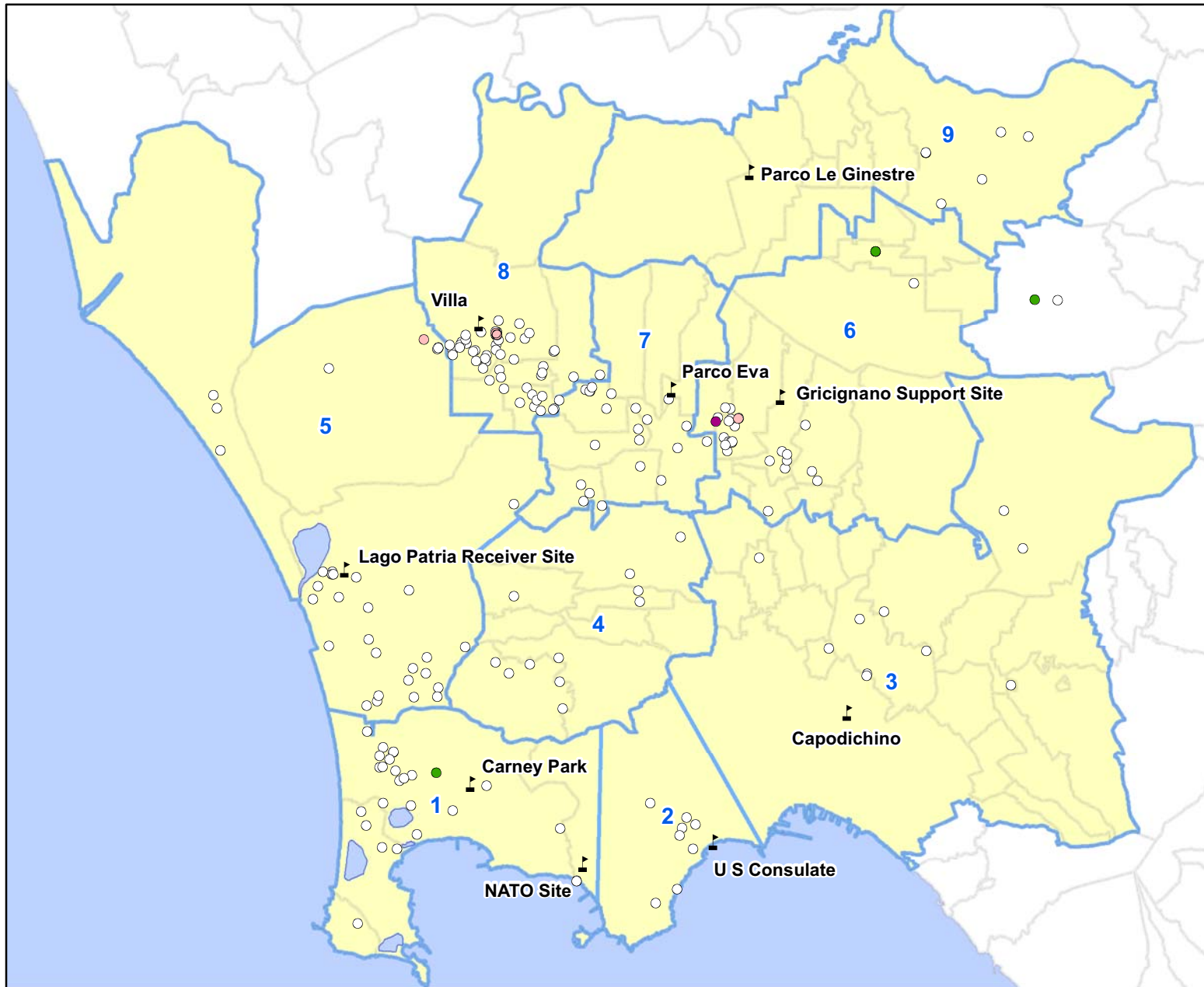
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



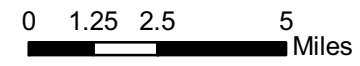
**Groundwater Vapor Screening Results for 1,2-Dibromo-3-Chloropropane
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-6



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Regional Screening Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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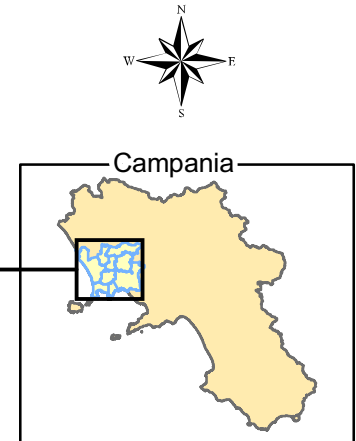
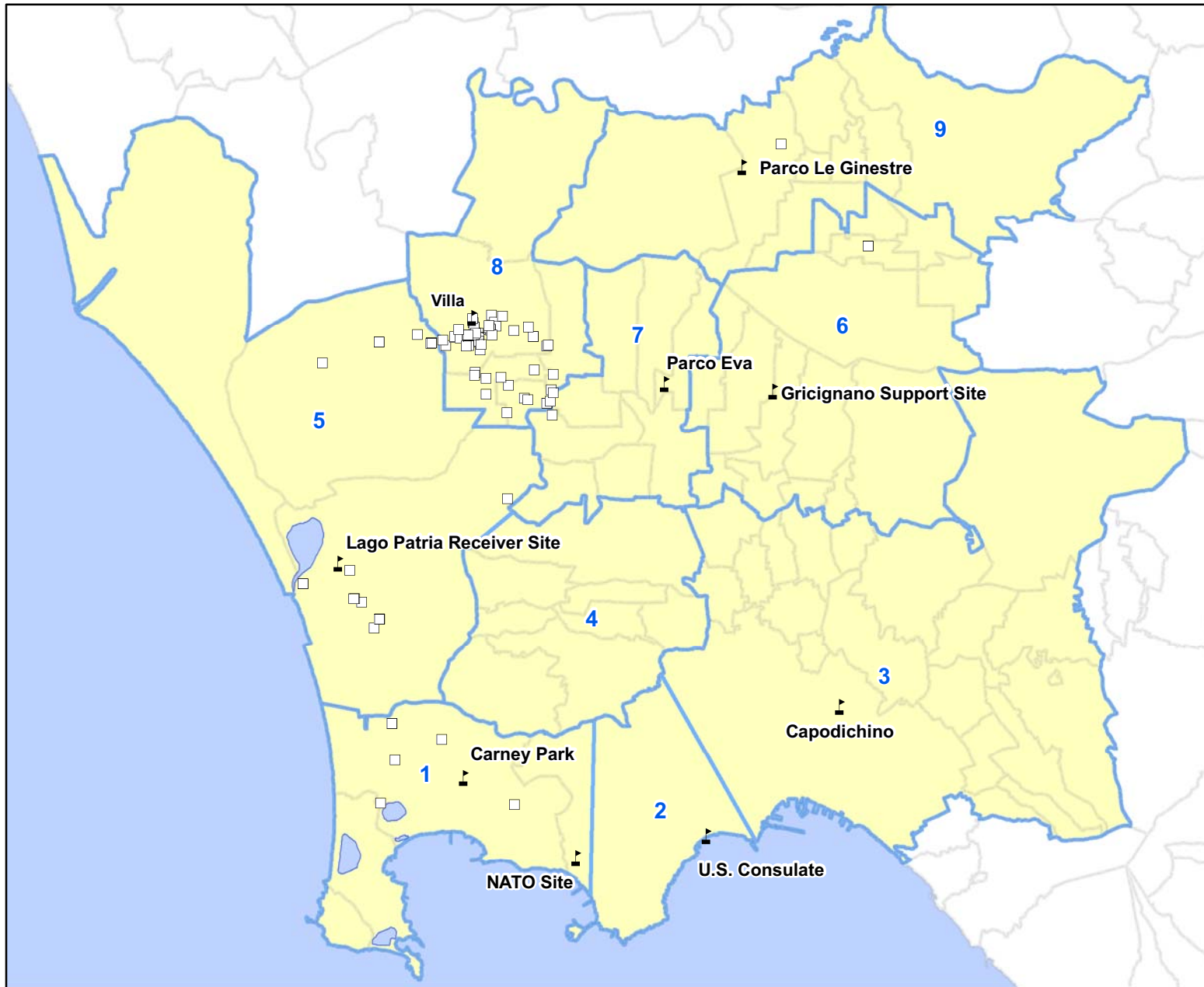
**Active Soil Gas Screening Results for 1,2-Dibromoethane
 Naples, Italy**

DWN:
 KR

PROJECT:

DATE:
 February 2010

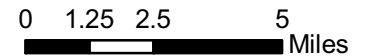
FIGURE NO.:
 A-7



Legend

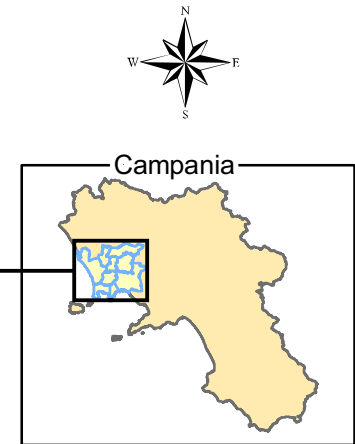
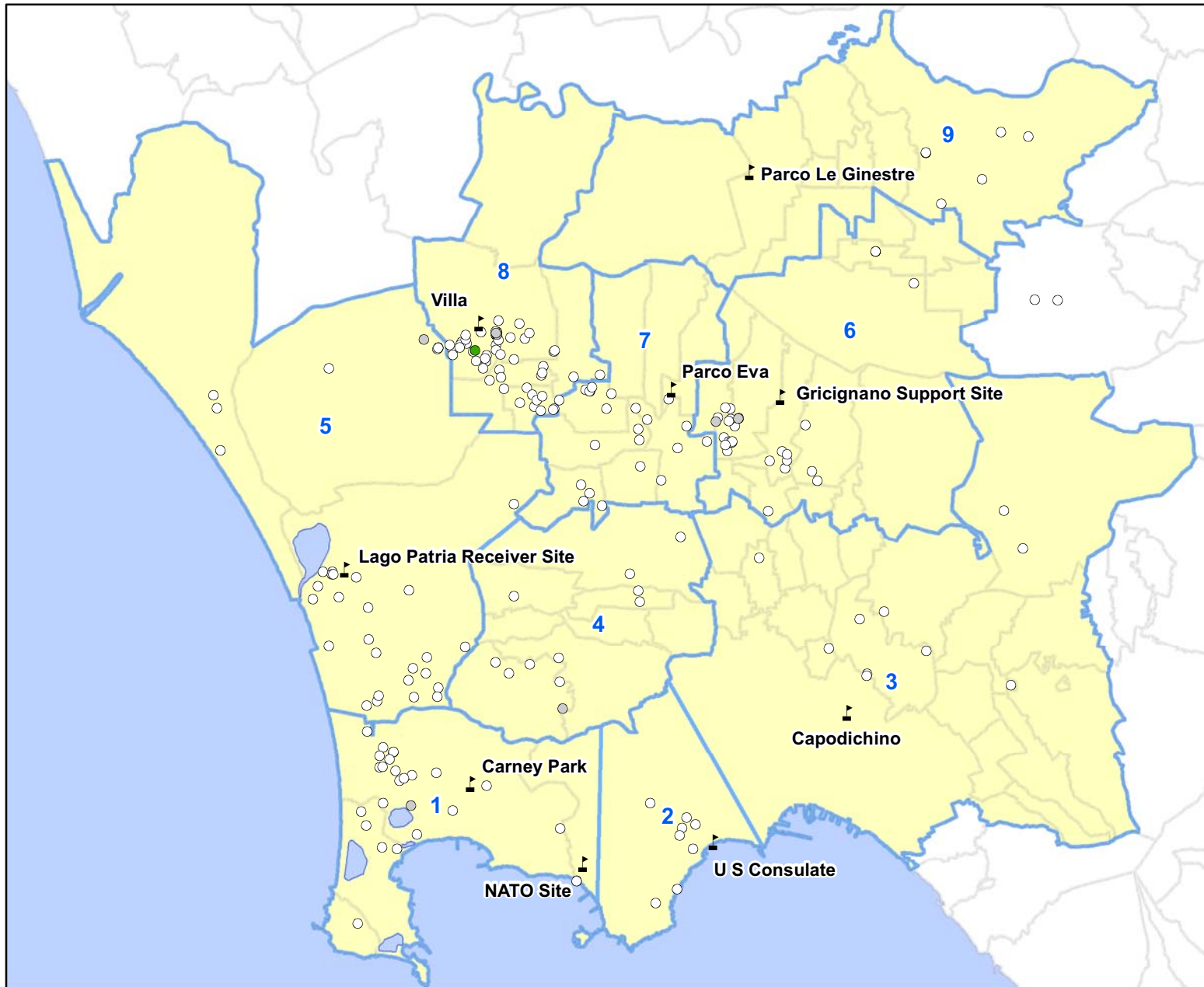
- ▲ Ambient Air Monitoring Station
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Groundwater without RSL Exceedance**
- Non-detect
- CEF or NCEF <= 1
- Groundwater Cancer RSL Exceedance**
- 1 < CEF <= 10
- CEF > 10
- Groundwater Noncancer RSL Exceedance**
- NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for 1,2-Dibromoethane
 Naples, Italy**

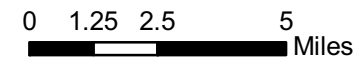
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-8



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
- Soil Gas Cancer RSL**
- 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
- Soil Gas Noncancer RSL**
- 0.5 < NCEF <= 1
 - NCEF > 1

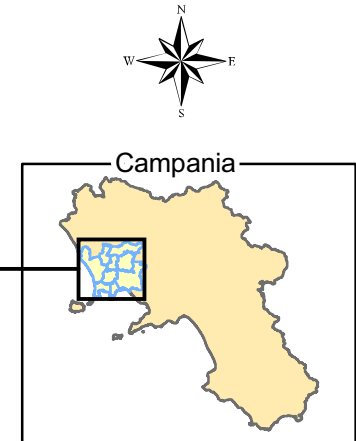
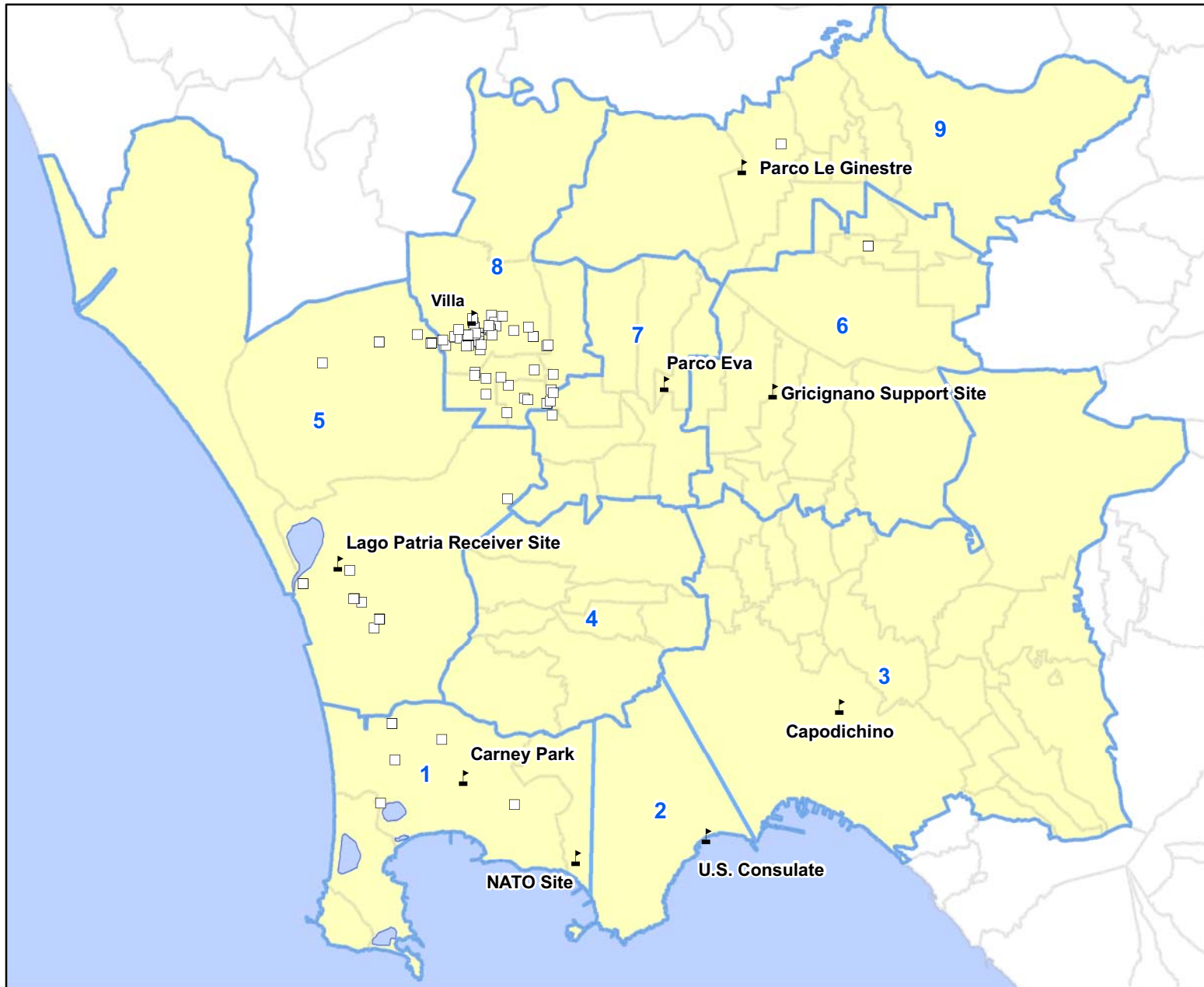
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



**Active Soil Gas Screening Results for 1,2-Dichloroethane
Naples, Italy**

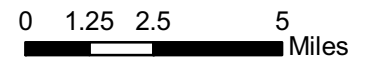
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-9



Legend

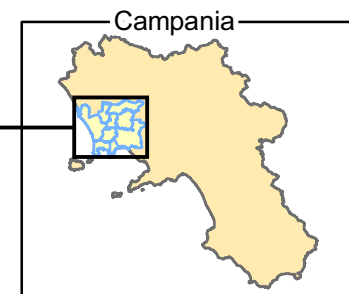
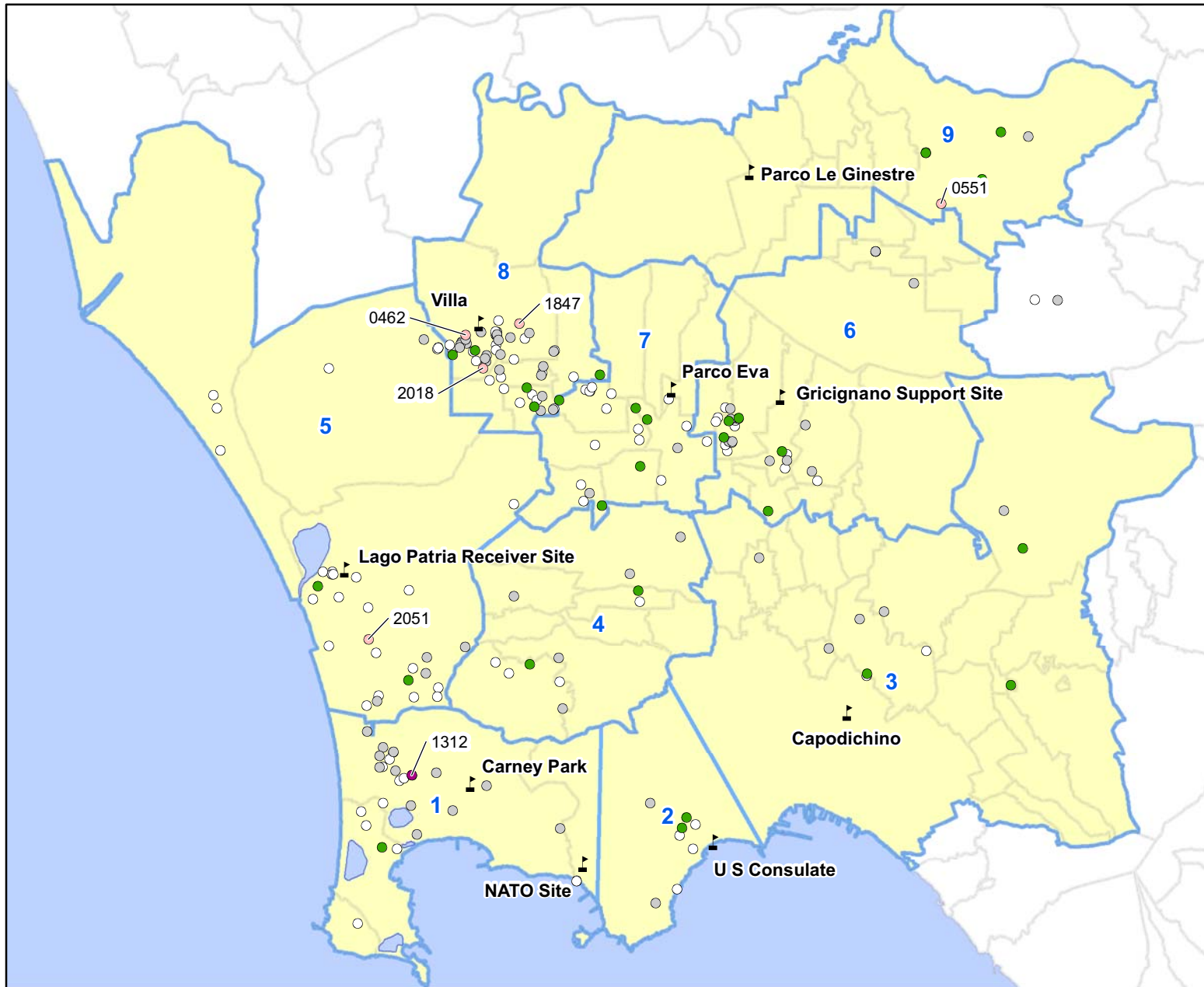
- ▲ Ambient Air Monitoring Station
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Groundwater without RSL Exceedance**
- Non-detect
- CEF or NCEF <= 1
- Groundwater Cancer RSL Exceedance**
- 1 < CEF <= 10
- CEF > 10
- Groundwater Noncancer RSL Exceedance**
- NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for 1,2-Dichloroethane
 Naples, Italy**

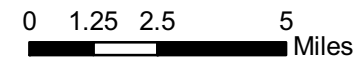
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-10



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF ≤ 1 or NCEF ≤ 0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF ≤ 5
 - 5 < CEF ≤ 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF ≤ 1
 - NCEF > 1

Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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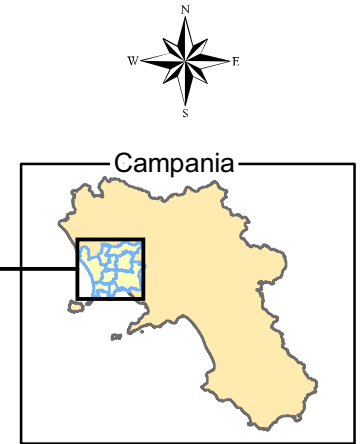
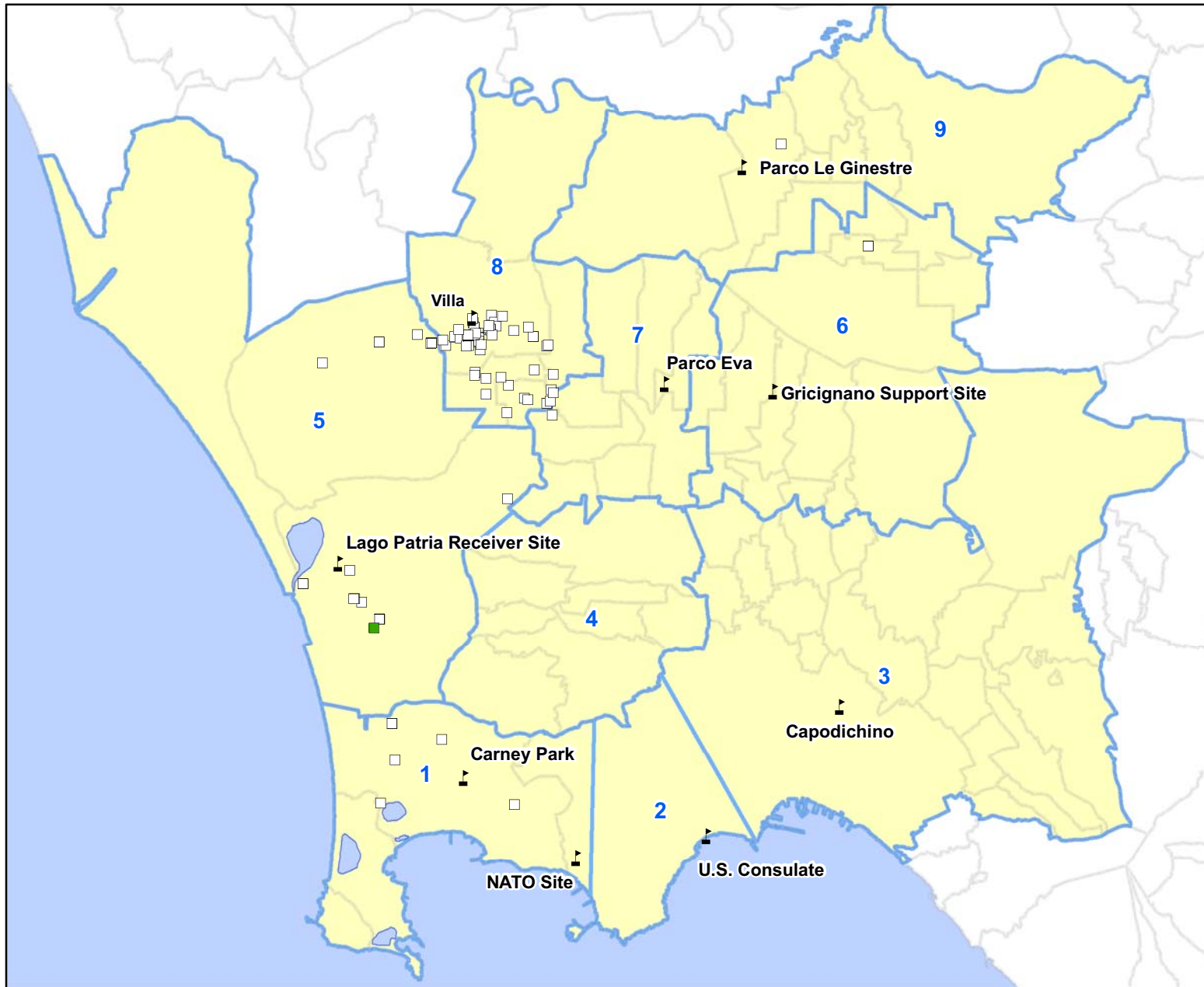
Active Soil Gas Screening Results for 1,2-Dichloropropane Naples, Italy

DWN:
KR

PROJECT:

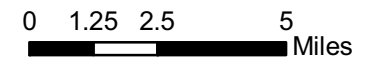
DATE:
February 2010

FIGURE NO.:
A-11



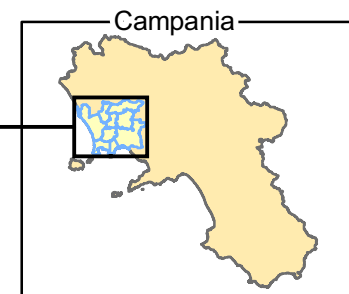
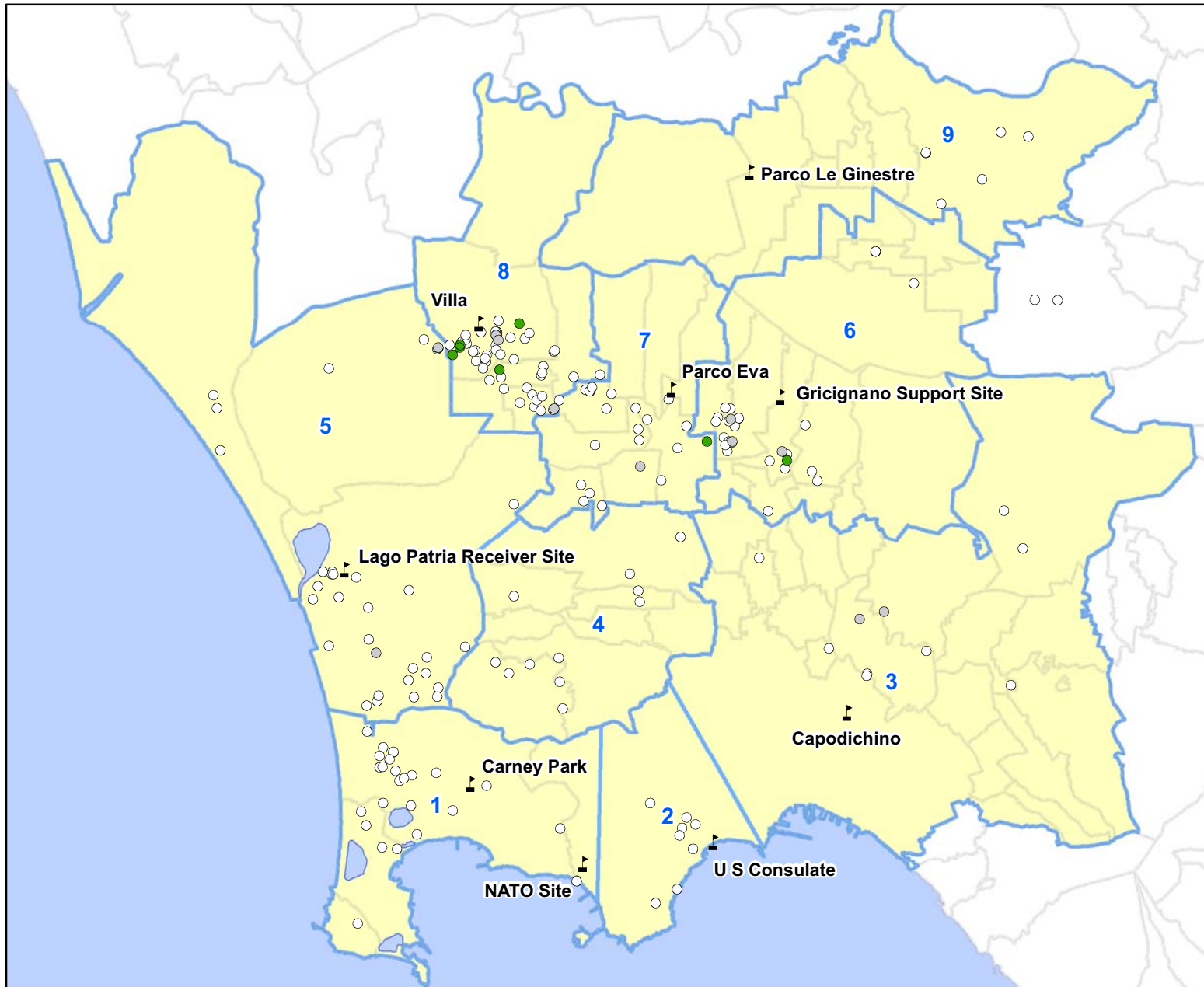
- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



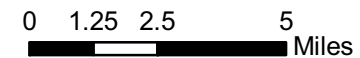
**Groundwater Vapor Screening Results for 1,2-Dichloropropane
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-12



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF<=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Regional Screening Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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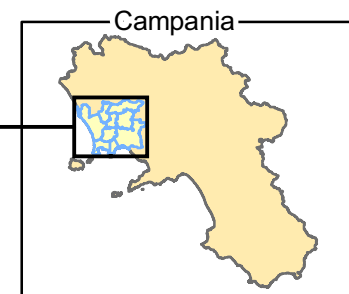
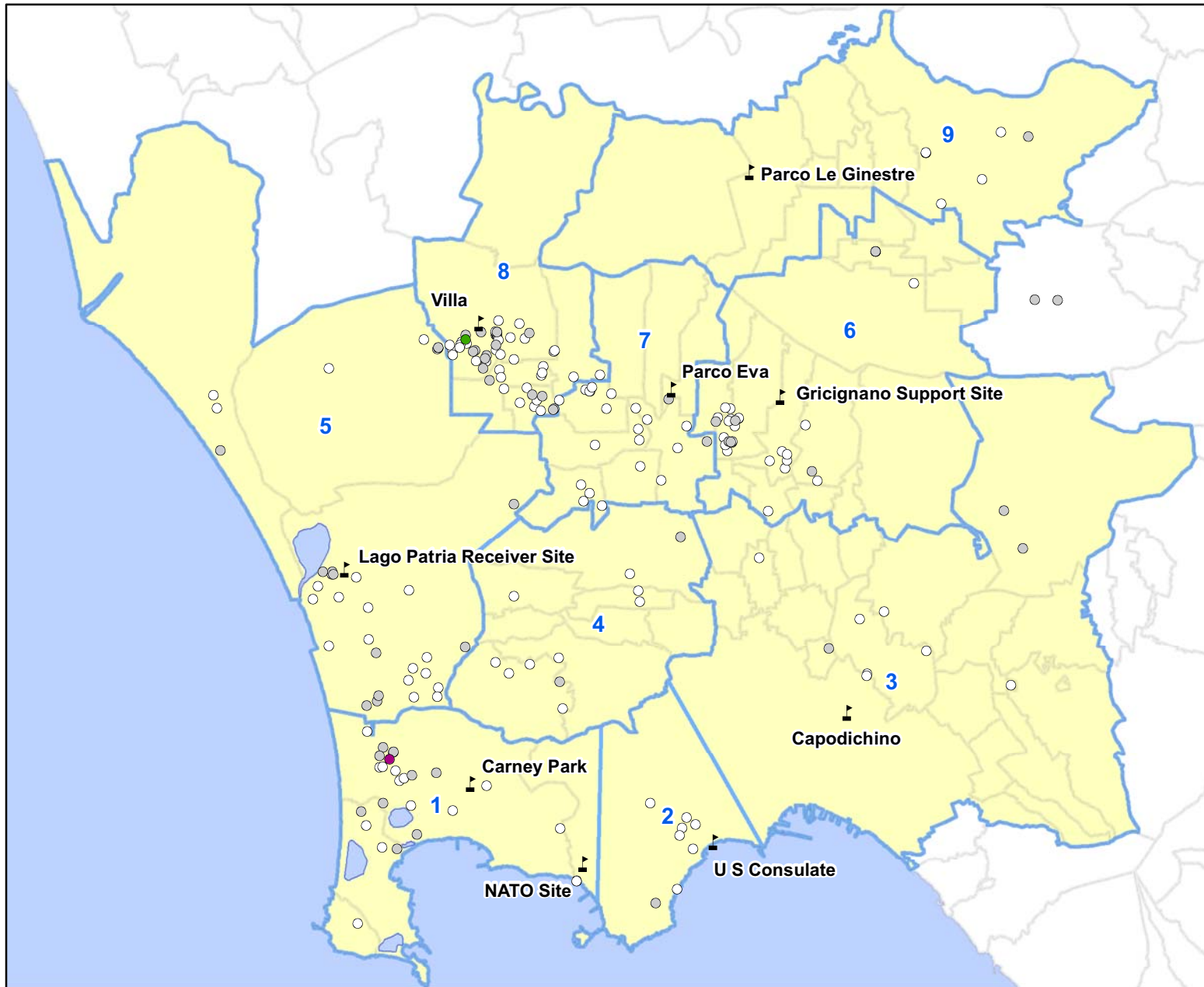
**Active Soil Gas Screening Results for 1,3-Butadiene
 Naples, Italy**

DWN:
 KR

PROJECT:

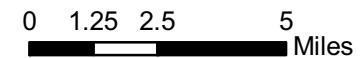
DATE:
 February 2010

FIGURE NO.:
 A-13



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF ≤ 1 or NCEF ≤ 0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF ≤ 5
 - 5 < CEF ≤ 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF ≤ 1
 - NCEF > 1

Note:
 -CEf = Cancer Exceedance Factor
 -NCEf = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Regional Screening Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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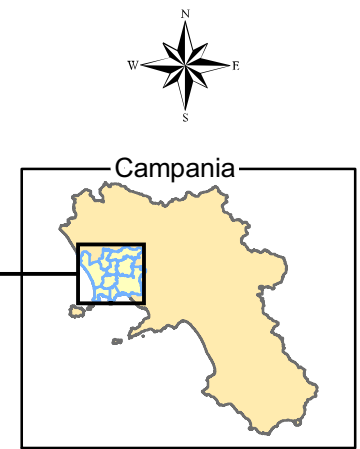
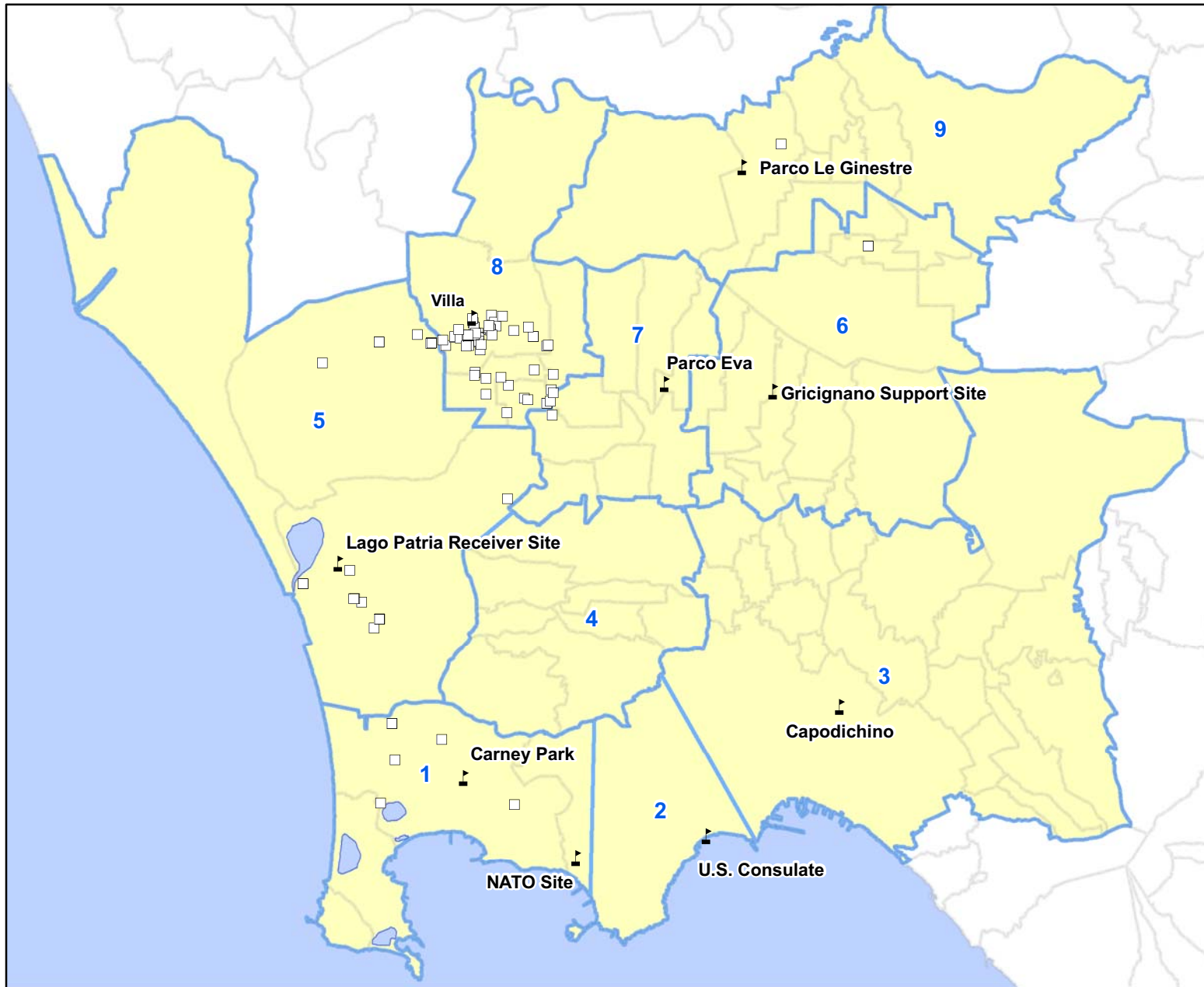
**Active Soil Gas Screening Results for 1,4-Dichlorobenzene
 Naples, Italy**

DWN:
 KR

PROJECT:

DATE:
 February 2010

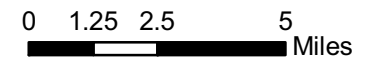
FIGURE NO.:
 A-14



- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

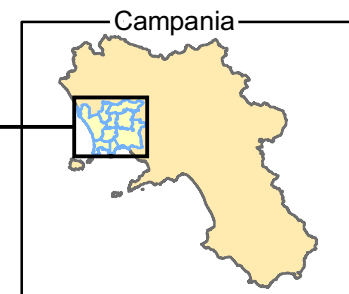
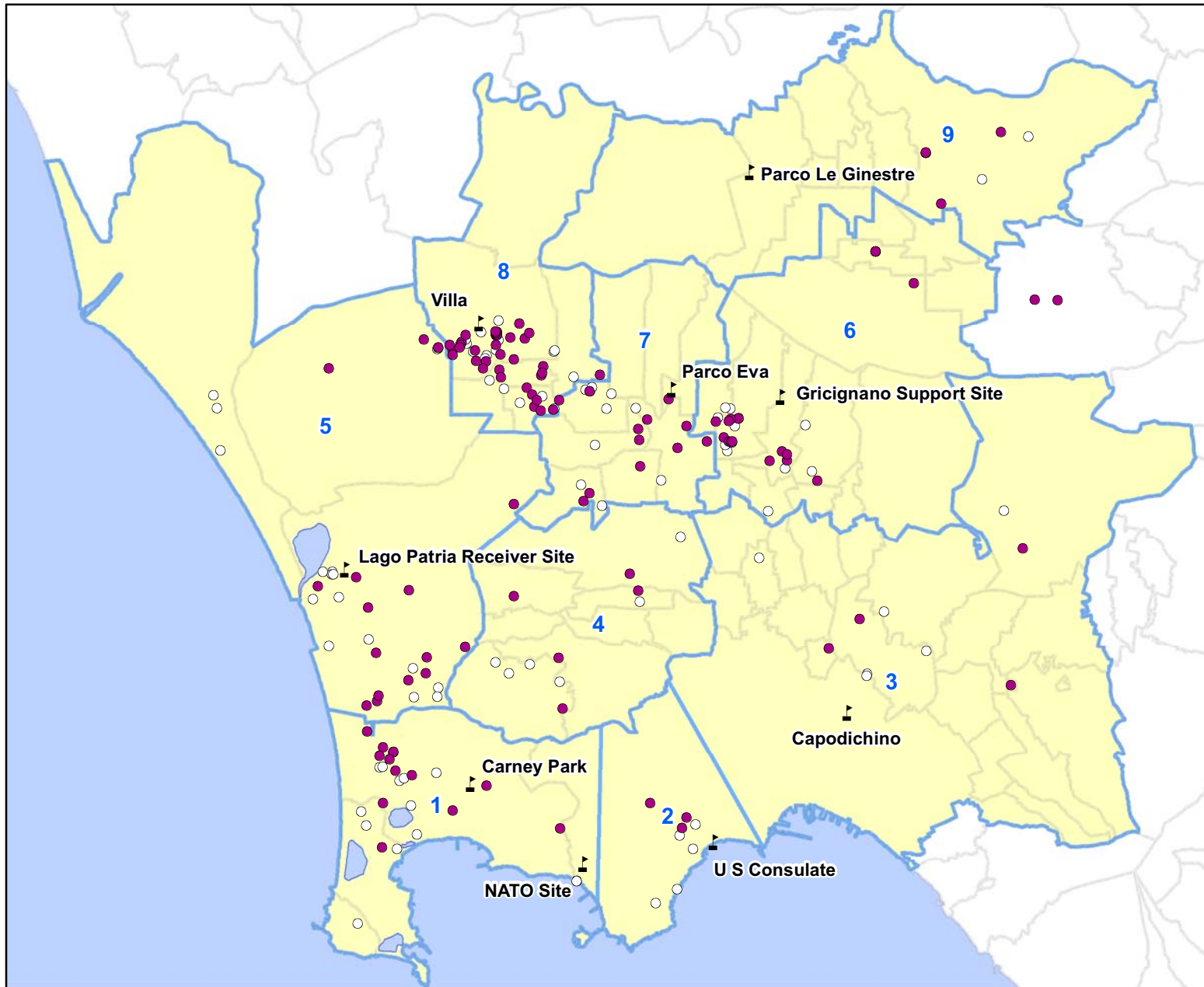
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for 1,4-Dichlorobenzene
Naples, Italy**

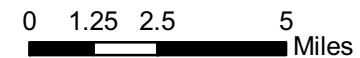
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-15



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF<=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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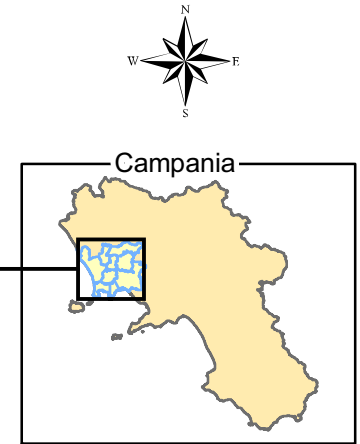
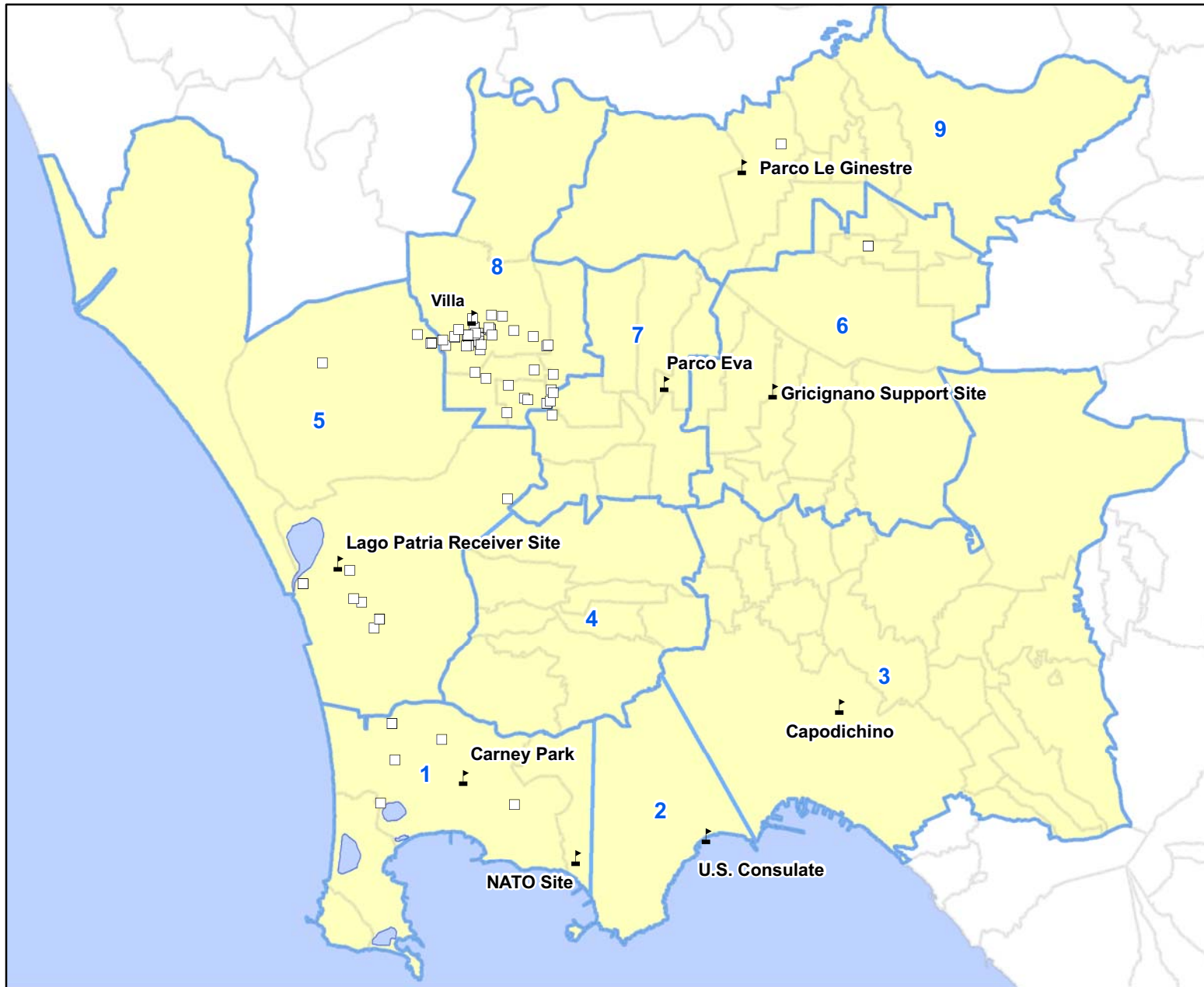
Active Soil Gas Screening Results for Acrolein Naples, Italy

DWN:
KR

PROJECT:

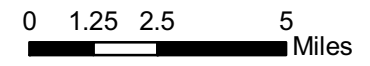
DATE:
February 2010

FIGURE NO.:
A-16



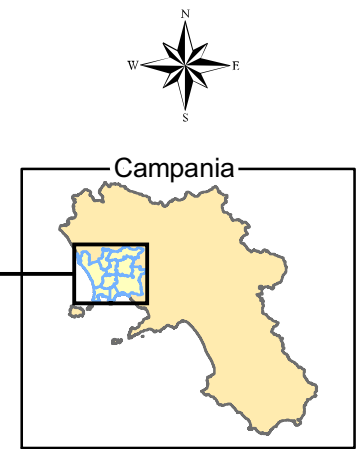
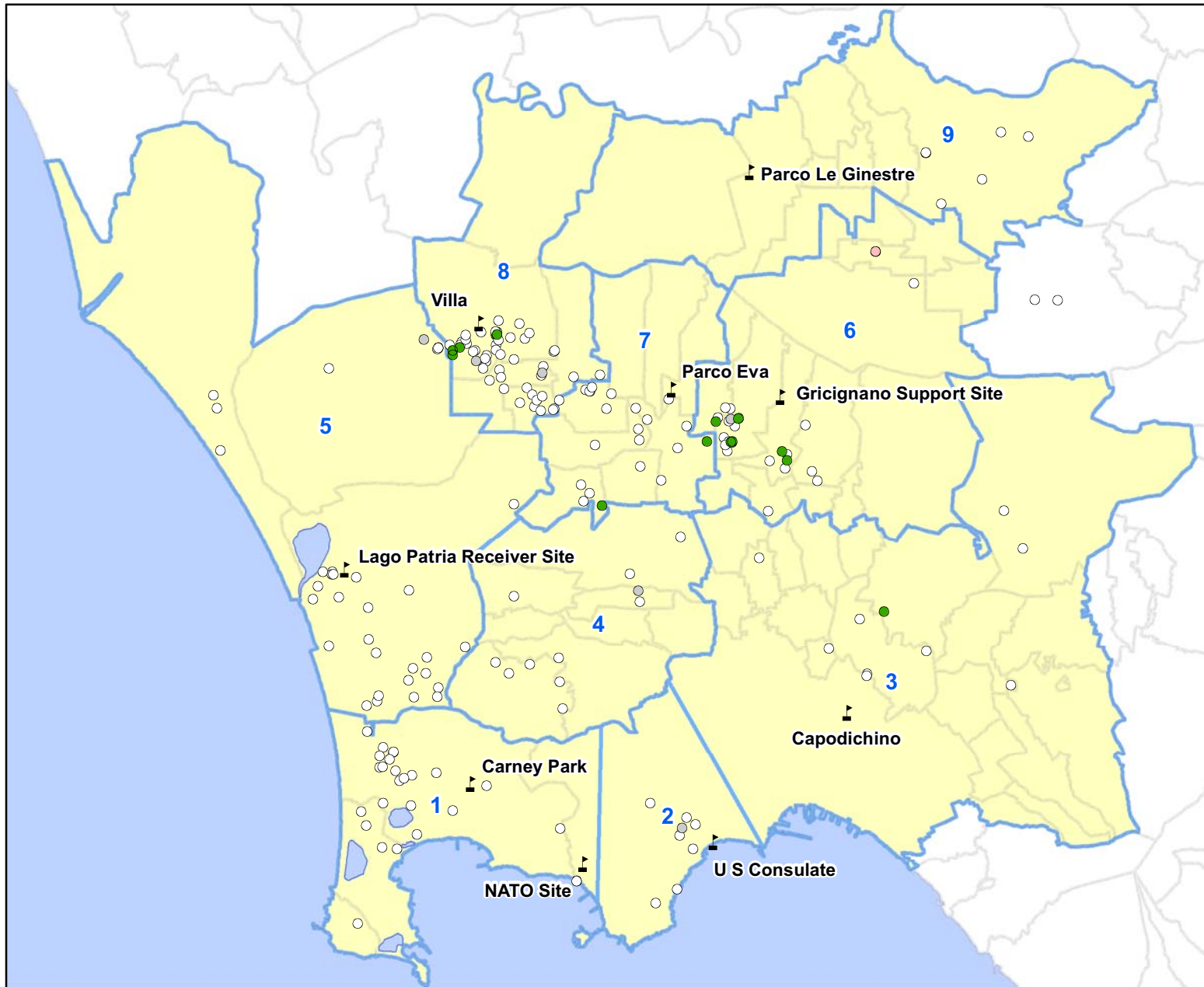
- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for Acrolein
Naples, Italy**

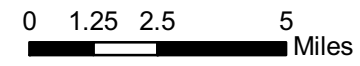
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-17



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF<=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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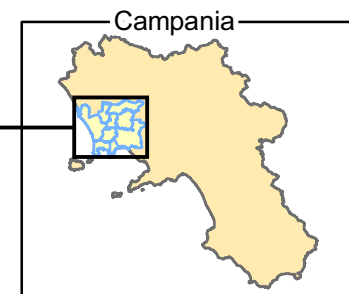
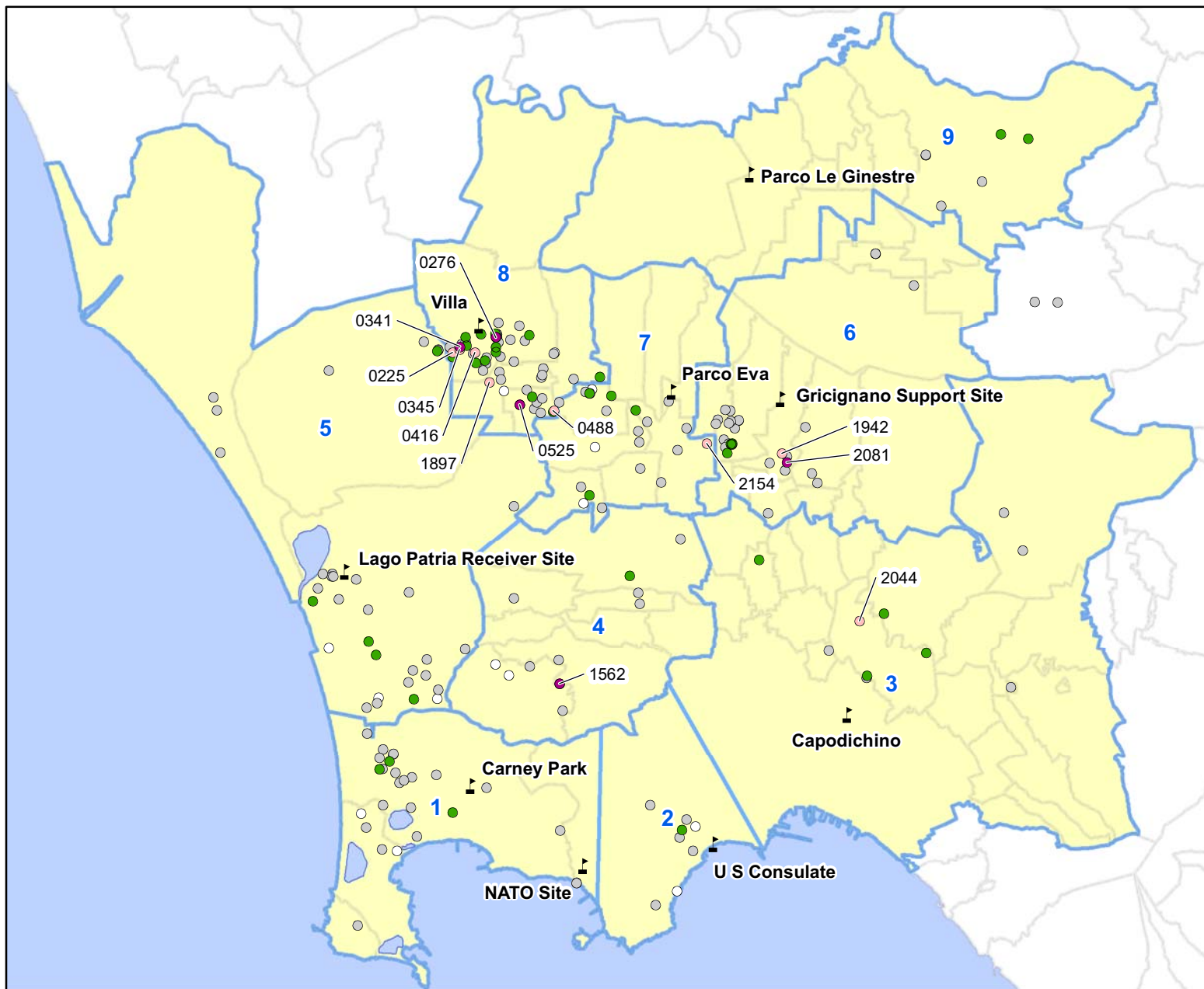
Active Soil Gas Screening Results for Acrylonitrile Naples, Italy

DWN:
KR

PROJECT:

DATE:
February 2010

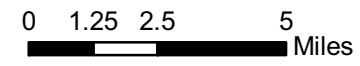
FIGURE NO.:
A-18



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



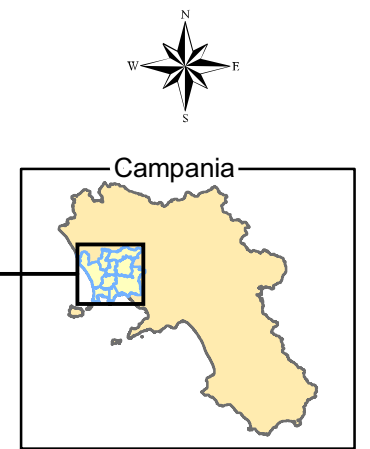
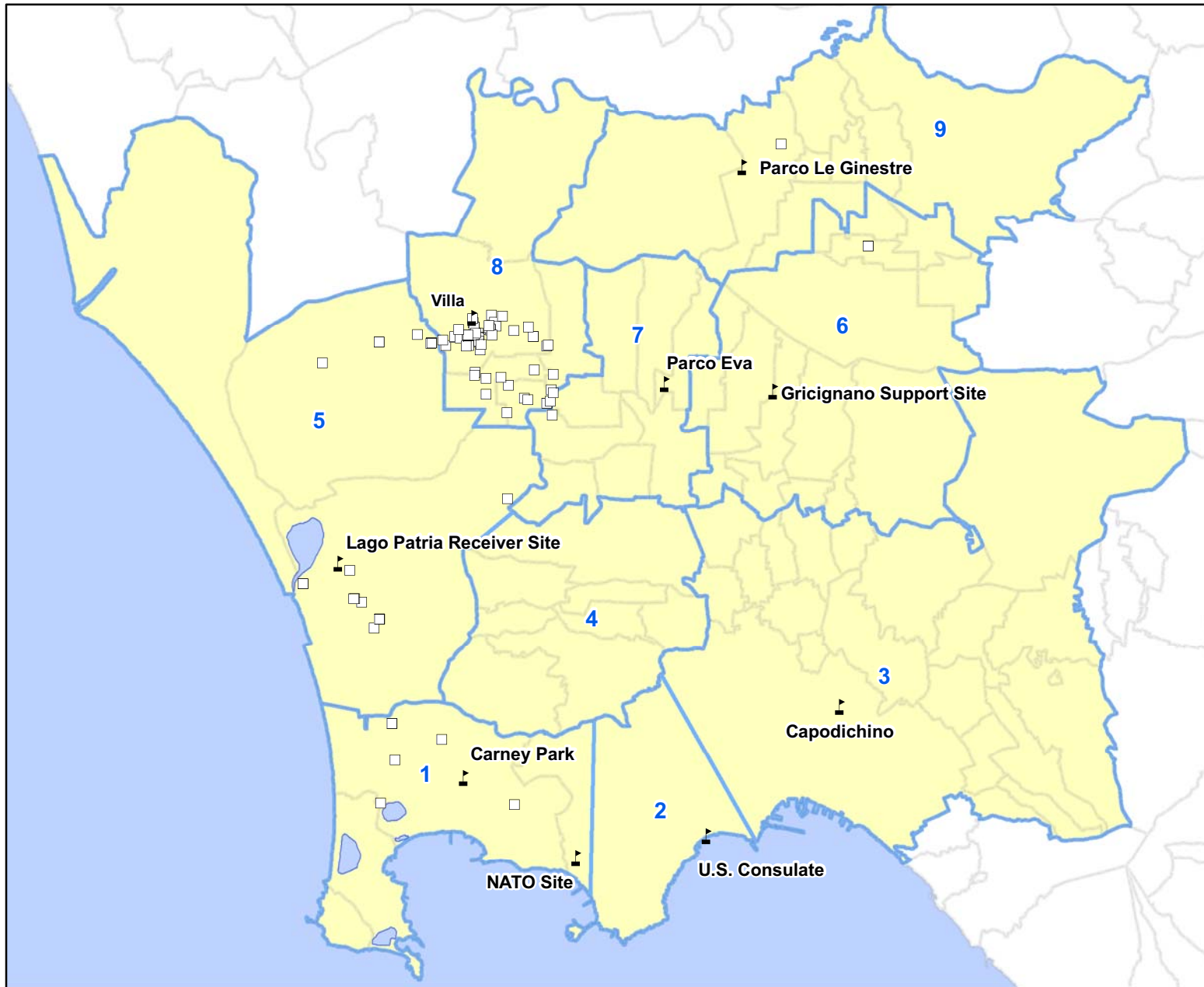
**Active Soil Gas Screening Results for Benzene
Naples, Italy**

DWN:
KR

PROJECT:

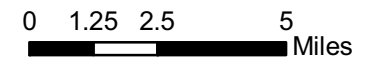
DATE:
February 2010

FIGURE NO.:
A-19



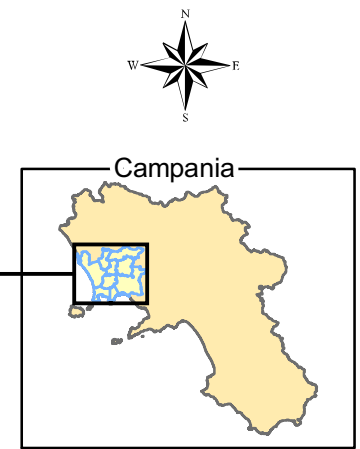
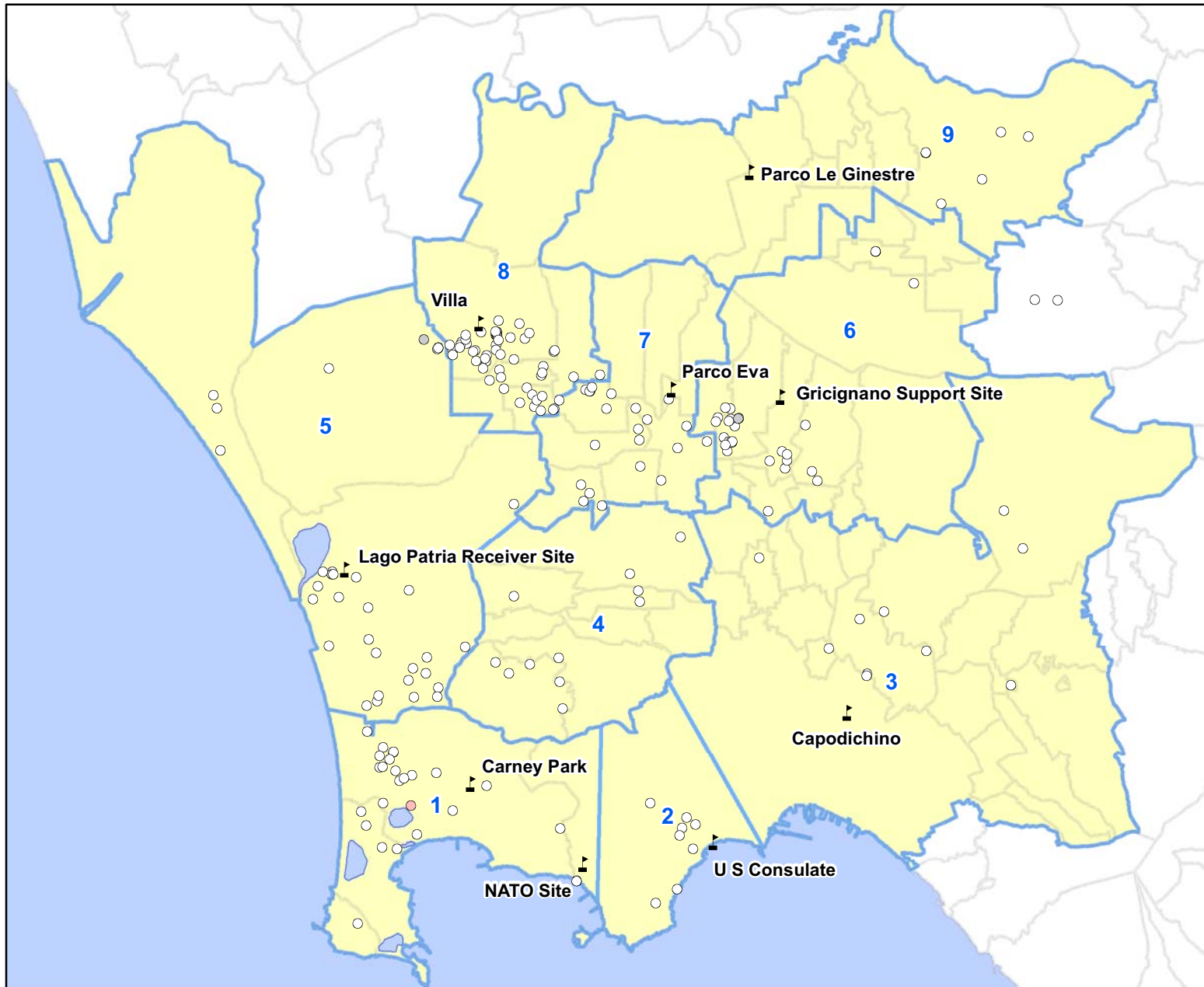
- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for Benzene
Naples, Italy**

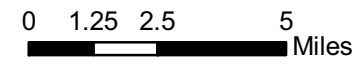
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-20



- Legend**
- ▬ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
- Soil Gas Cancer RSL**
- 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
- Soil Gas Noncancer RSL**
- 0.5 < NCEF <= 1
 - NCEF > 1

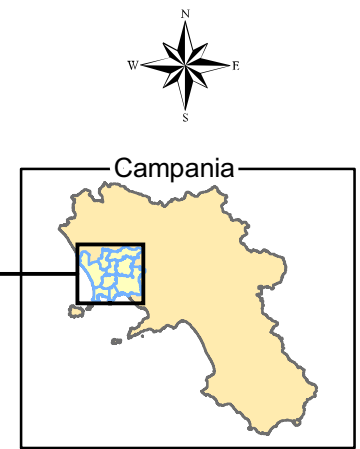
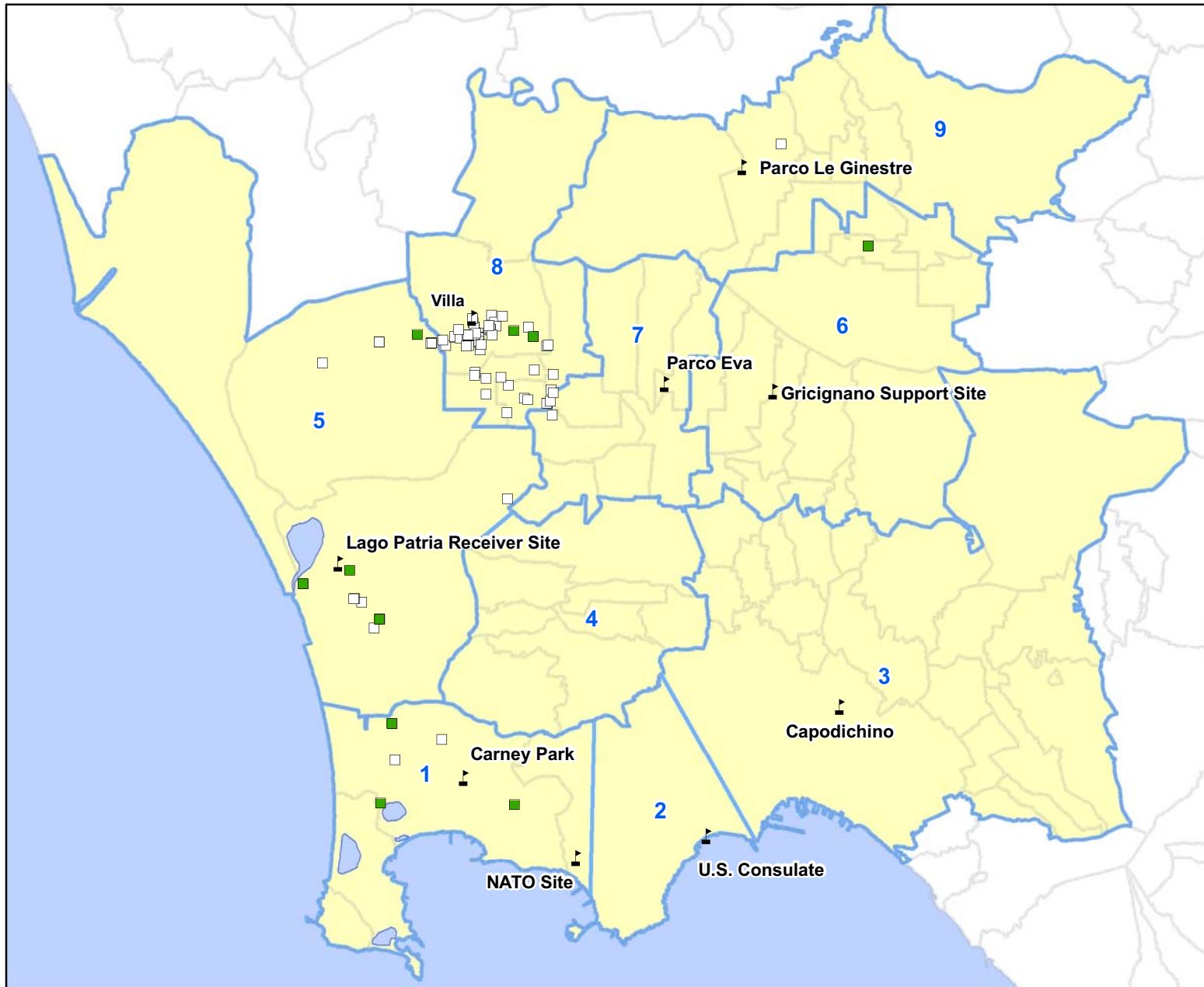
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



**Active Soil Gas Screening Results for Bromoform
Naples, Italy**

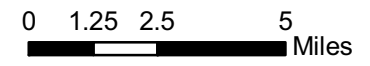
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-21



- Legend**
- Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
- Sample Locations**
- Non-detect
 - Detected

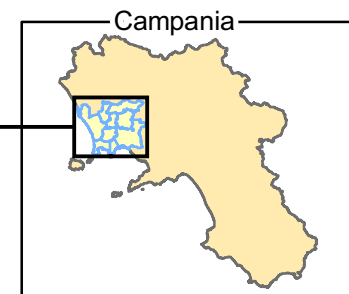
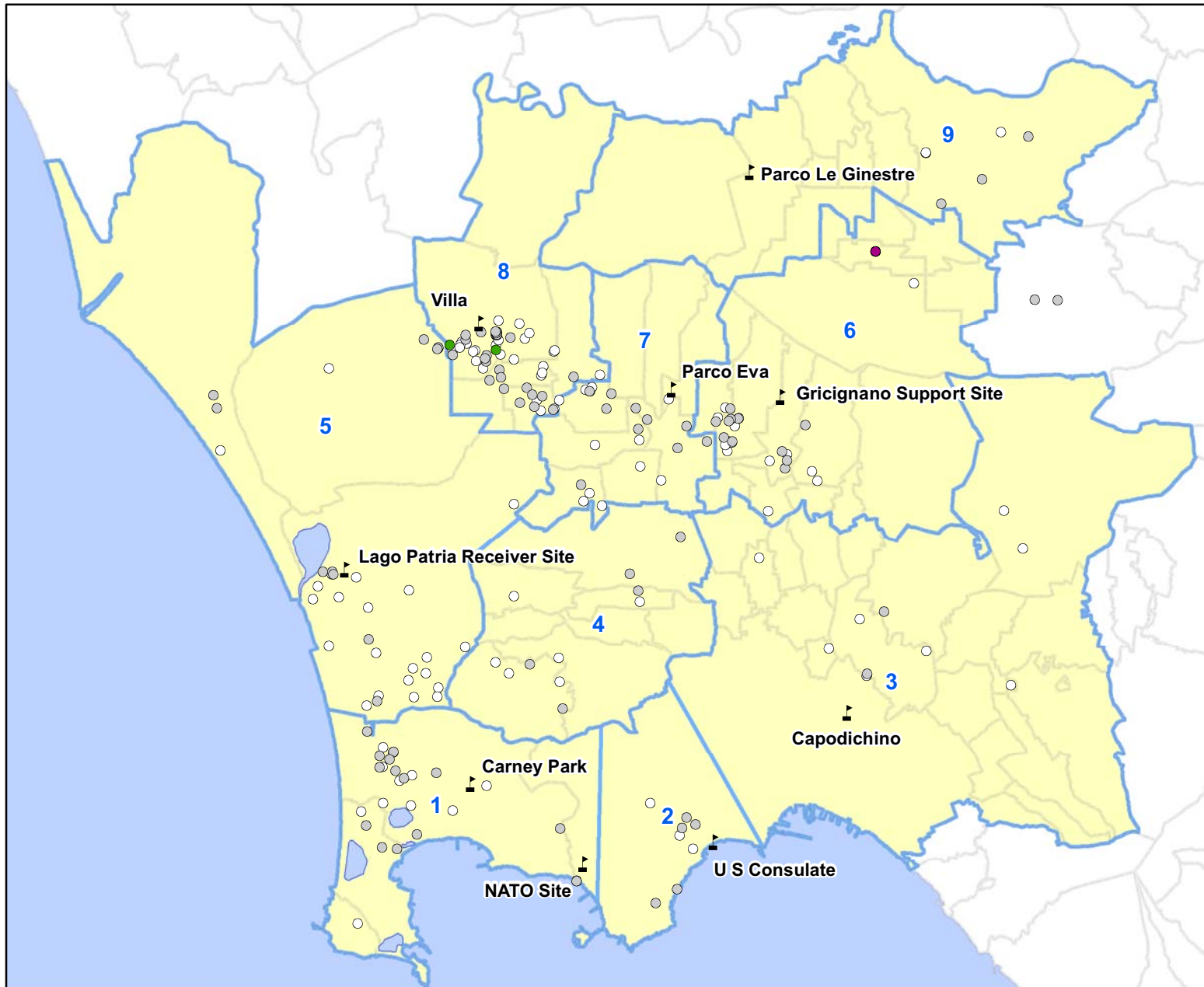
Note:

- Bromoform does not have a cancer or noncancer inhalation RSL.
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



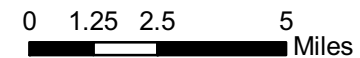
**Groundwater Results for Bromoform
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-22



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF<=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Regional Screening Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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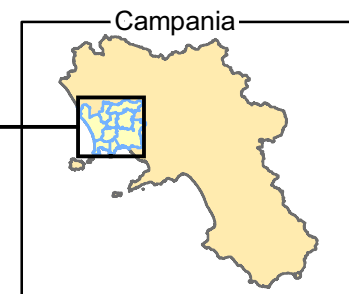
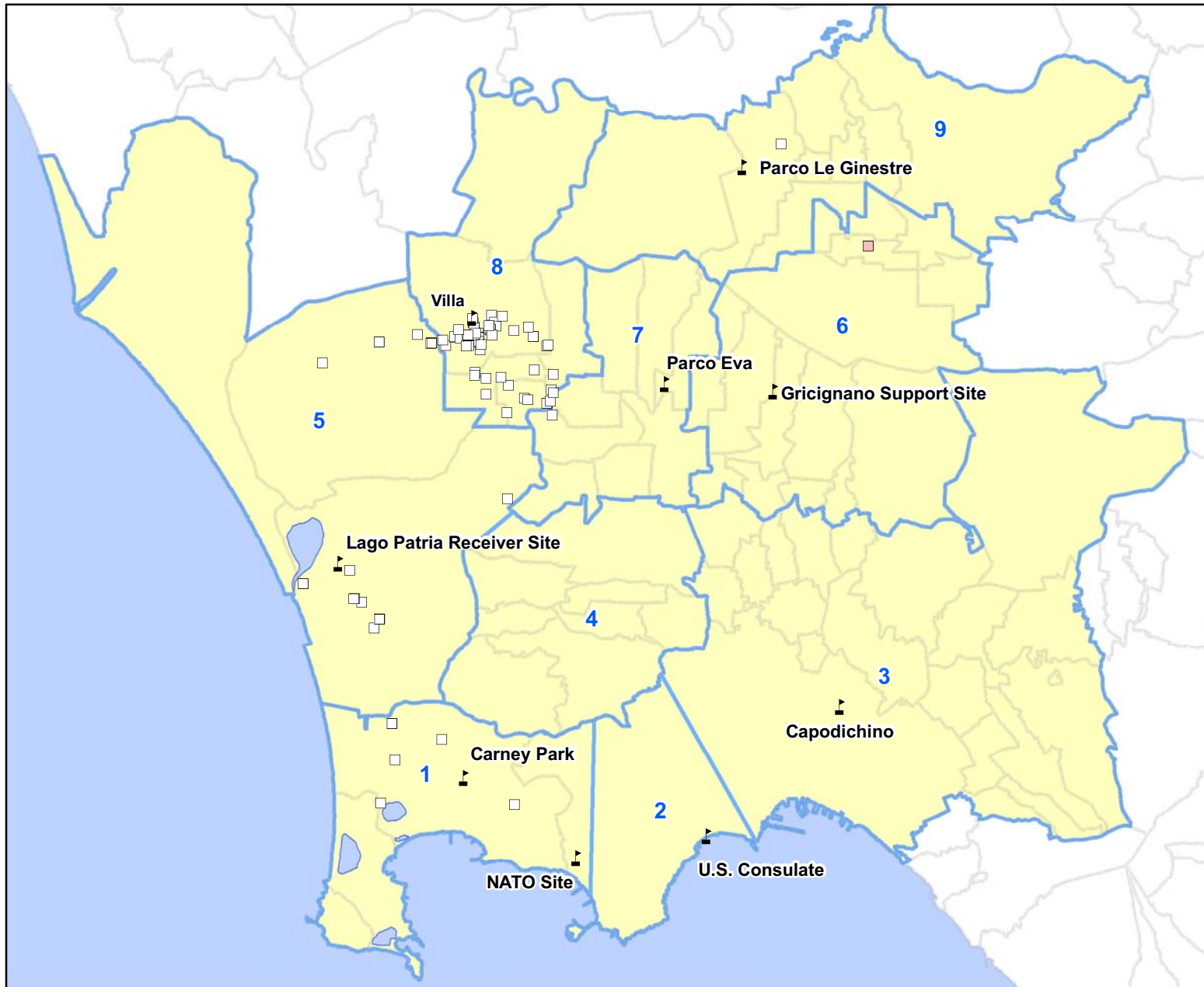
Active Soil Gas Screening Results for Carbon Tetrachloride Naples, Italy

DWN:
KR

PROJECT:

DATE:
February 2010

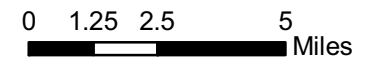
FIGURE NO.:
A-23



- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF or NCEF ≤ 1
 - Groundwater Cancer RSL Exceedance
 - 1 < CEF ≤ 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance
 - NCEF > 1

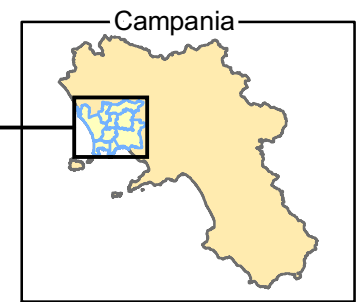
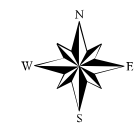
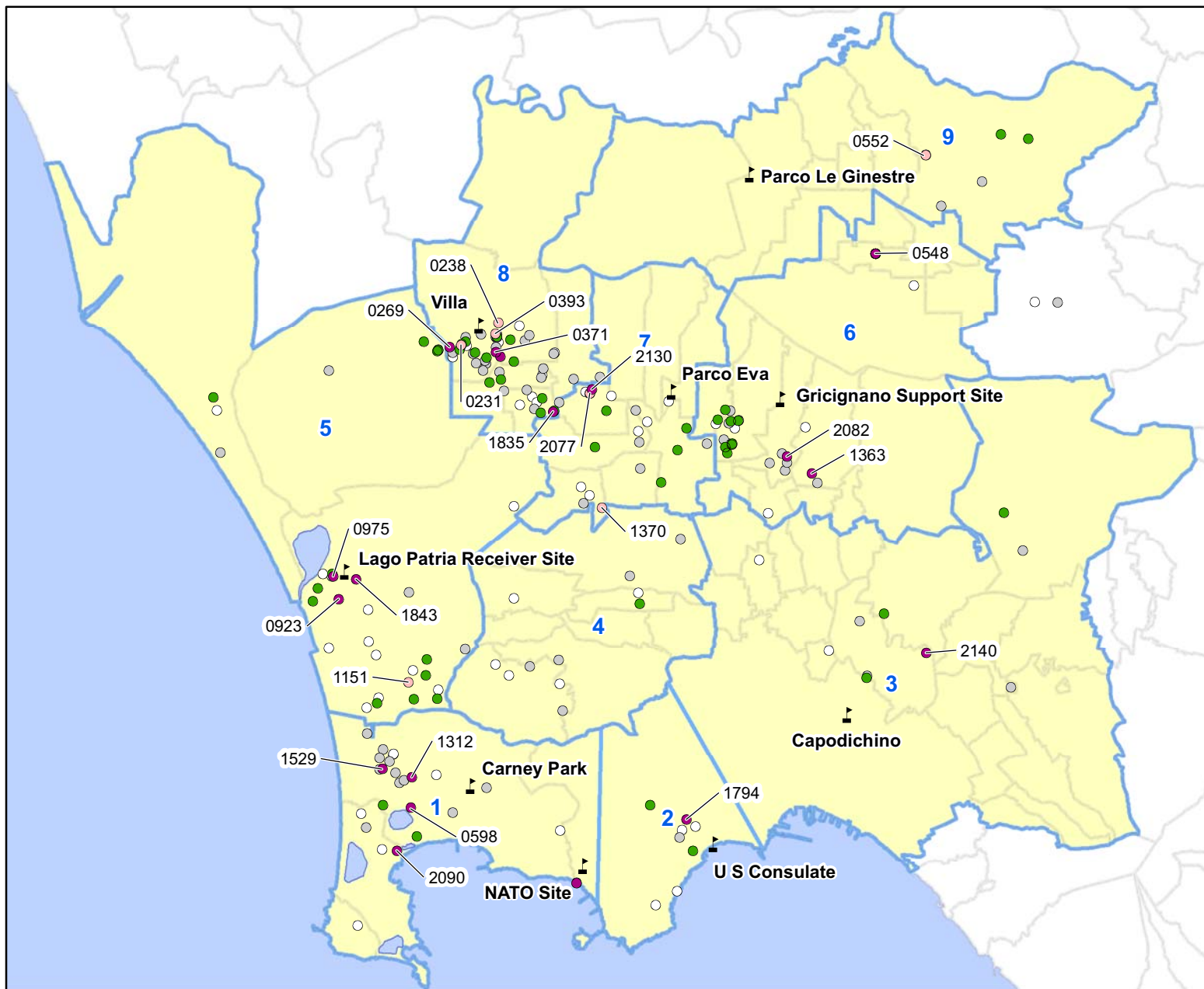
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for Carbon Tetrachloride
Naples, Italy**

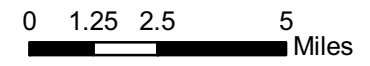
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-24



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

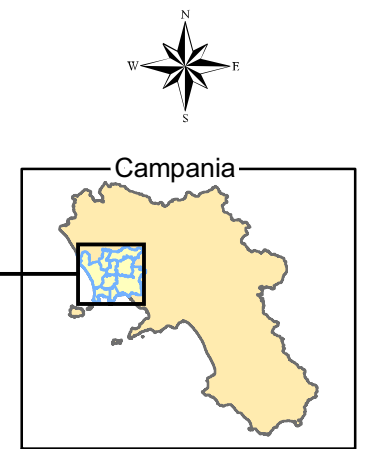
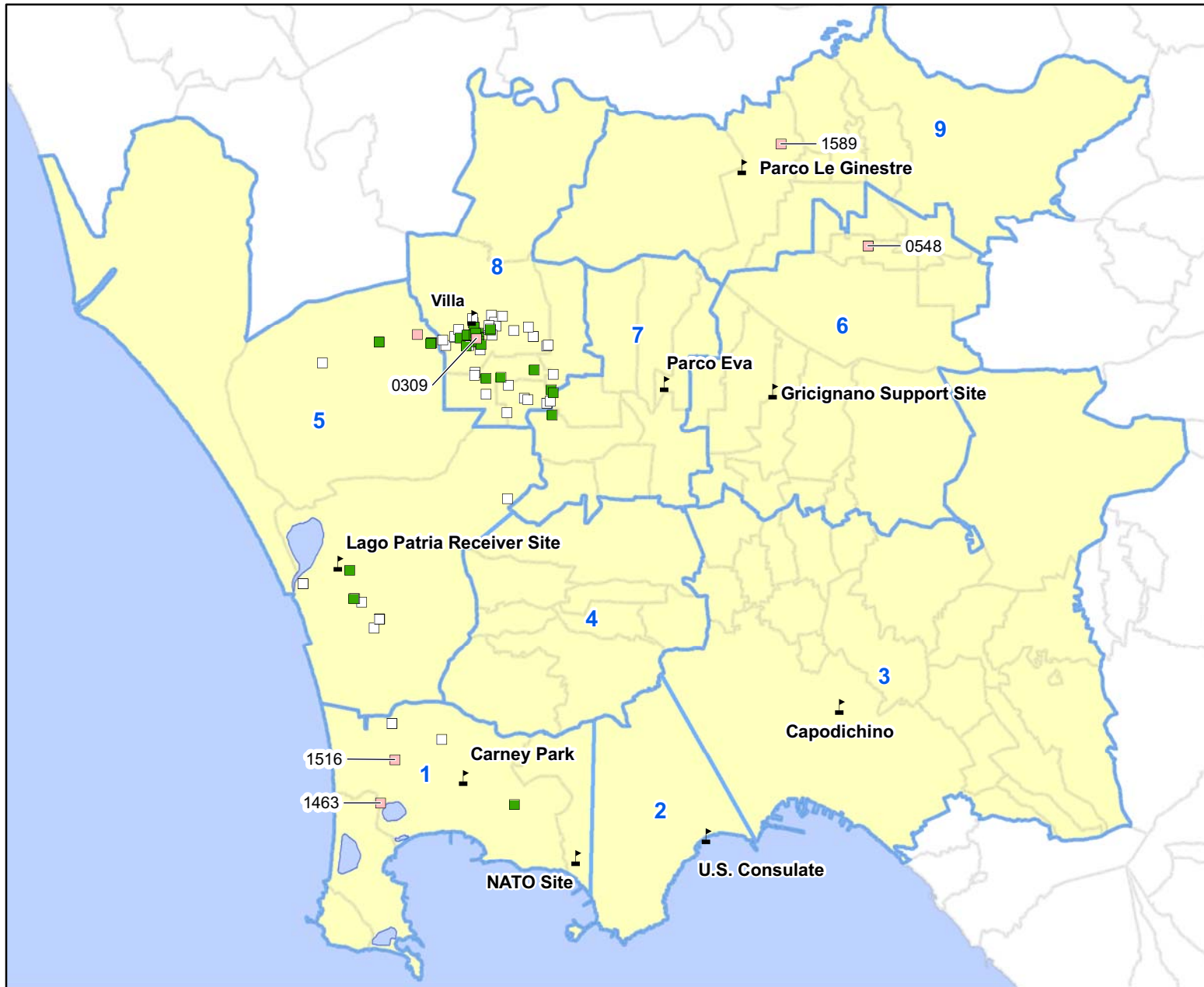
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



Active Soil Gas Screening Results for Chloroform Naples, Italy

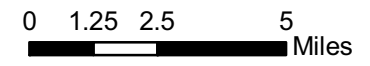
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-25



- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

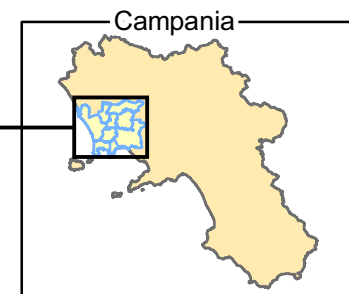
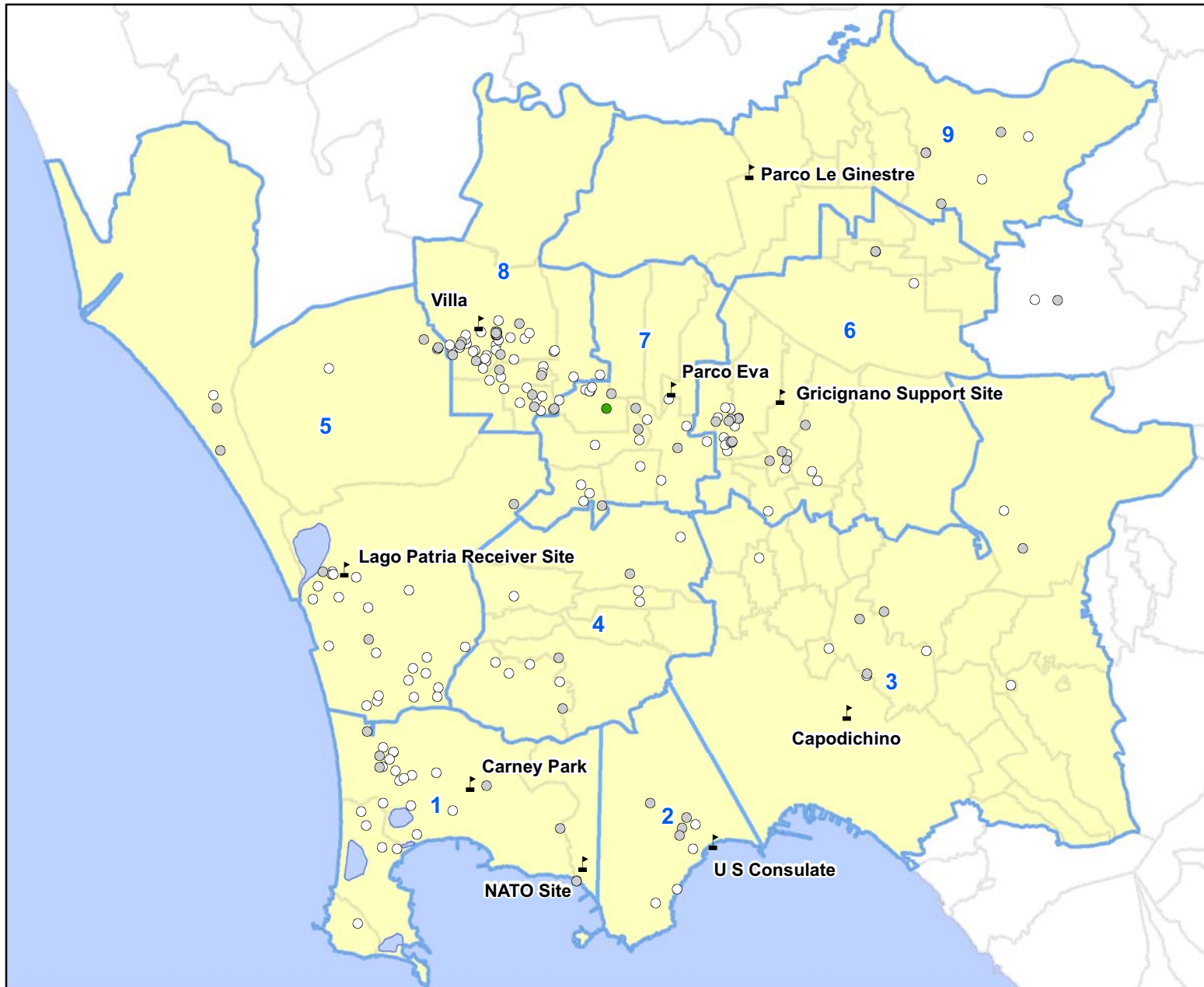
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for Chloroform
Naples, Italy**

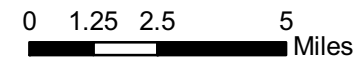
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-26



- Legend**
- ▬ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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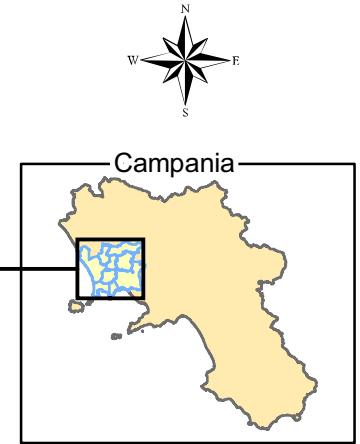
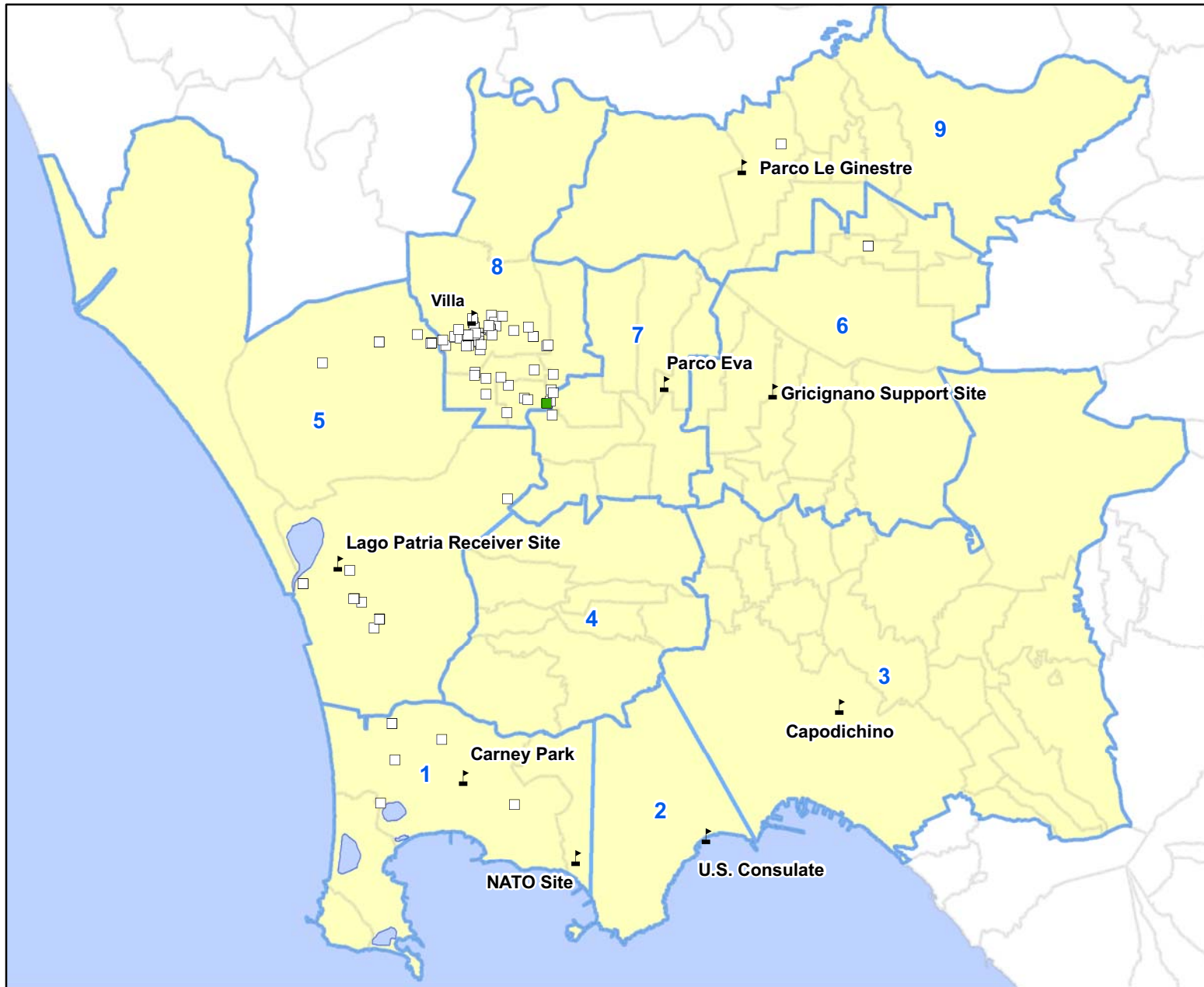
Active Soil Gas Screening Results for Chloromethane Naples, Italy

DWN:
KR

PROJECT:

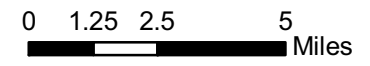
DATE:
February 2010

FIGURE NO.:
A-27



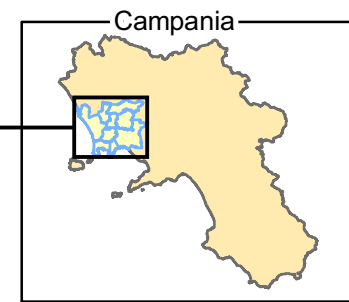
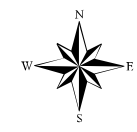
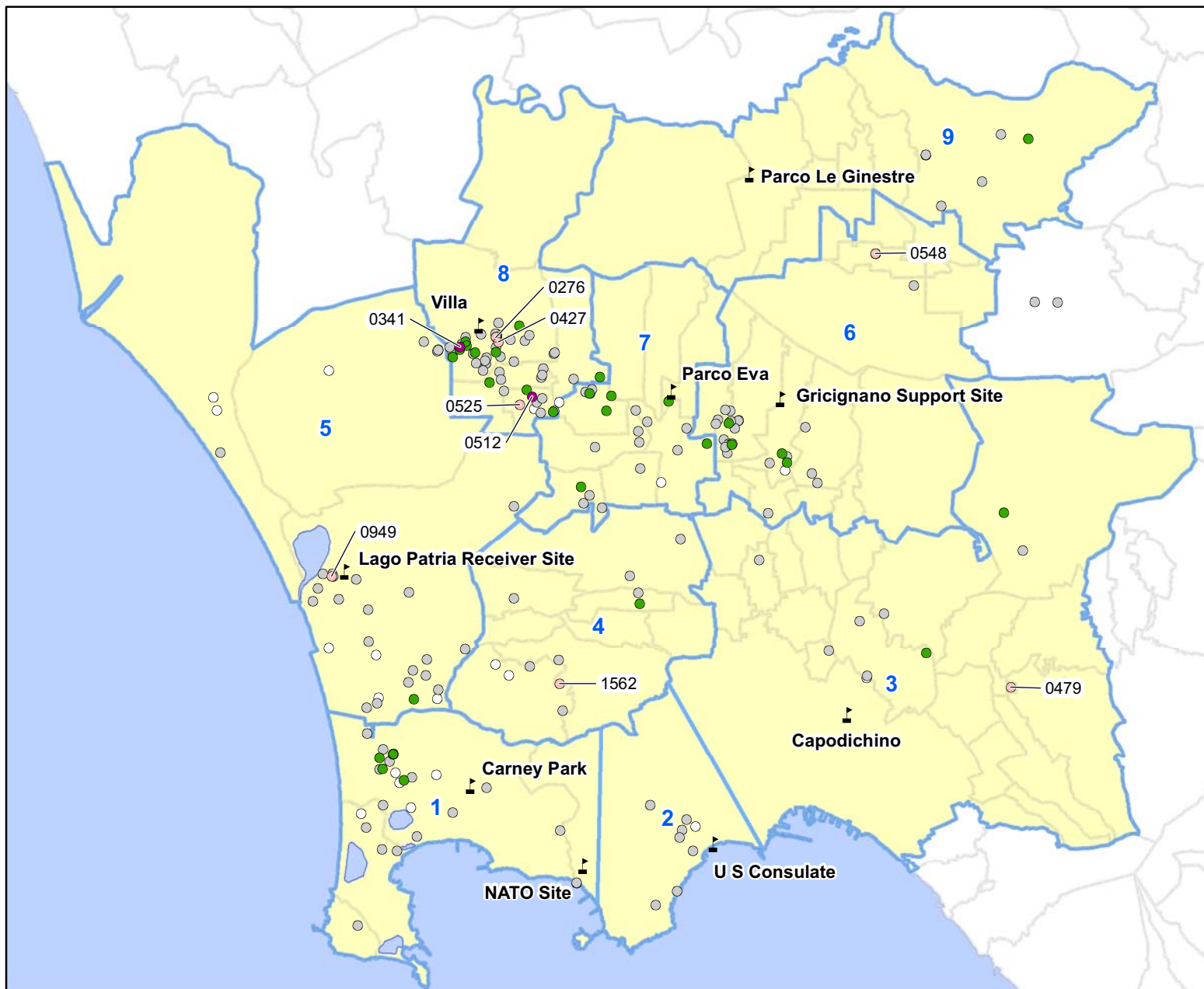
- Legend**
- Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



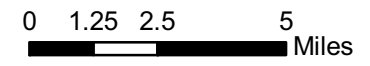
**Groundwater Vapor Screening Results for Chloromethane
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-28



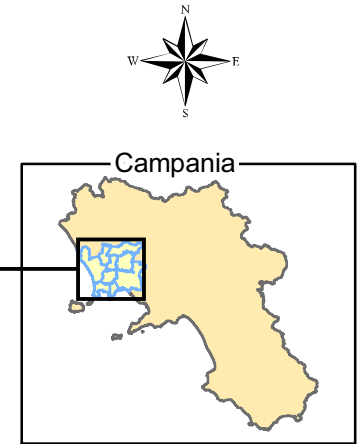
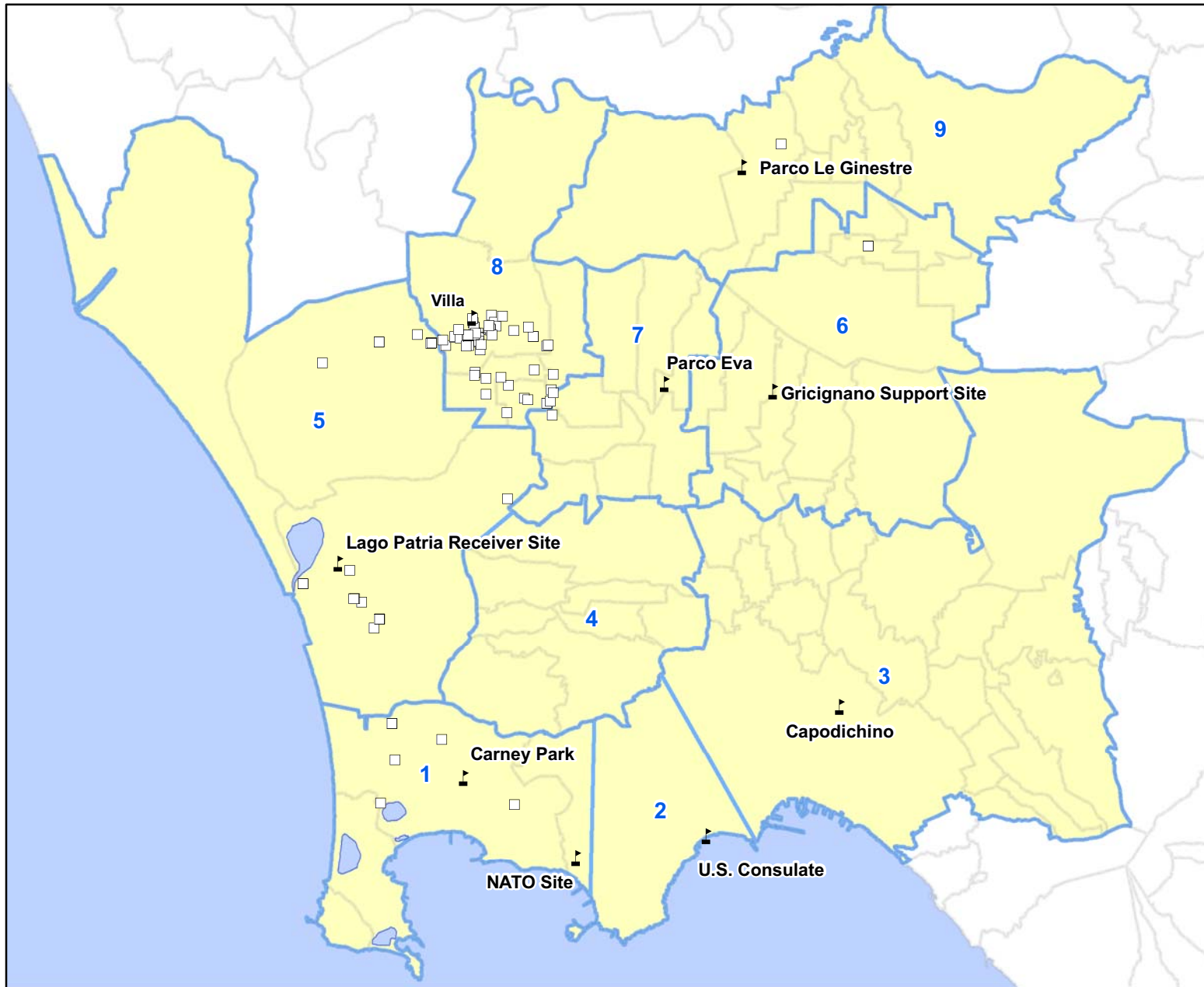
- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF ≤ 1 or NCEF ≤ 0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF ≤ 5
 - 5 < CEF ≤ 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF ≤ 1
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Regional Screening Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



Active Soil Gas Screening Results for Ethylbenzene Naples, Italy

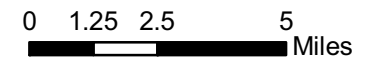
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-29



- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

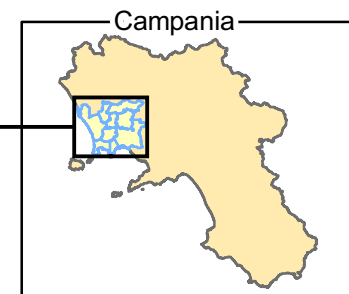
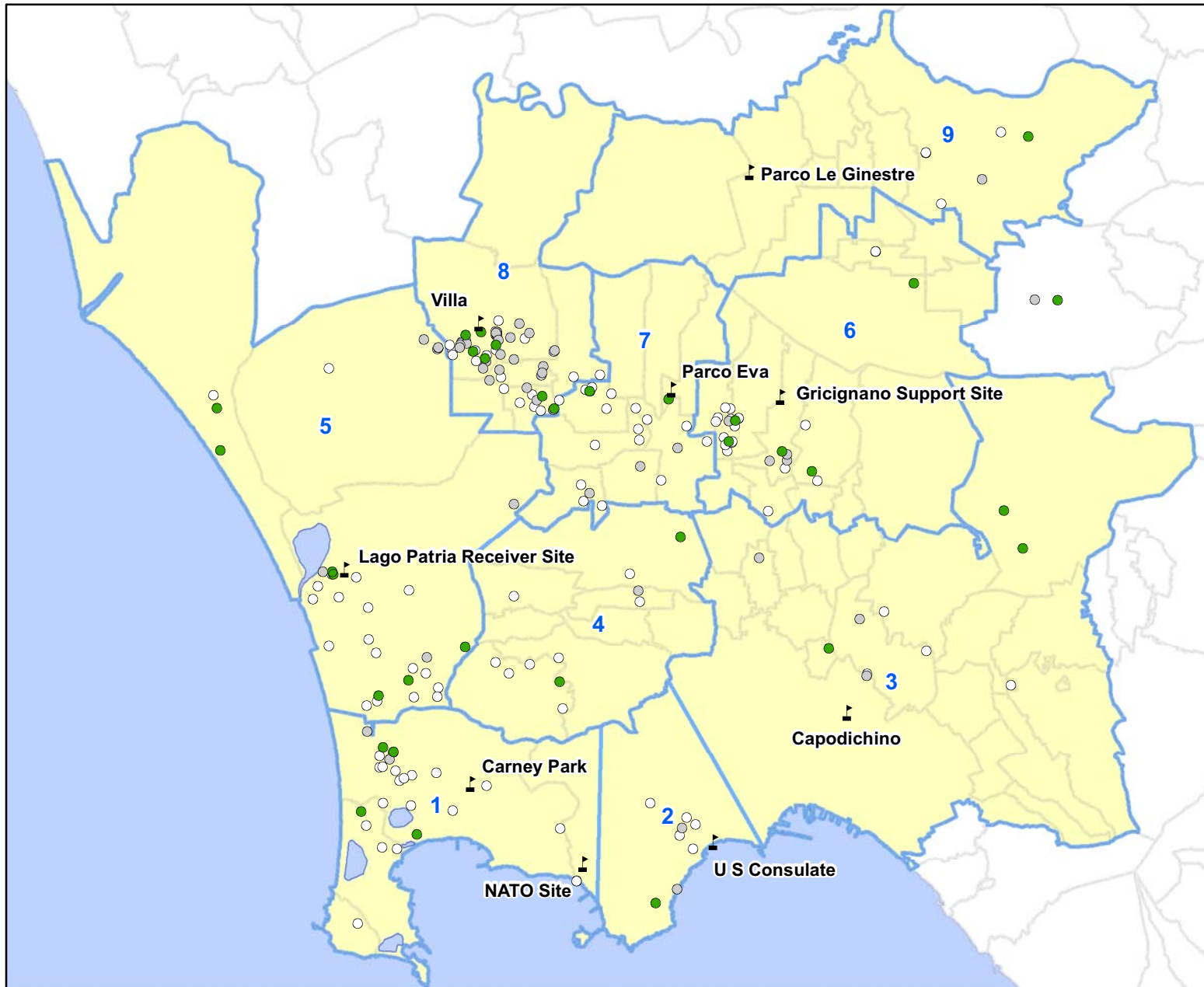
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



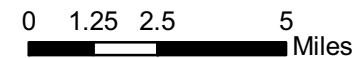
**Groundwater Vapor Screening Results for Ethylbenzene
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-30



- Legend**
- ▬ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF<=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Regional Screening Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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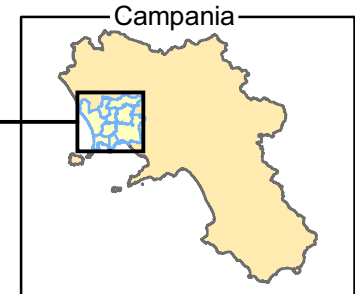
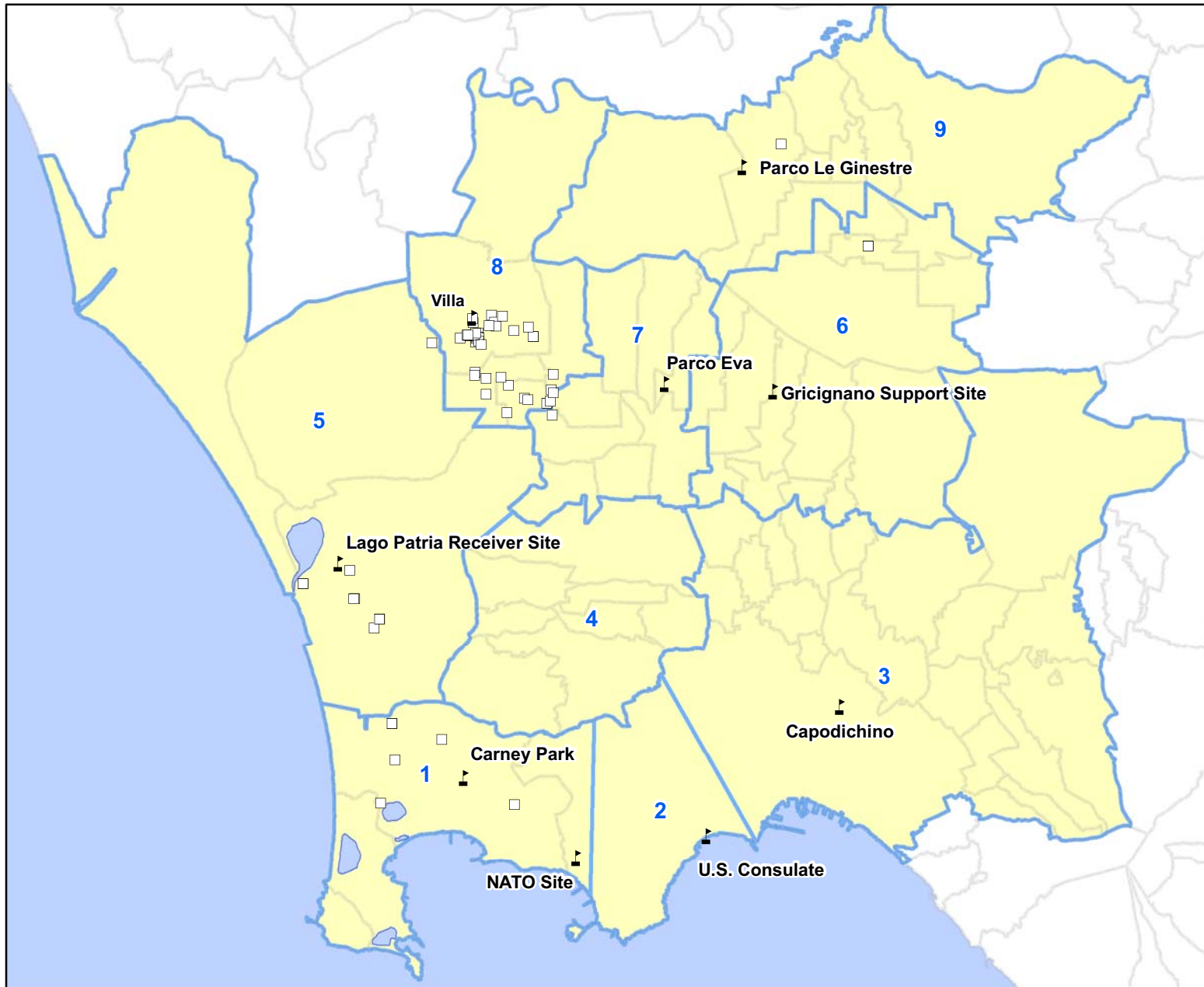
**Active Soil Gas Screening Results for Hexachlorobutadiene
Naples, Italy**

DWN:
KR

PROJECT:

DATE:
February 2010

FIGURE NO.:
A-31

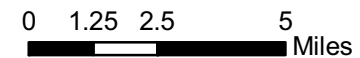


Legend

- Ambient Air Monitoring Station
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Sample Locations**
- Non-detect
- Detects

Note:

- Hexachlorobutadiene does not have a cancer or noncancer inhalation RSL.
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



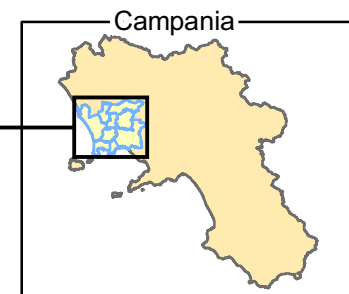
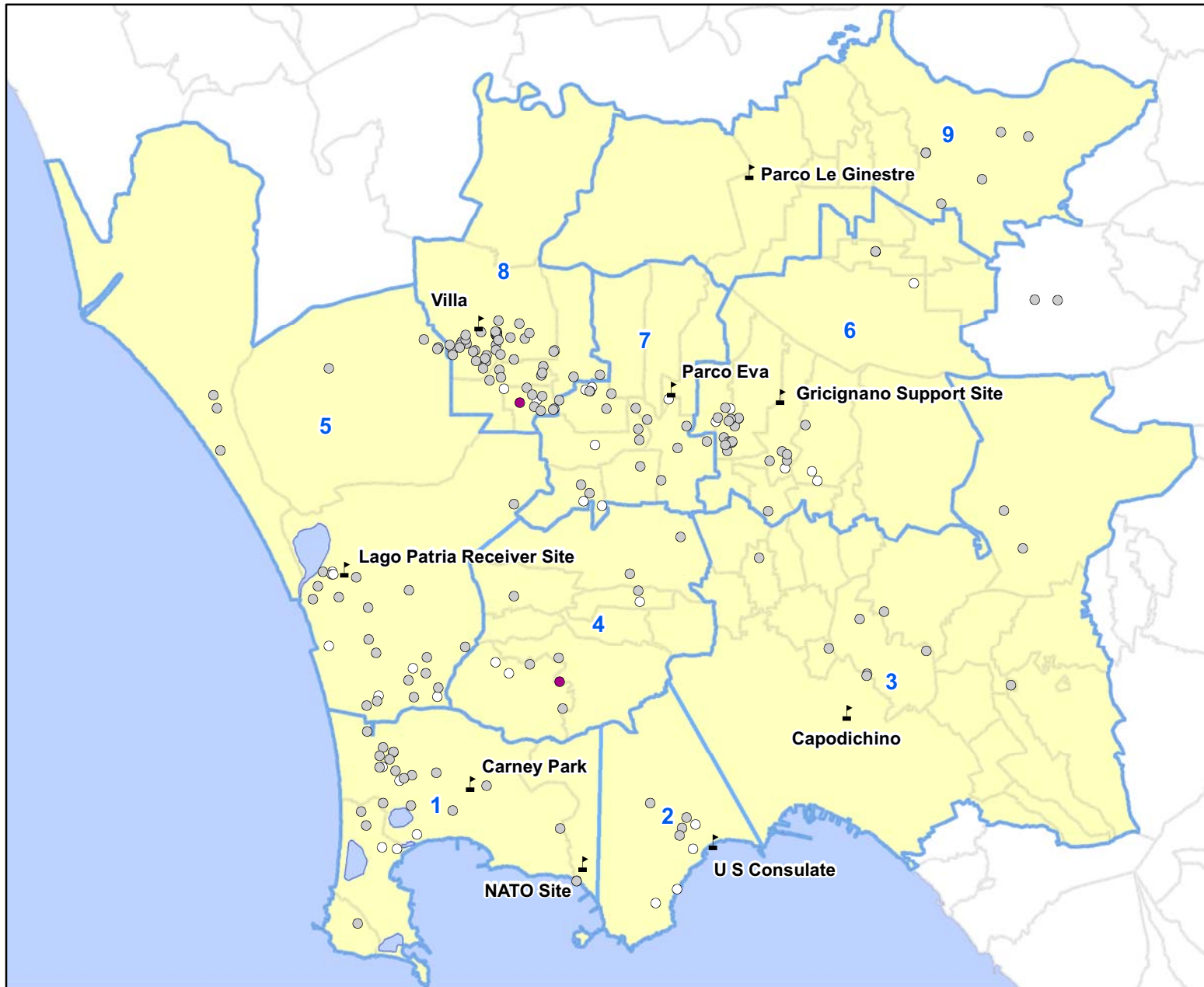
**Groundwater Results for Hexachlorobutadiene
Naples, Italy**

DWN:
KR

PROJECT:

DATE:
February 2010

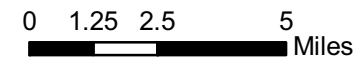
FIGURE NO.:
A-32



- Legend**
- ▬ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF ≤ 1 or NCEF ≤ 0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF ≤ 5
 - 5 < CEF ≤ 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF ≤ 1
 - NCEF > 1

Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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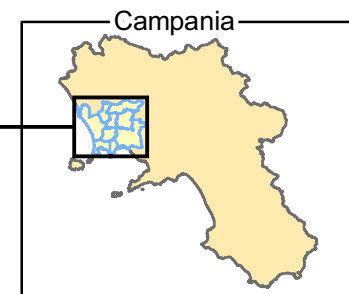
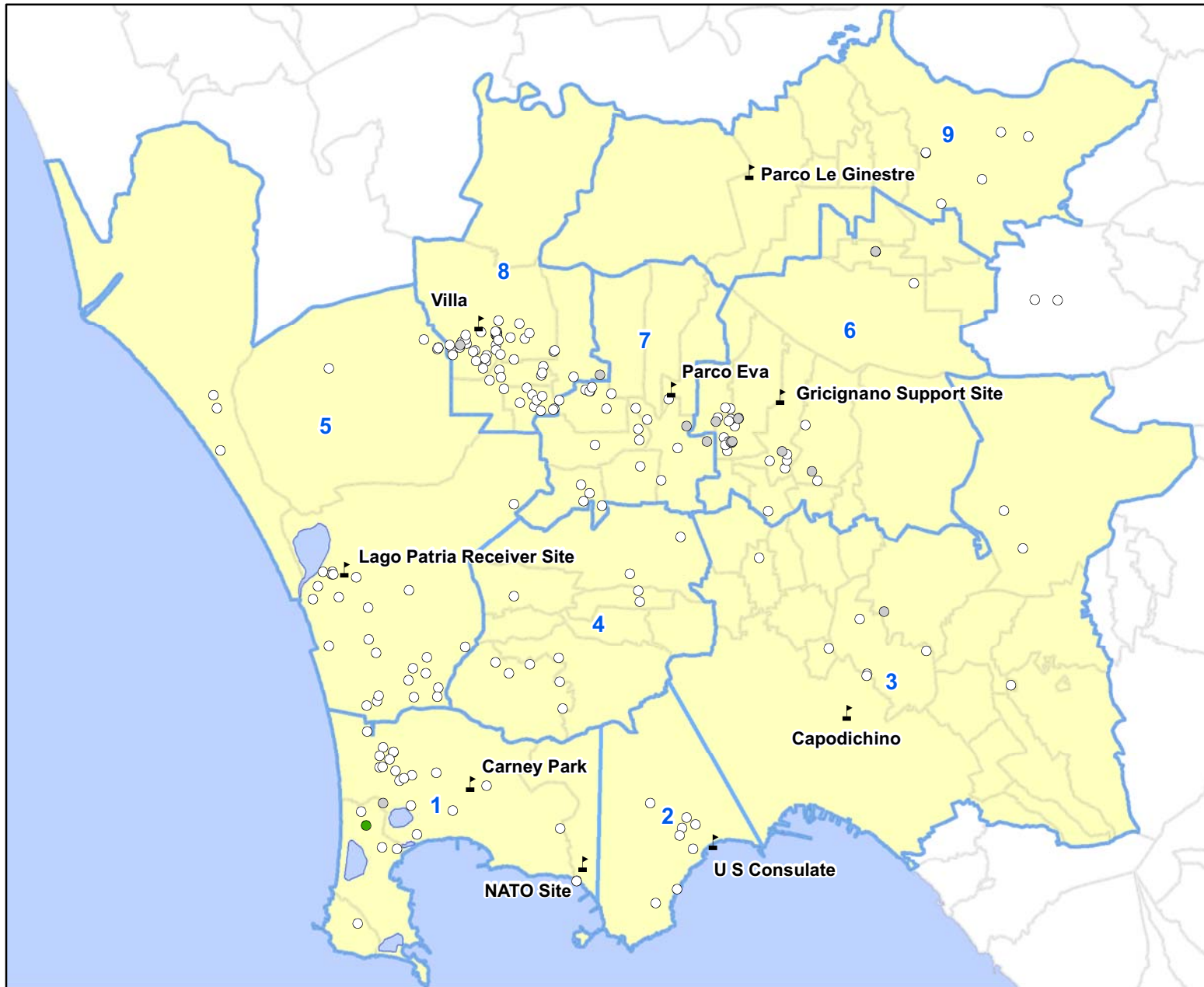
Active Soil Gas Screening Results for Hexane Naples, Italy

DWN:
KR

PROJECT:

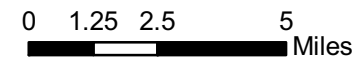
DATE:
February 2010

FIGURE NO.:
A-33



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Regional Screening Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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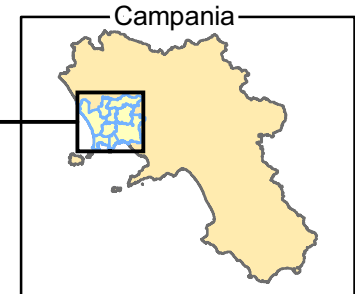
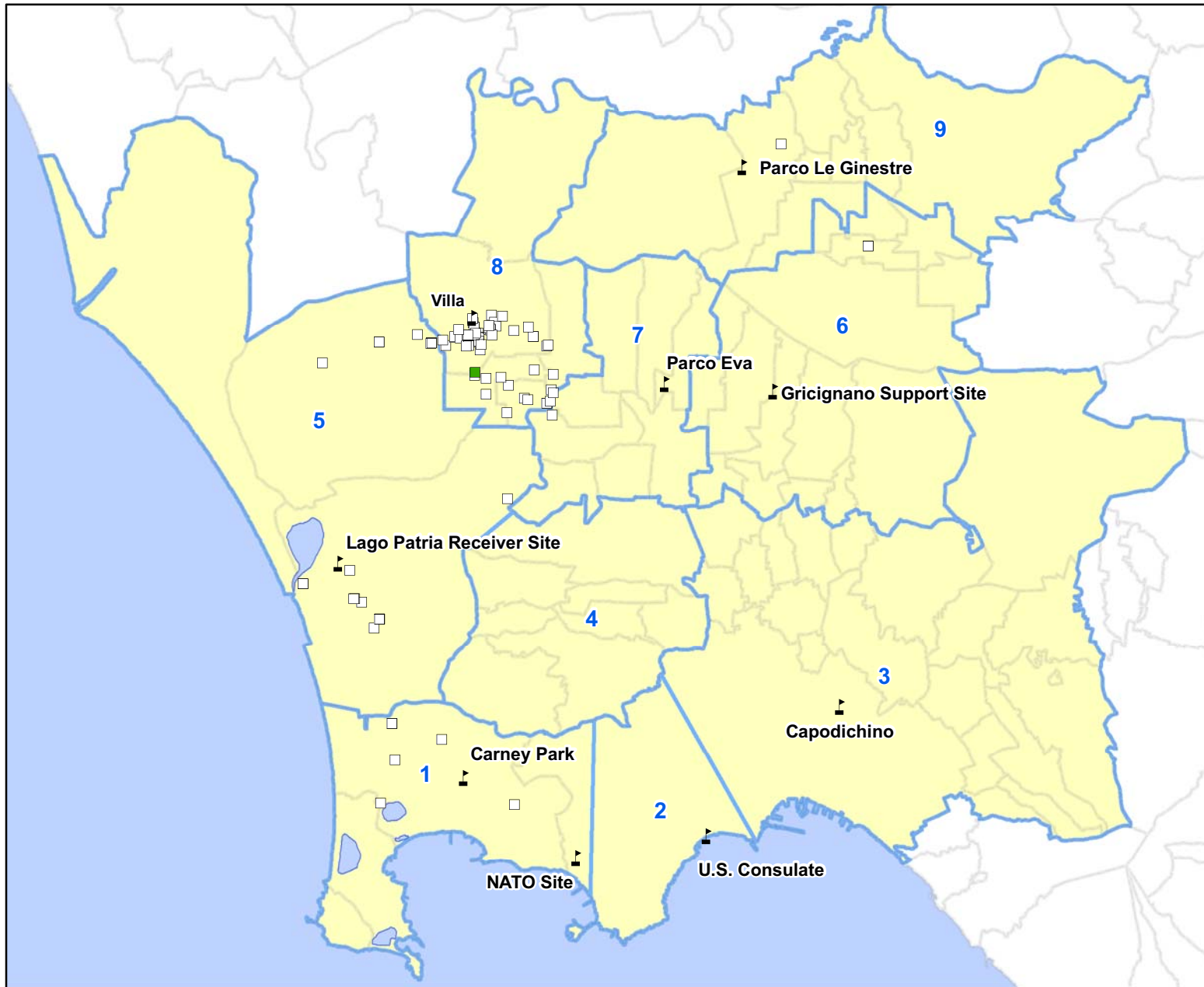
Active Soil Gas Screening Results for Methyl tert-Butyl Ether Naples, Italy

DWN:
 KR

PROJECT:

DATE:
 February 2010

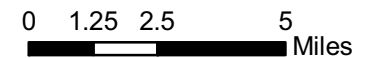
FIGURE NO.:
 A-34



Legend

- Ambient Air Monitoring Station
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
- Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
- Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



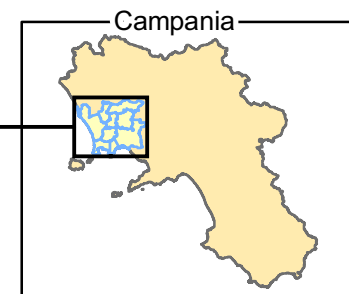
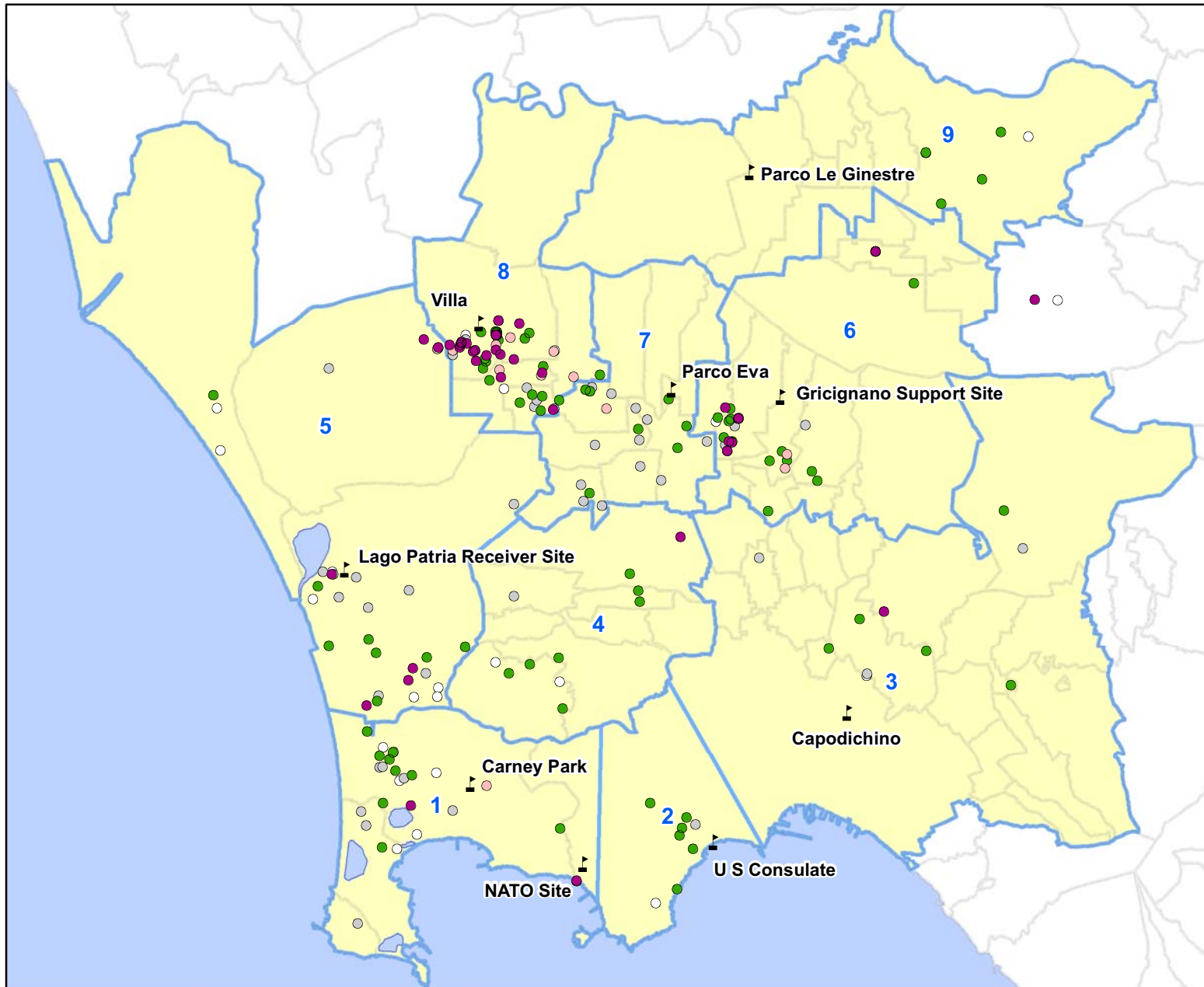
**Groundwater Vapor Screening Results for Methyl tert-Butyl Ether
Naples, Italy**

DWN:
KR

DATE:
February 2010

PROJECT:

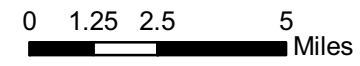
FIGURE NO.:
A-35



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:

- CEf = Cancer Exceedance Factor
- NCEf = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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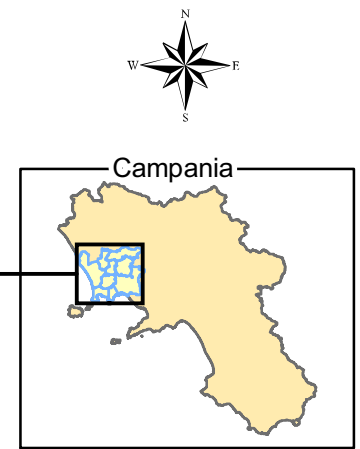
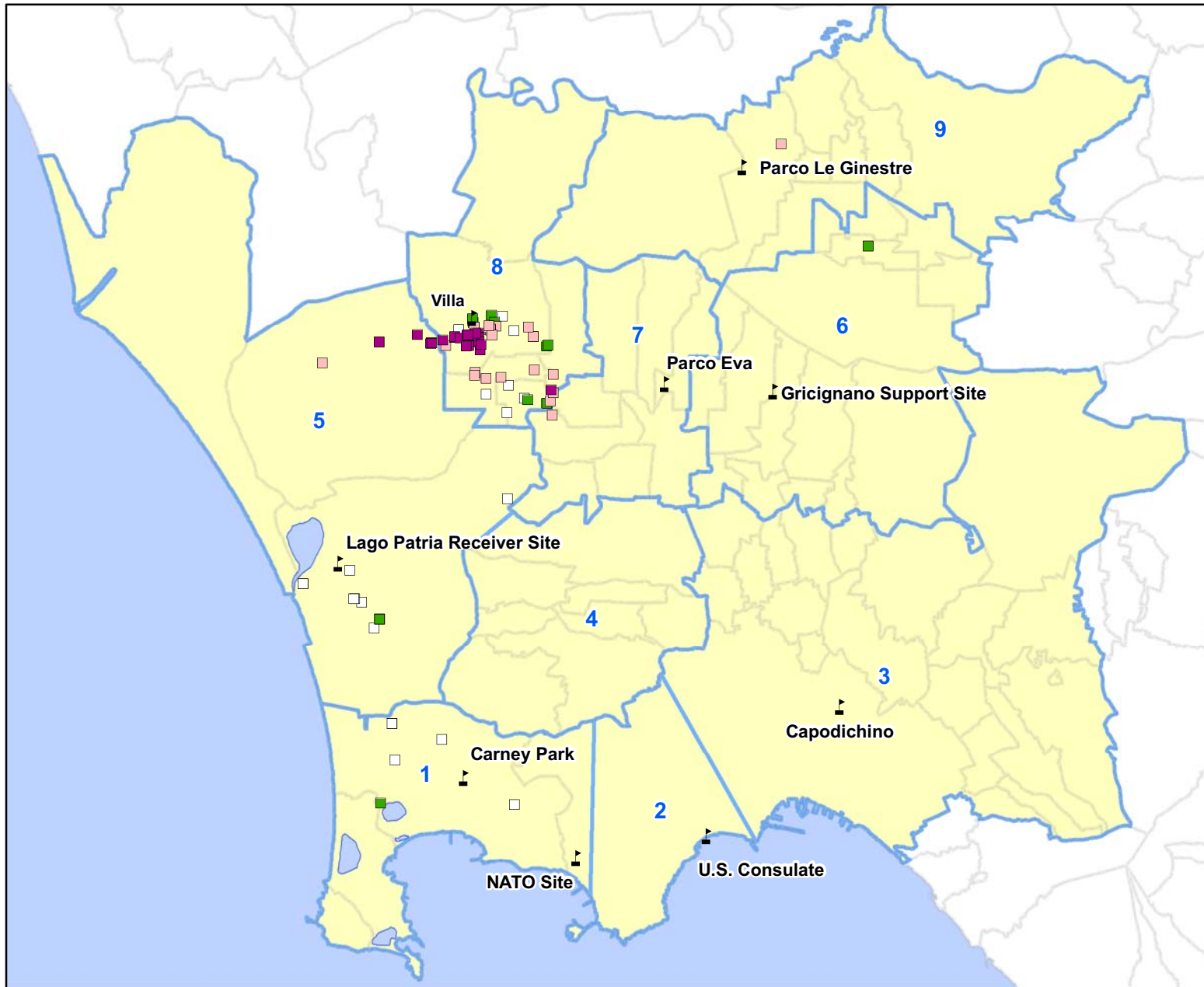
Active Soil Gas Screening Results for Tetrachloroethene Naples, Italy

DWN:
KR

PROJECT:

DATE:
February 2010

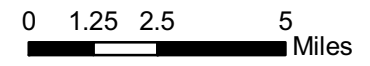
FIGURE NO.:
A-36



- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

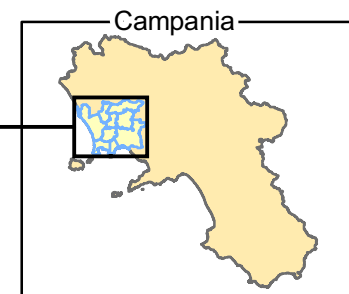
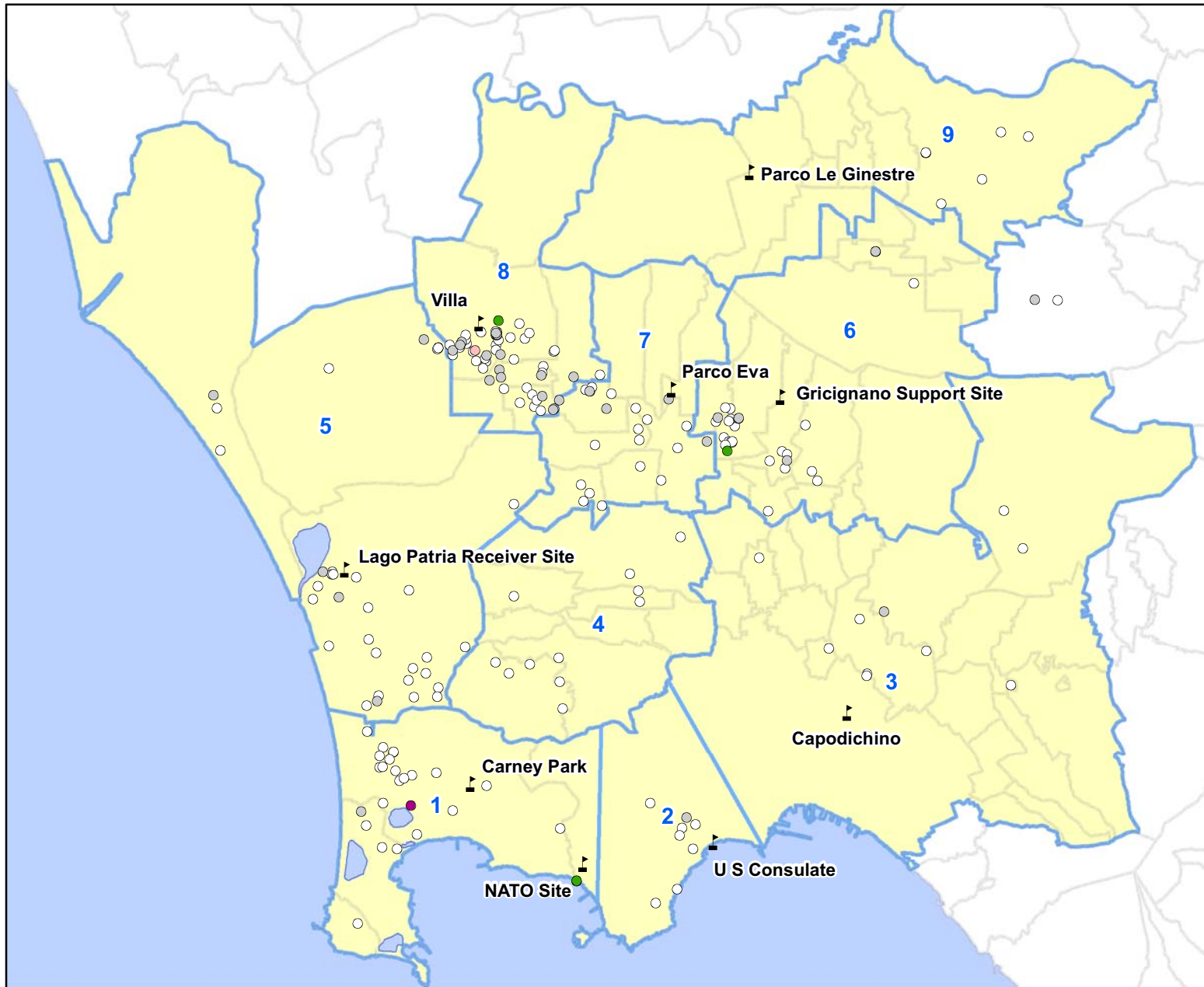
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Samples were collected from a private well or irrigation well and presumed to be groundwater.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for Tetrachloroethene
Naples, Italy**

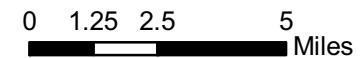
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-37



- Legend**
- ▲ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <=1 or NCEF <=0.5
 - Soil Gas Cancer RSL**
 - 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
 - Soil Gas Noncancer RSL**
 - 0.5 < NCEF <= 1
 - NCEF > 1

Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



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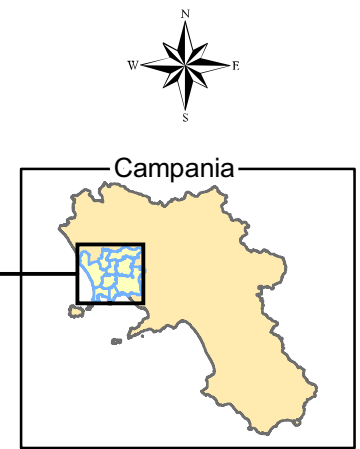
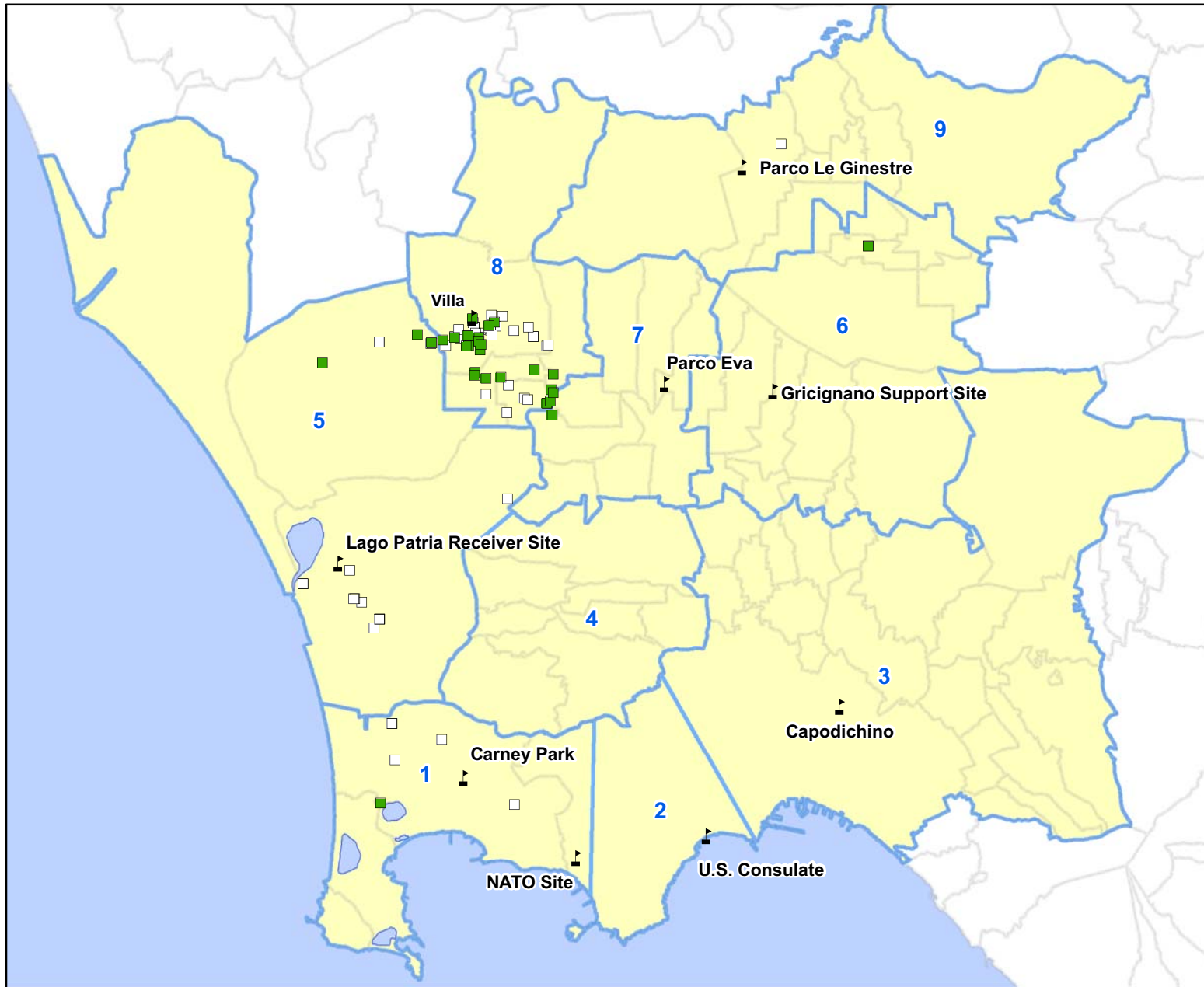
Active Soil Gas Screening Results for Trichloroethene Naples, Italy

DWN:
KR

PROJECT:

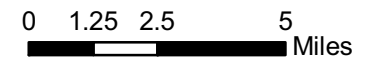
DATE:
February 2010

FIGURE NO.:
A-38



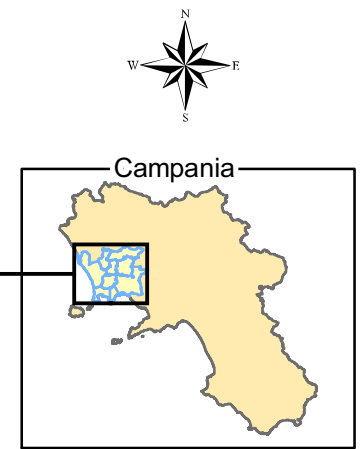
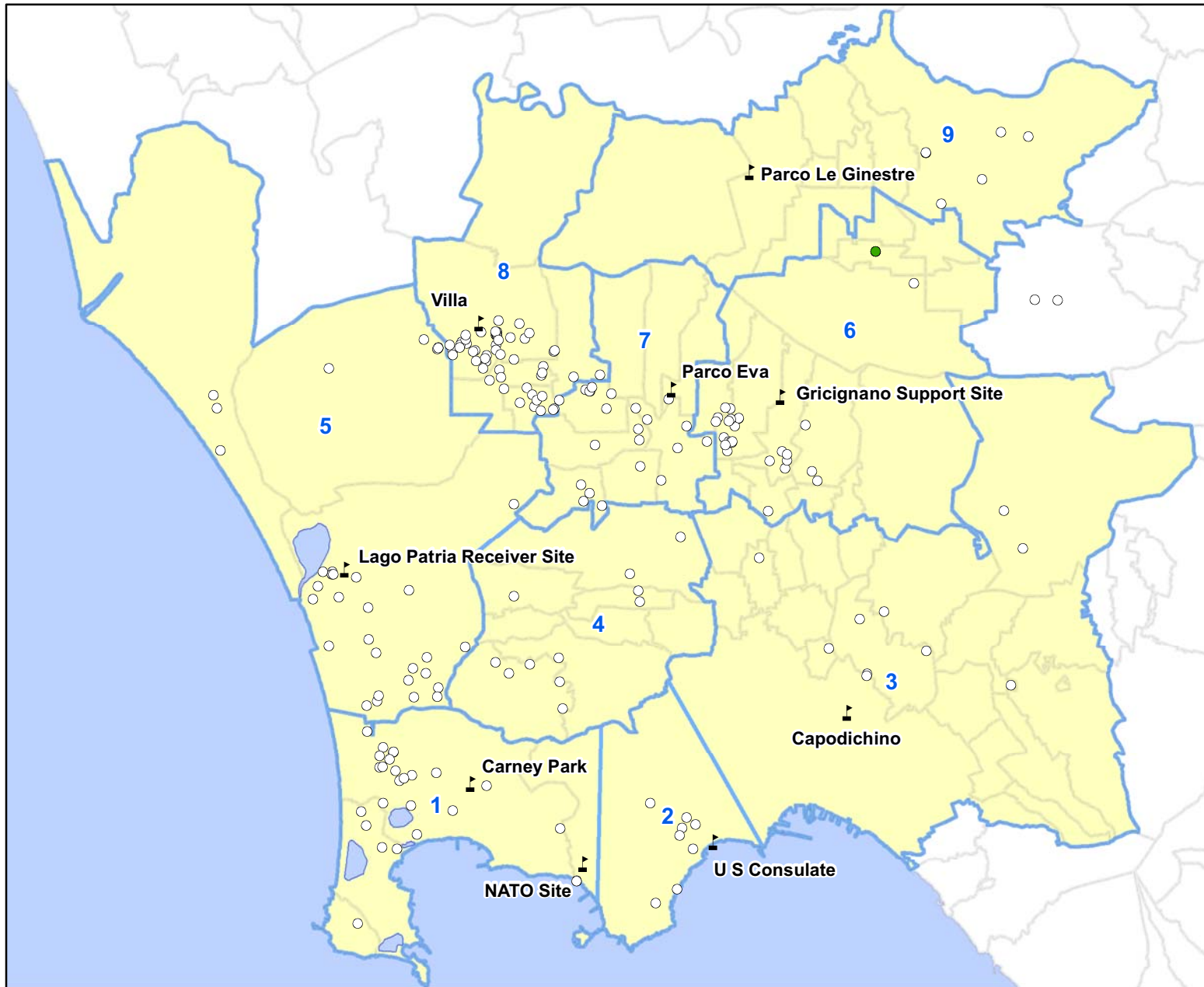
- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for Trichloroethene
Naples, Italy**

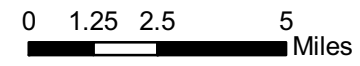
DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-39



- Legend**
- ▬ Ambient Air Monitoring Station
 - ▭ Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Non-detect
 - CEF <= 1 or NCEF <= 0.5
- Soil Gas Cancer RSL**
- 1 < CEF <= 5
 - 5 < CEF <= 10
 - CEF > 10
- Soil Gas Noncancer RSL**
- 0.5 < NCEF <= 1
 - NCEF > 1

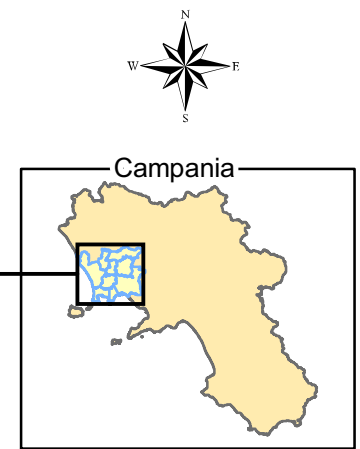
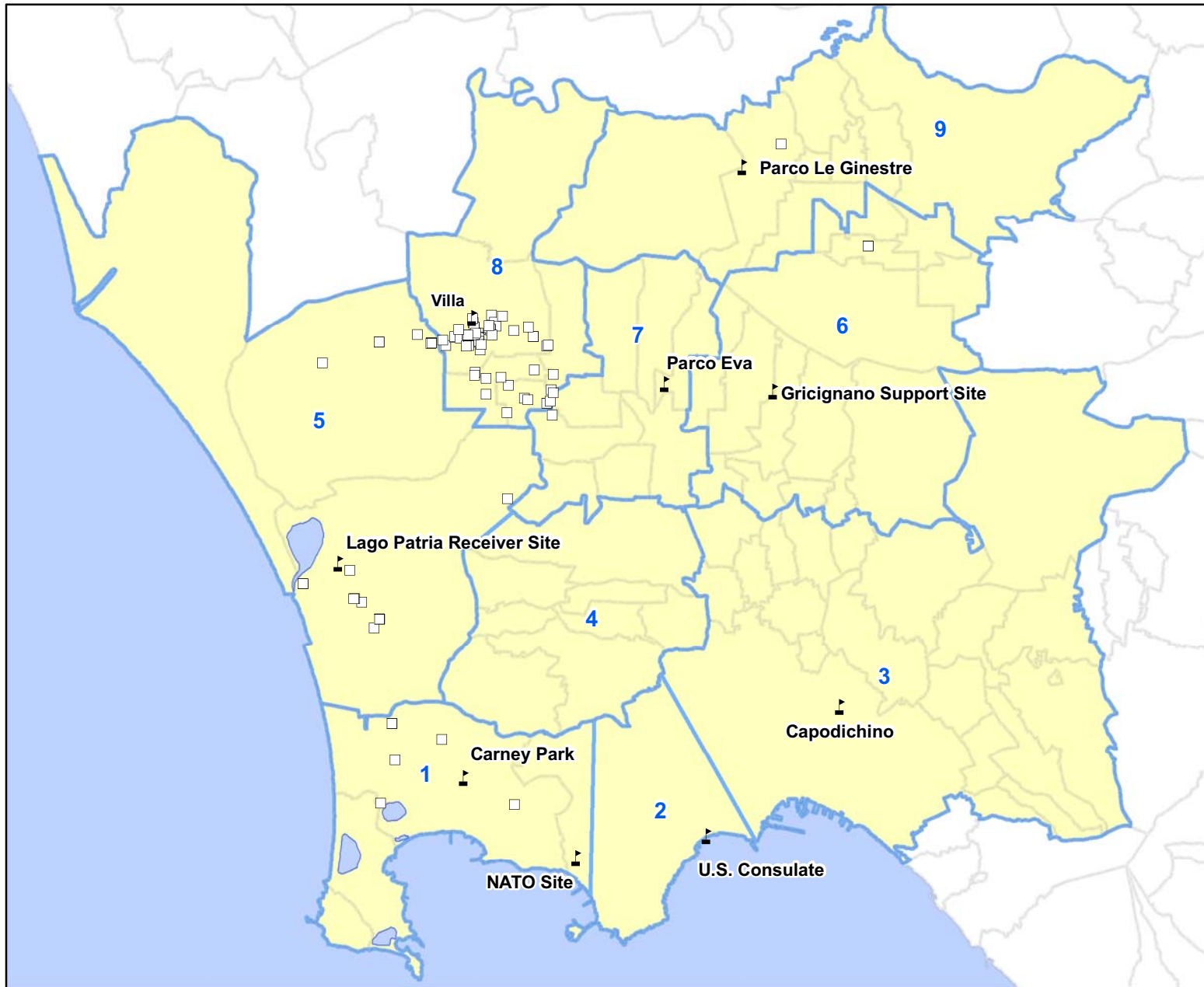
Note:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Environmental Protection Agency's Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Figure presents active soil gas results received through August 12, 2009 and co-located and co-collected active soil gas results received through September 5, 2009.



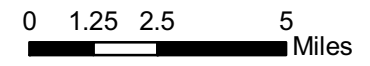
**Active Soil Gas Screening Results for Vinyl Chloride
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-40



- Legend**
- ▲ Ambient Air Monitoring Station
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Groundwater without RSL Exceedance**
 - Non-detect
 - CEF or NCEF <= 1
 - Groundwater Cancer RSL Exceedance**
 - 1 < CEF <= 10
 - CEF > 10
 - Groundwater Noncancer RSL Exceedance**
 - NCEF > 1

Note:
 -CEF = Cancer Exceedance Factor
 -NCEF = Noncancer Exceedance Factor
 -RSL = United States Environmental Protection Agency's Residential Regional Screening Level
 -Exceedance factors are calculated assuming exposure via inhalation only.
 -Samples were collected from a private well or irrigation well and presumed to be groundwater.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Figure presents groundwater results received through August 12, 2009 and co-located and co-collected groundwater results received through September 5, 2009.



**Groundwater Vapor Screening Results for Vinyl Chloride
Naples, Italy**

DWN: KR	PROJECT:
DATE: February 2010	FIGURE NO.: A-41

Appendix B

Frequency Distribution Figures

Figure B-1
Frequency Distribution for 1,1,1,2-Tetrachloroethane

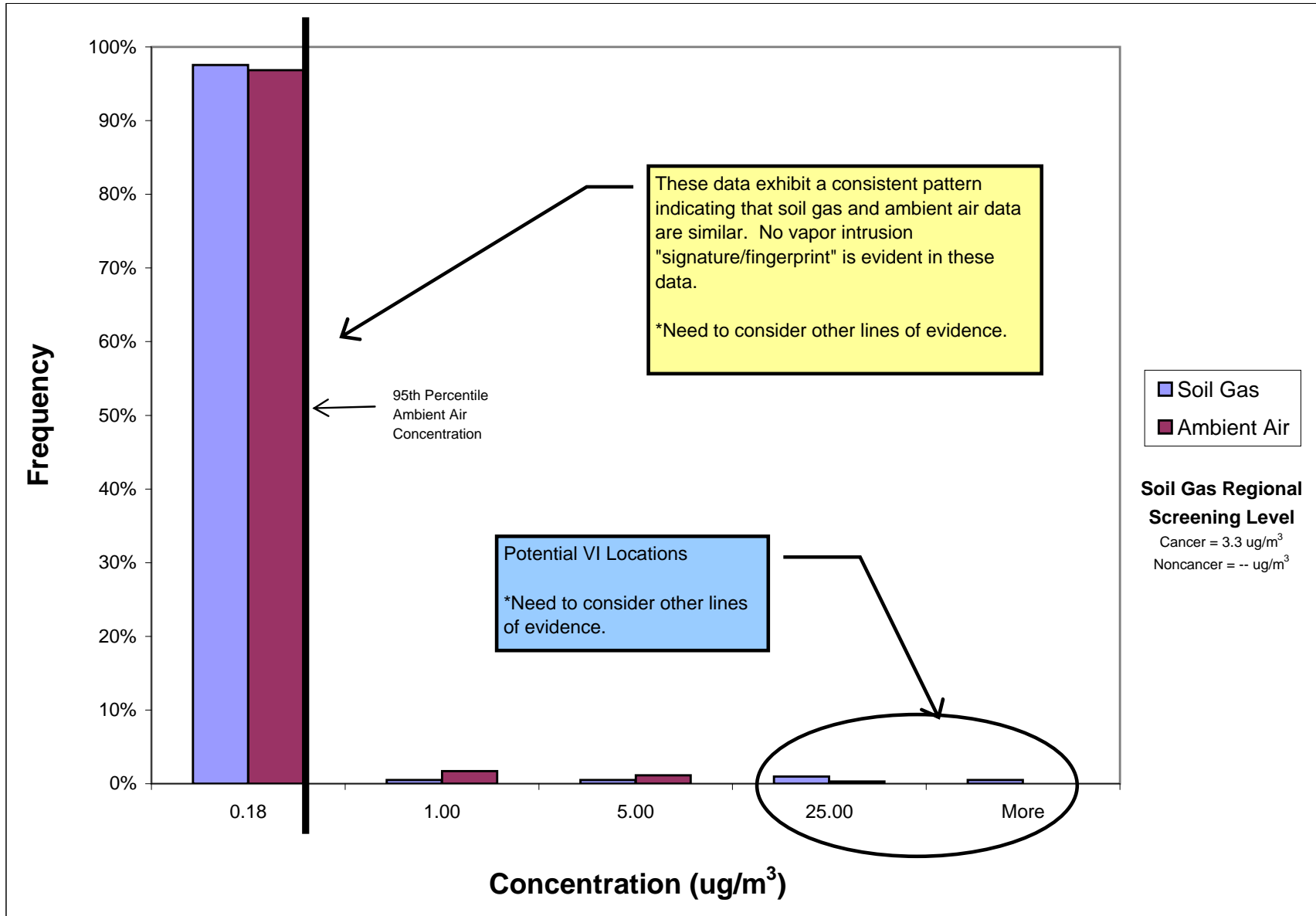


Figure B-2
Frequency Distribution for 1,1,2,2-Tetrachloroethane

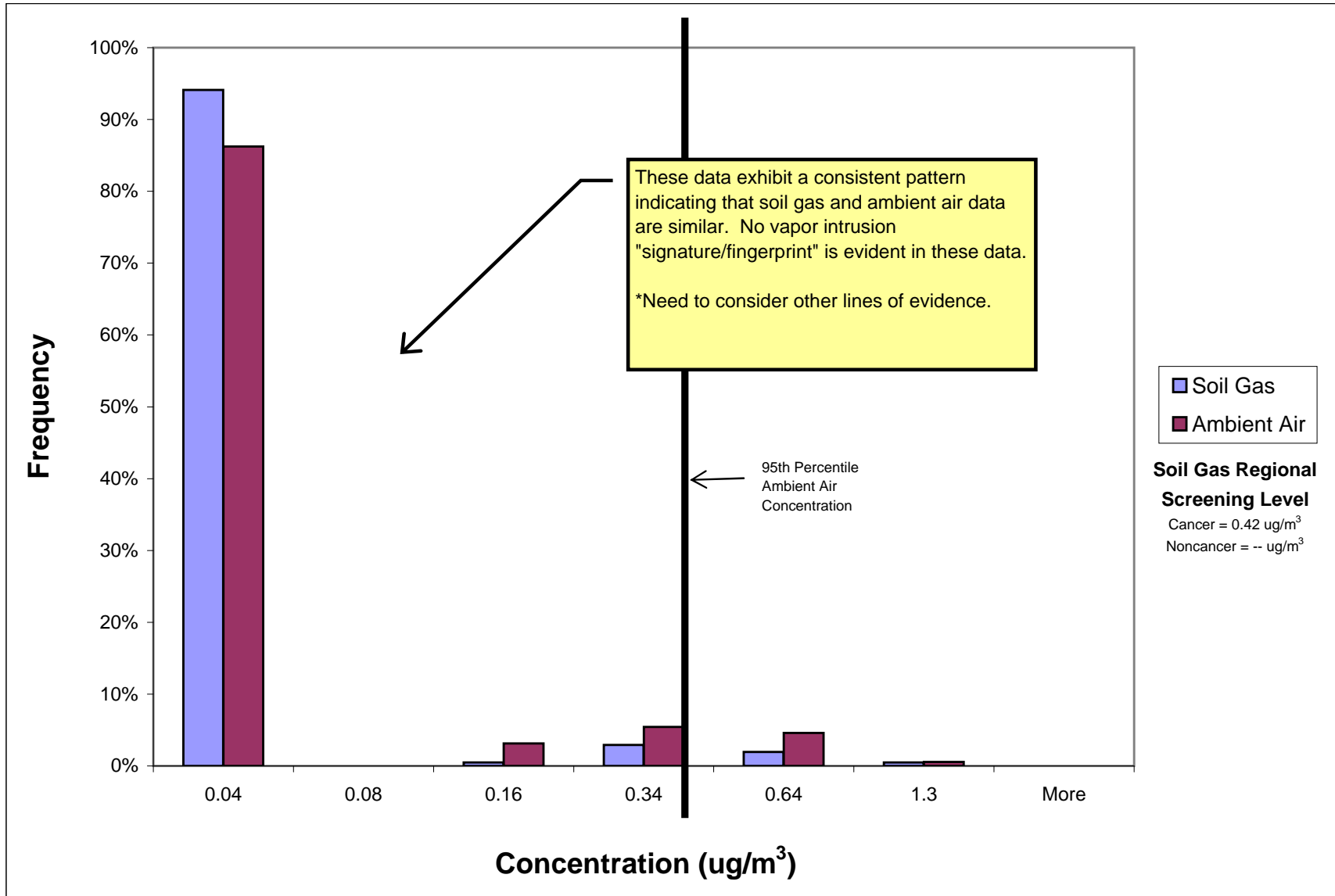


Figure B-3
Frequency Distribution for 1,2-Dibromo-3-chloropropane

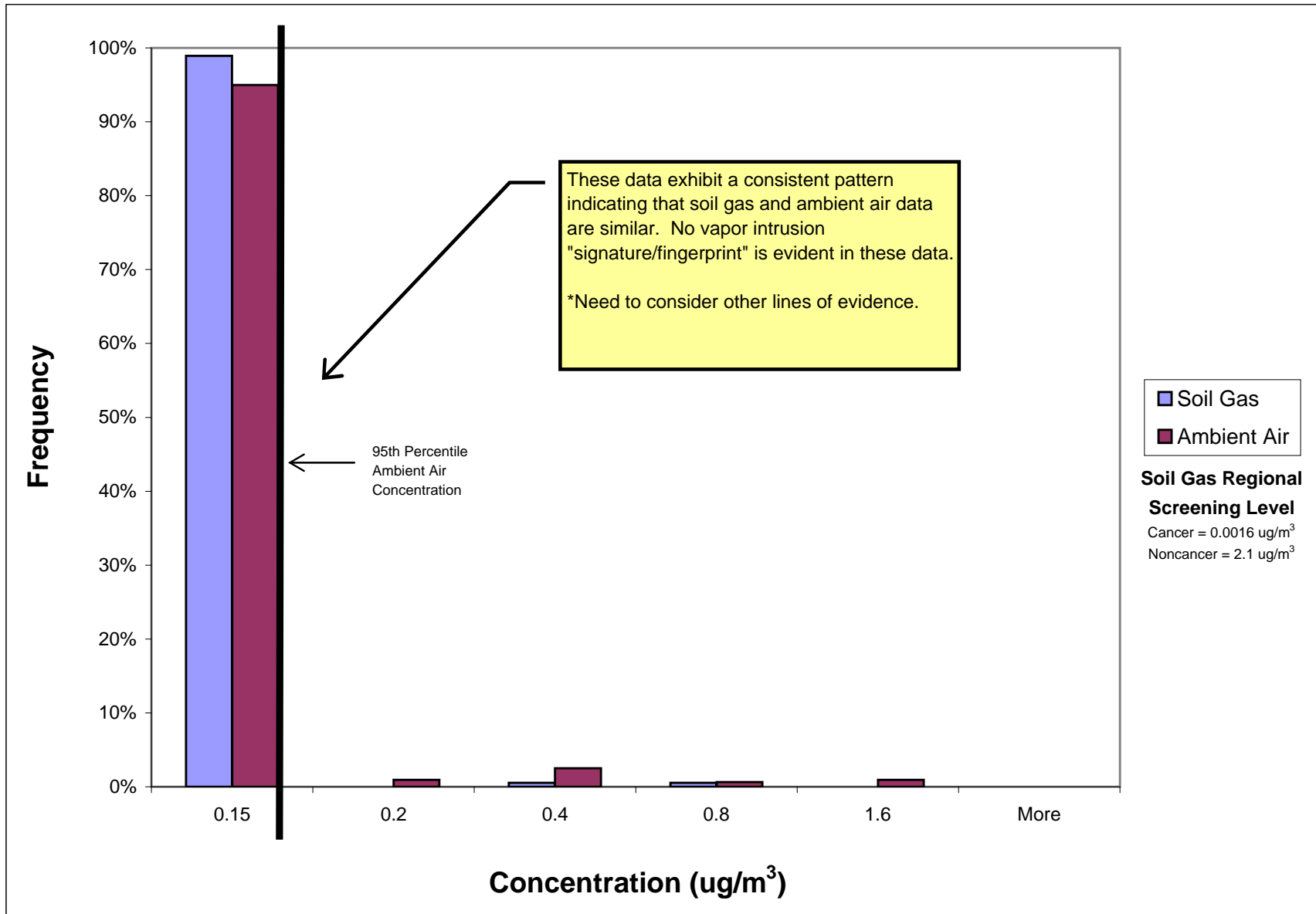


Figure B-4
Frequency Distribution for 1,2-Dibromoethane

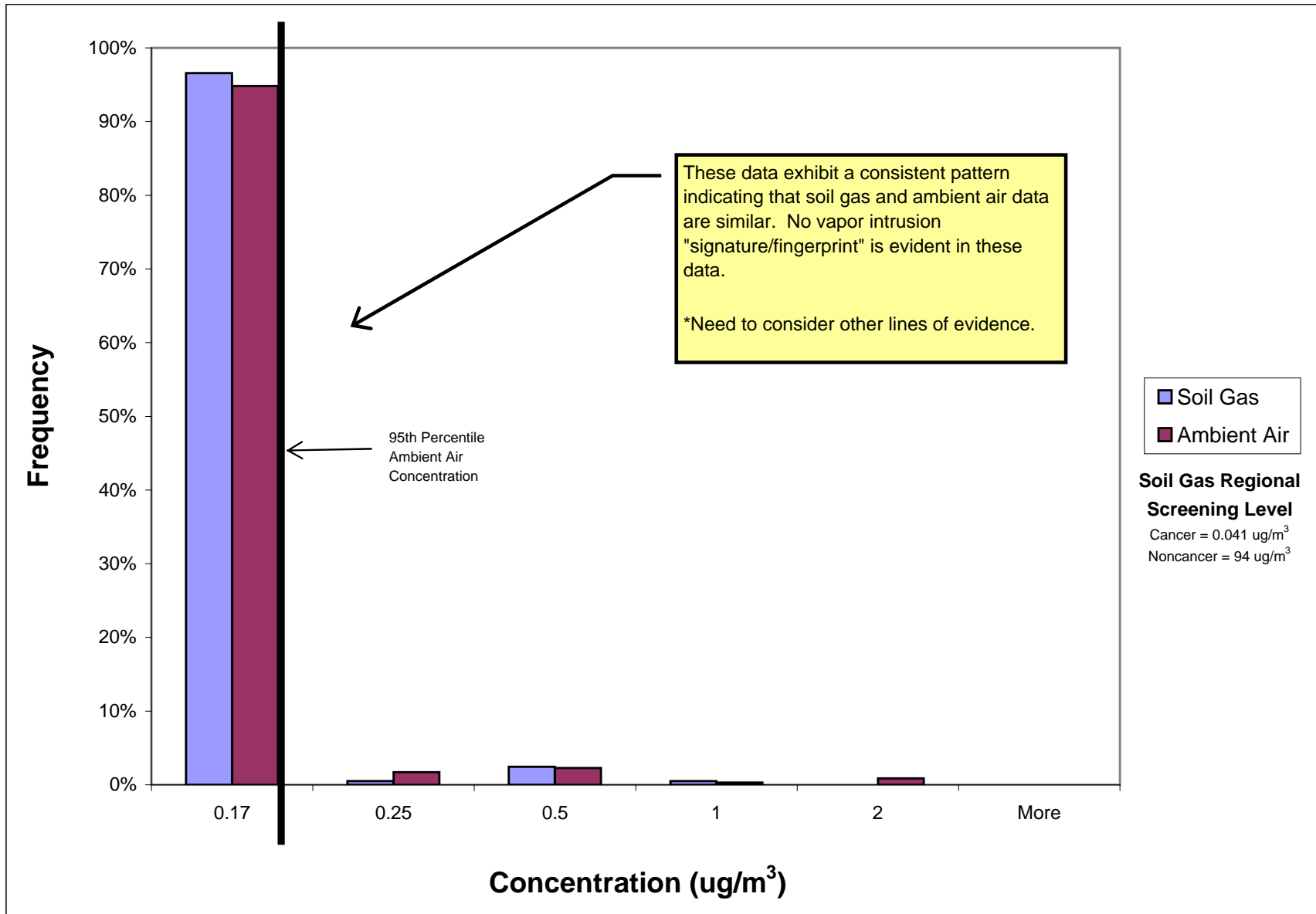


Figure B-5
Frequency Distribution for 1,2-Dichloroethane

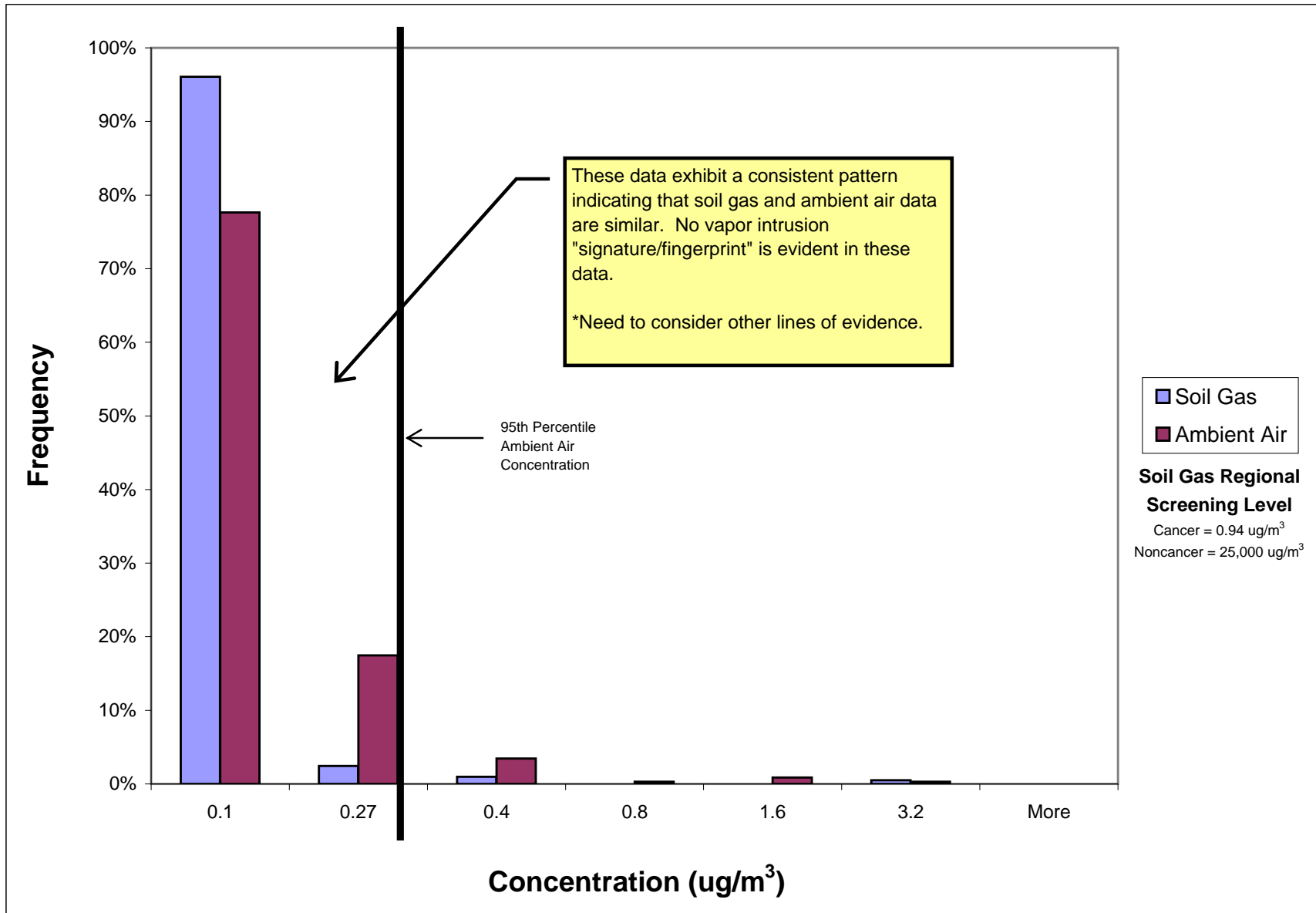


Figure B-6
Frequency Distribution for 1,2-Dichloropropane

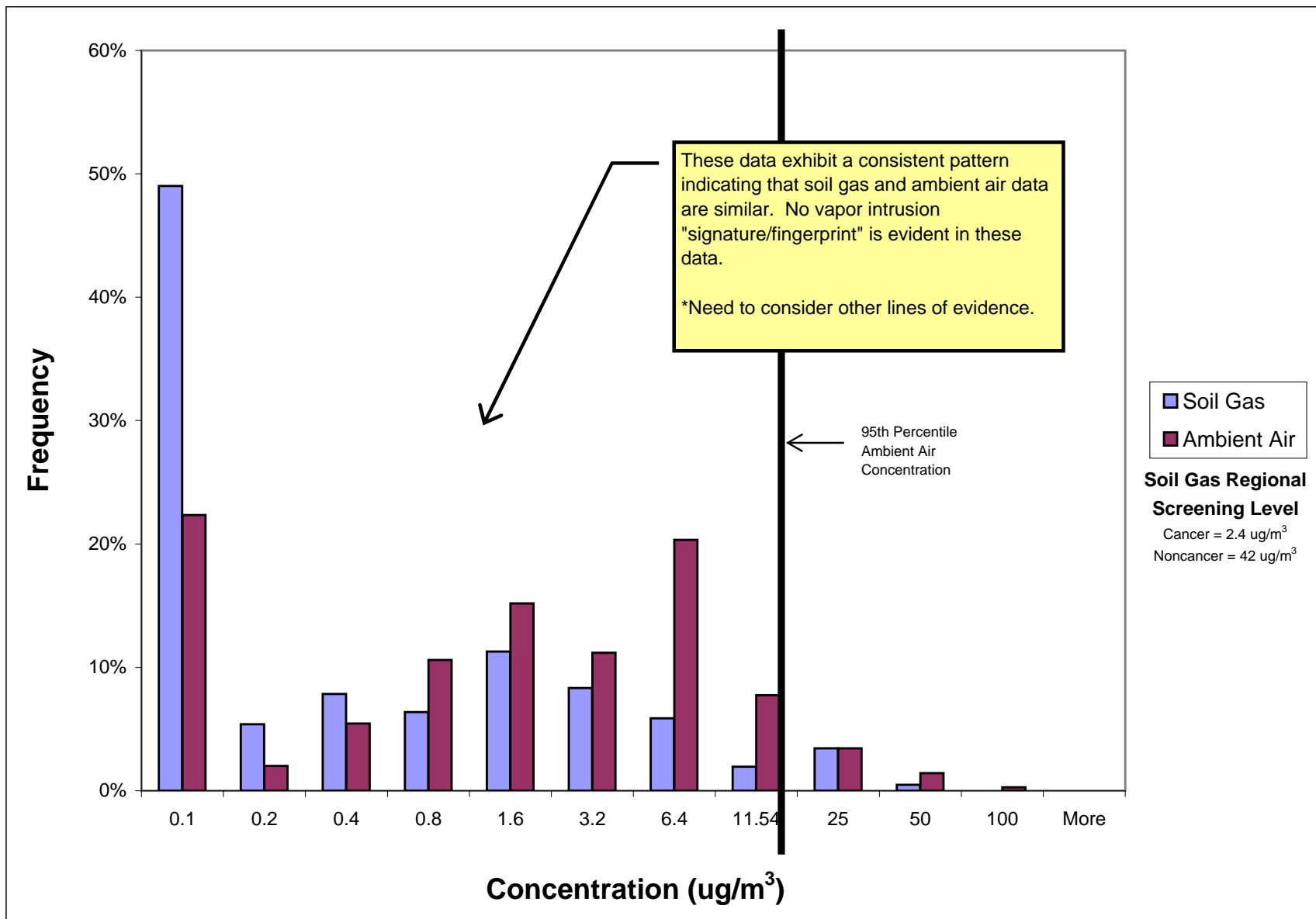


Figure B-7
Frequency Distribution for 1,3-Butadiene

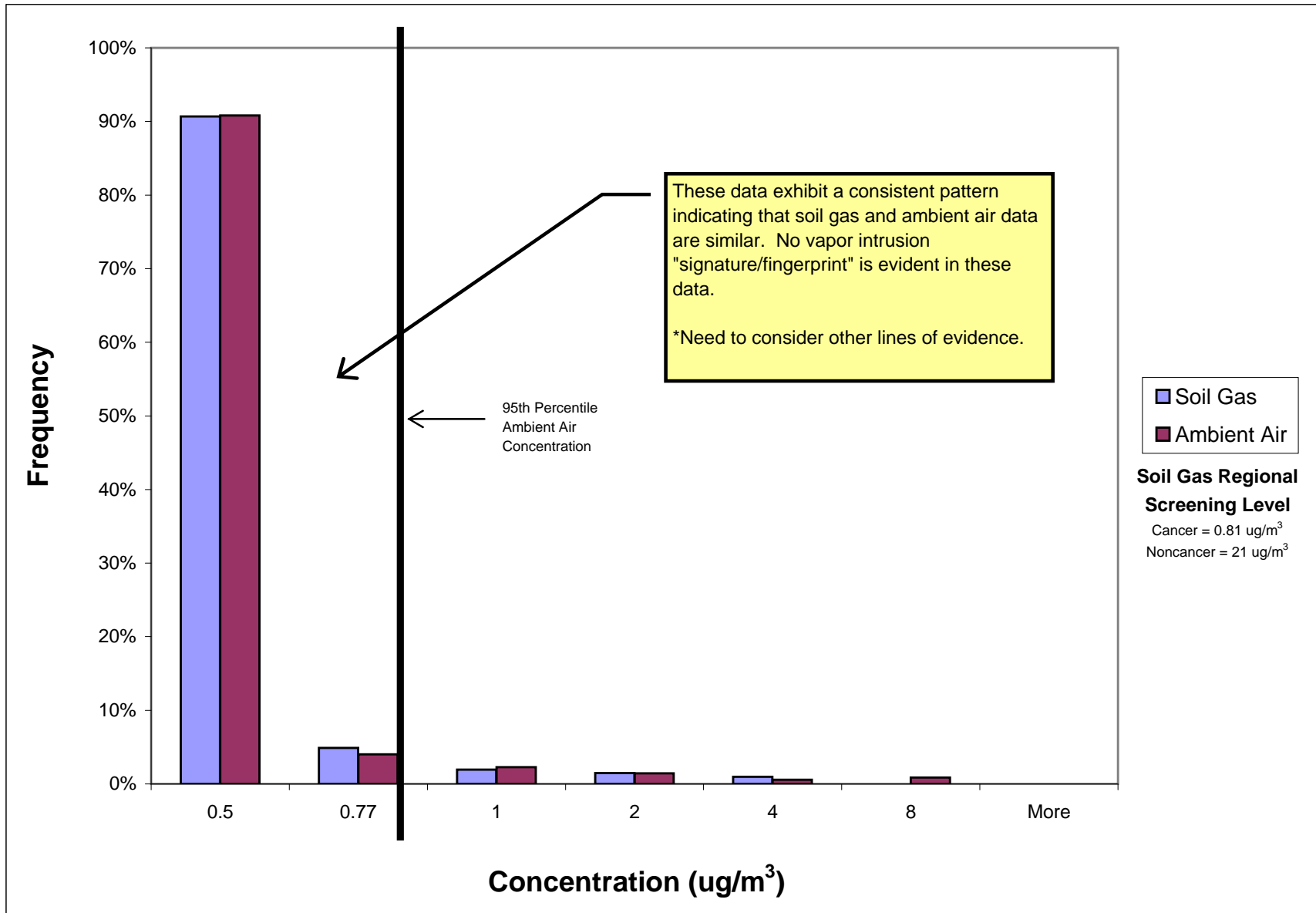


Figure B-8
Frequency Distribution for 1,4-Dichlorobenzene

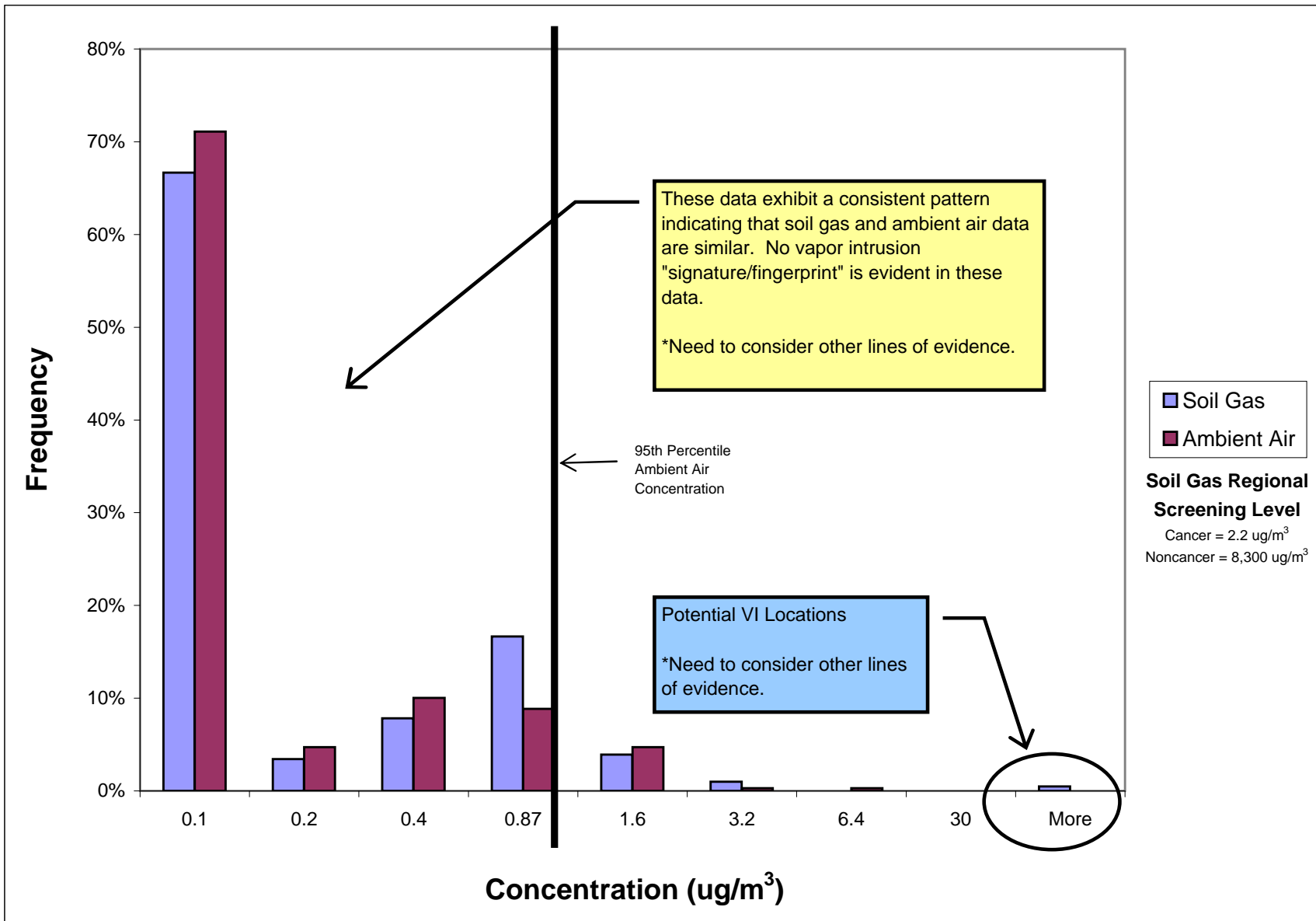


Figure B-9
Frequency Distribution for Acrolein

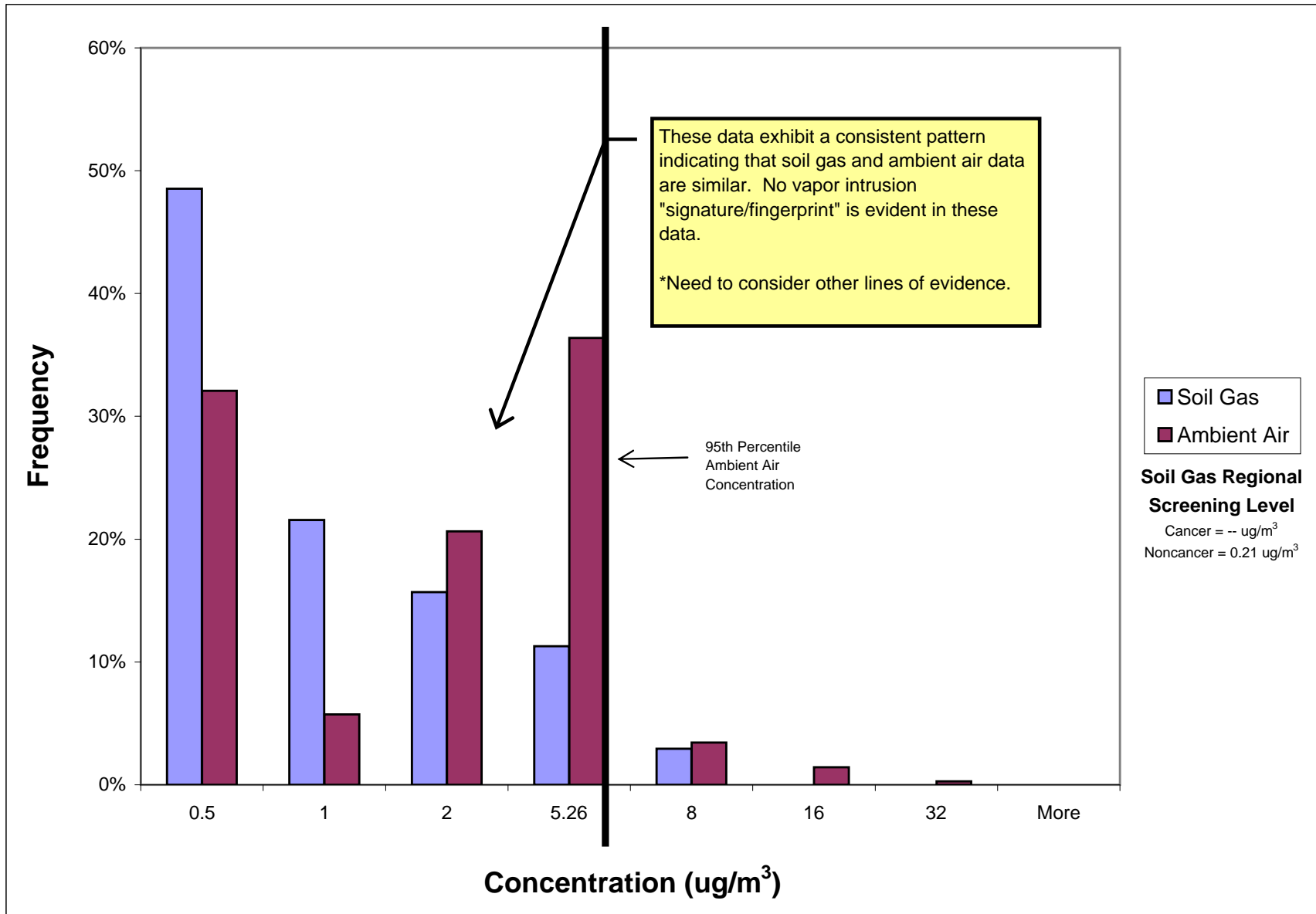


Figure B-10
Frequency Distribution for Acrylonitrile

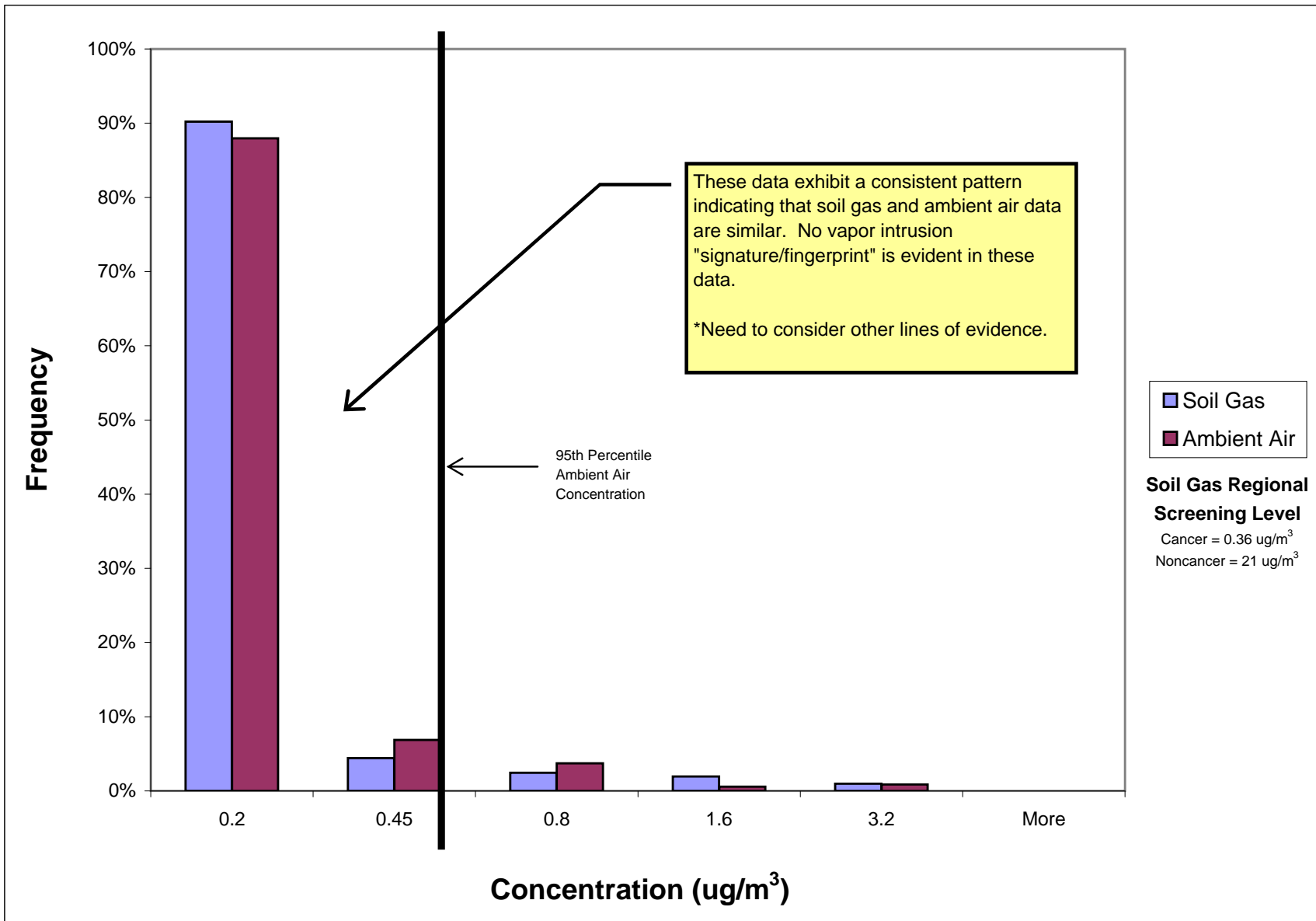


Figure B-11
Frequency Distribution for Benzene

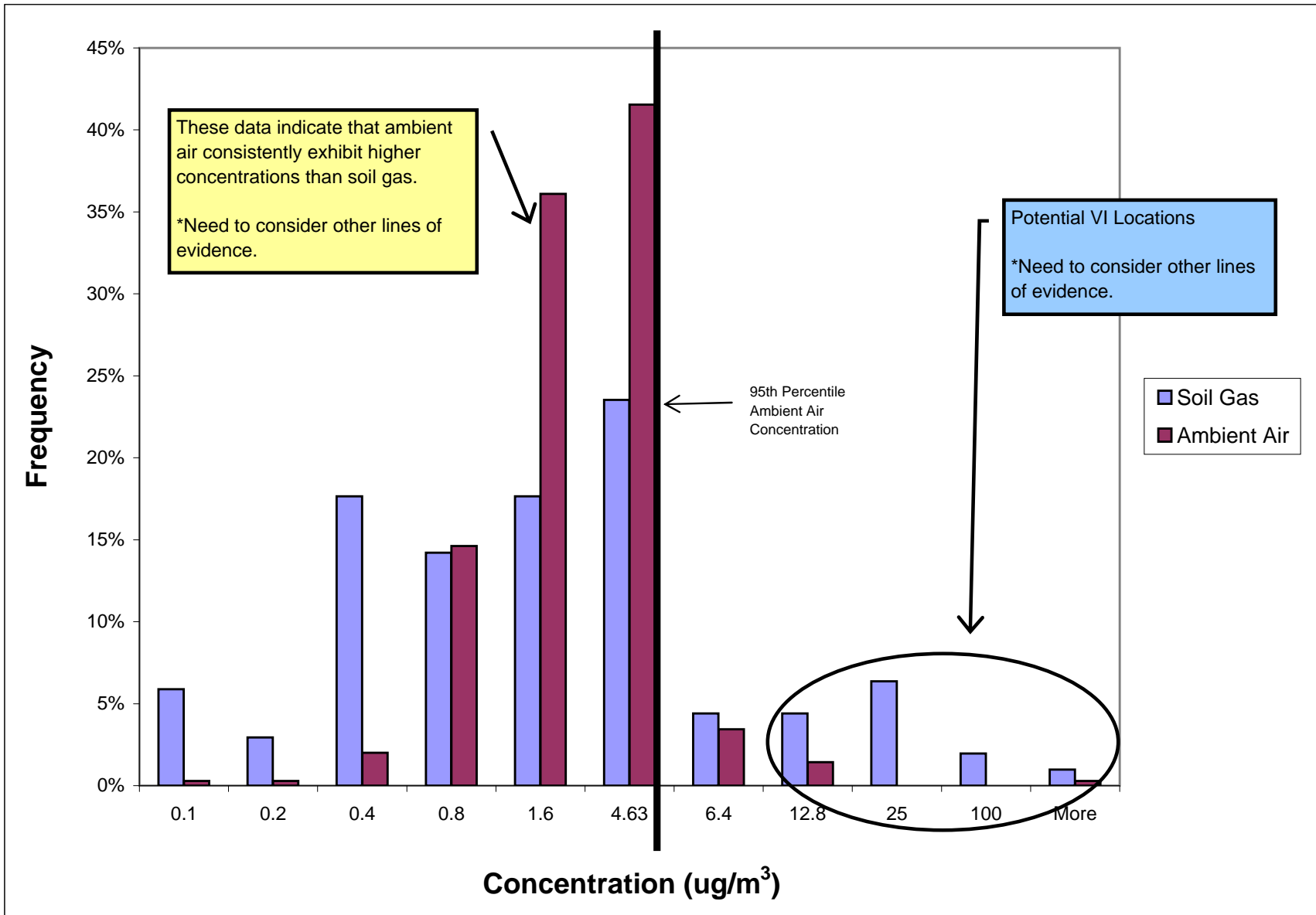


Figure B-12
Frequency Distribution for Bromoform

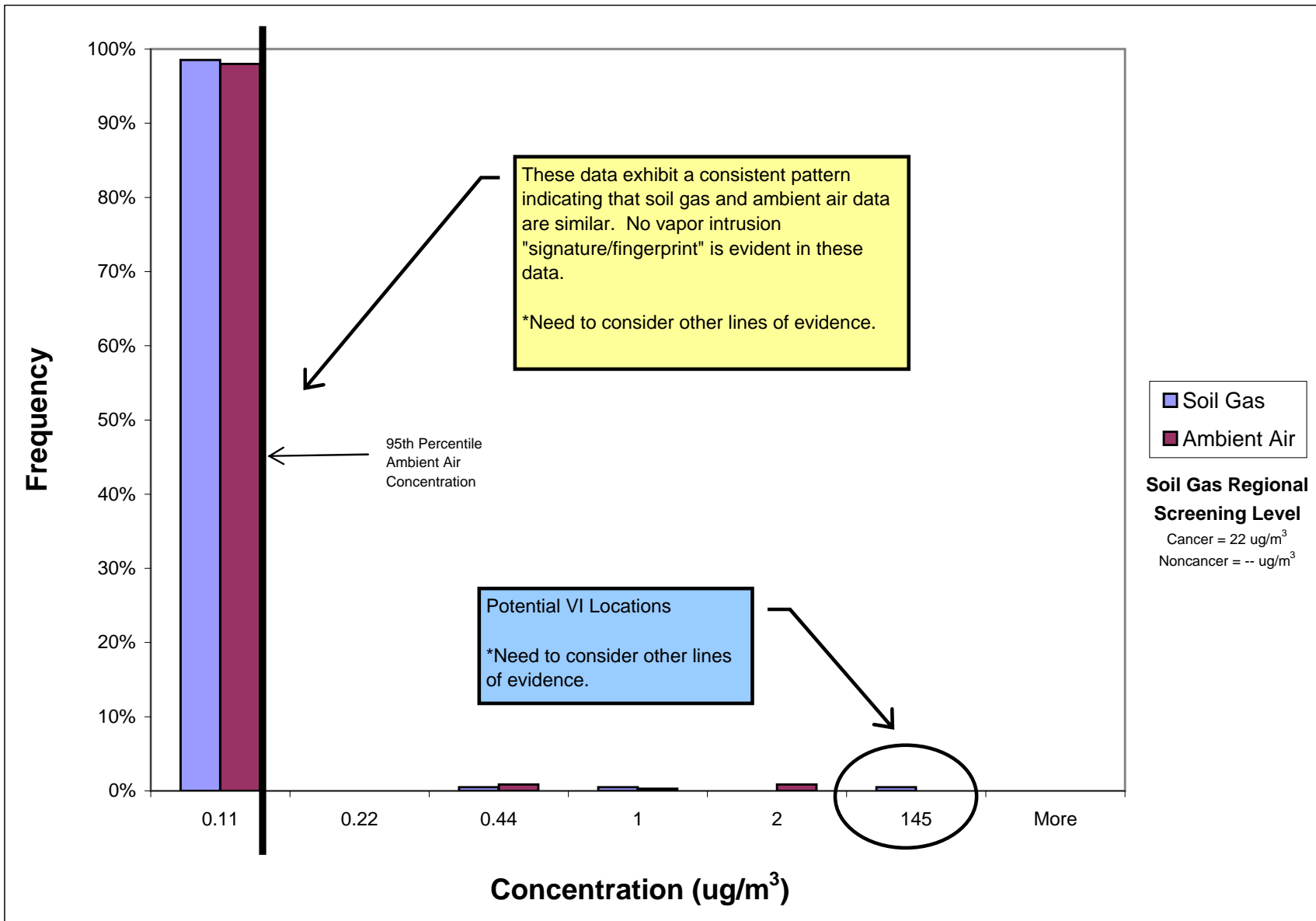


Figure B-13
Frequency Distribution for Carbon Tetrachloride

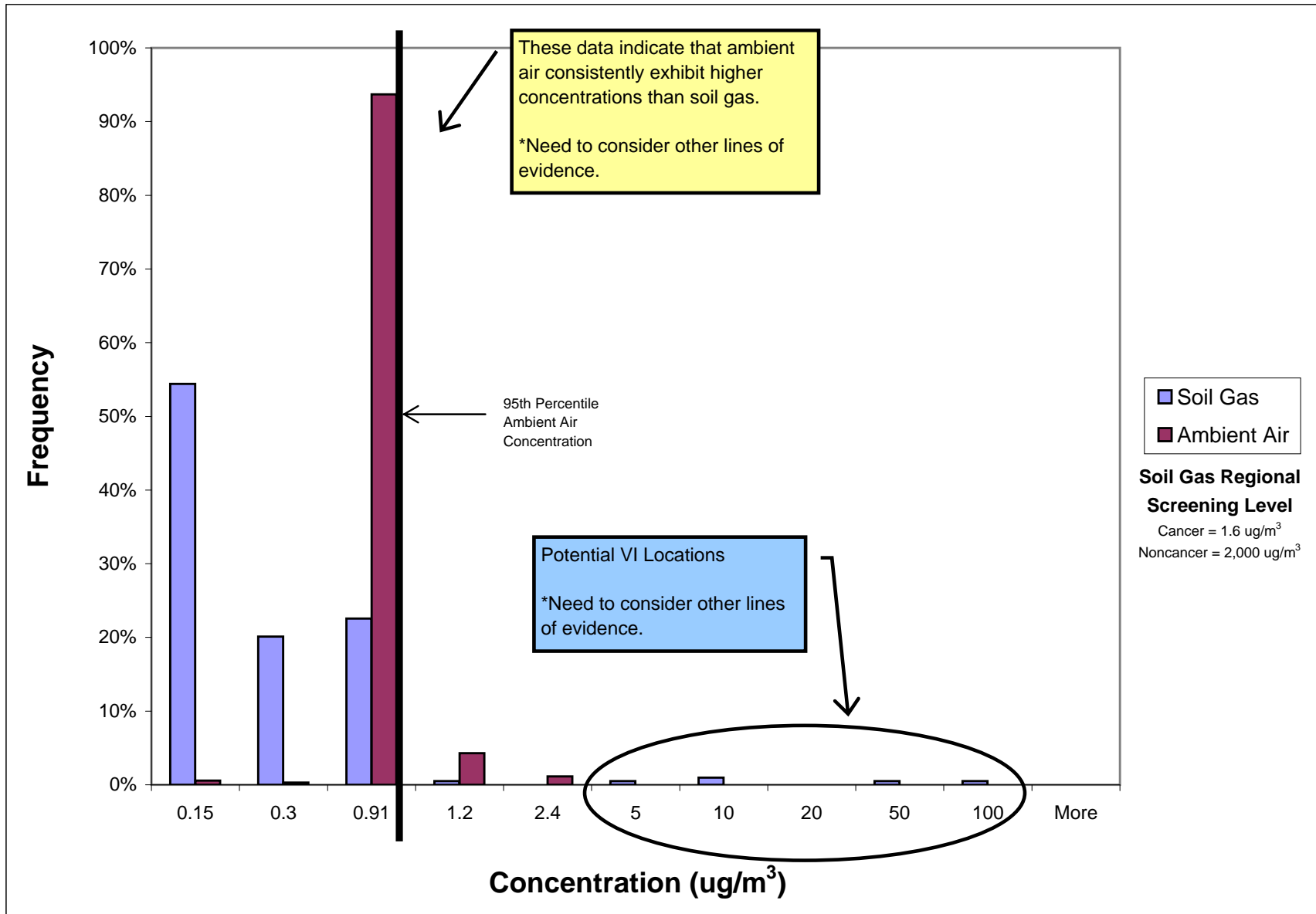


Figure B-14
Frequency Distribution for Chloroform

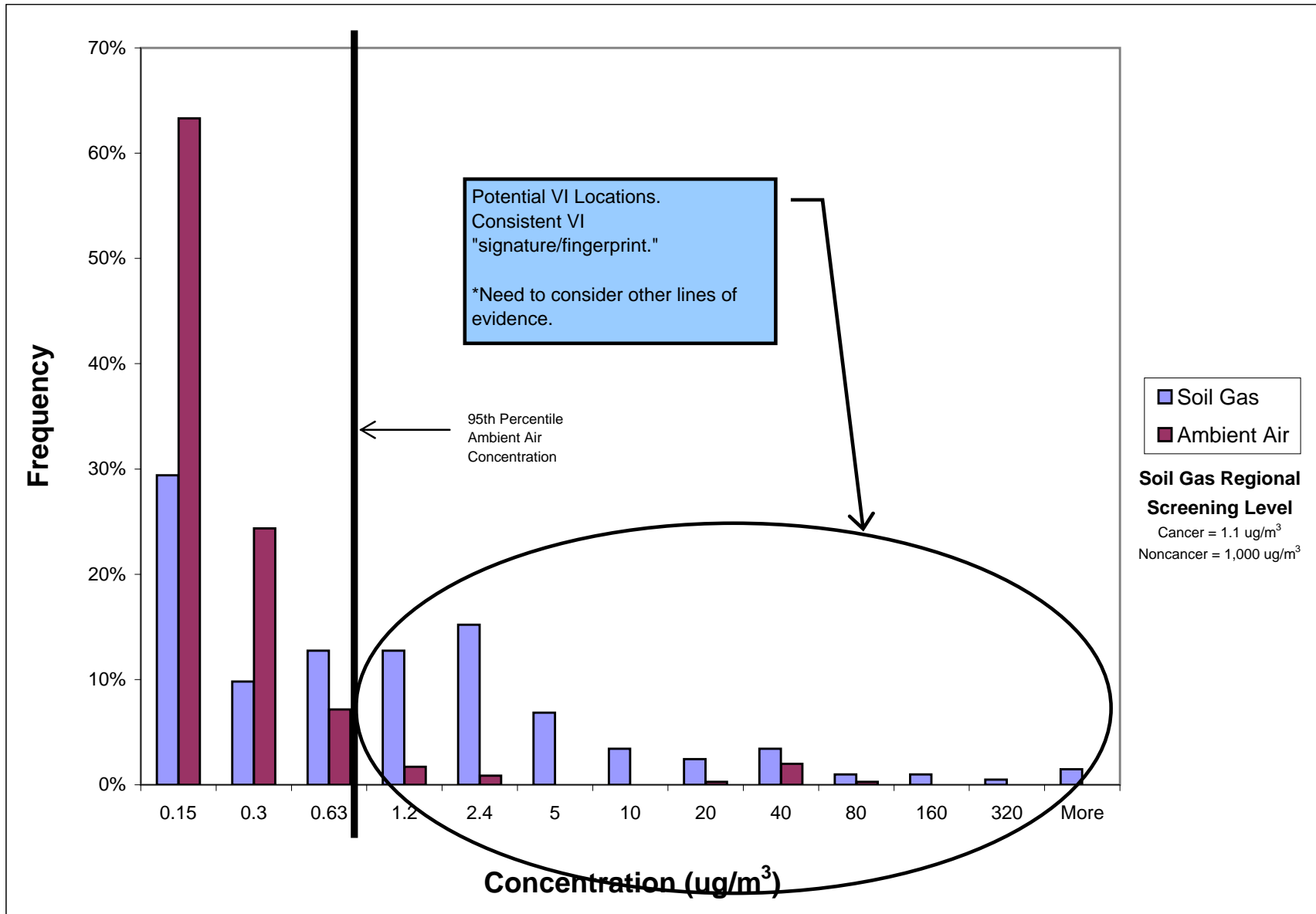


Figure B-15
Frequency Distribution for Chloromethane

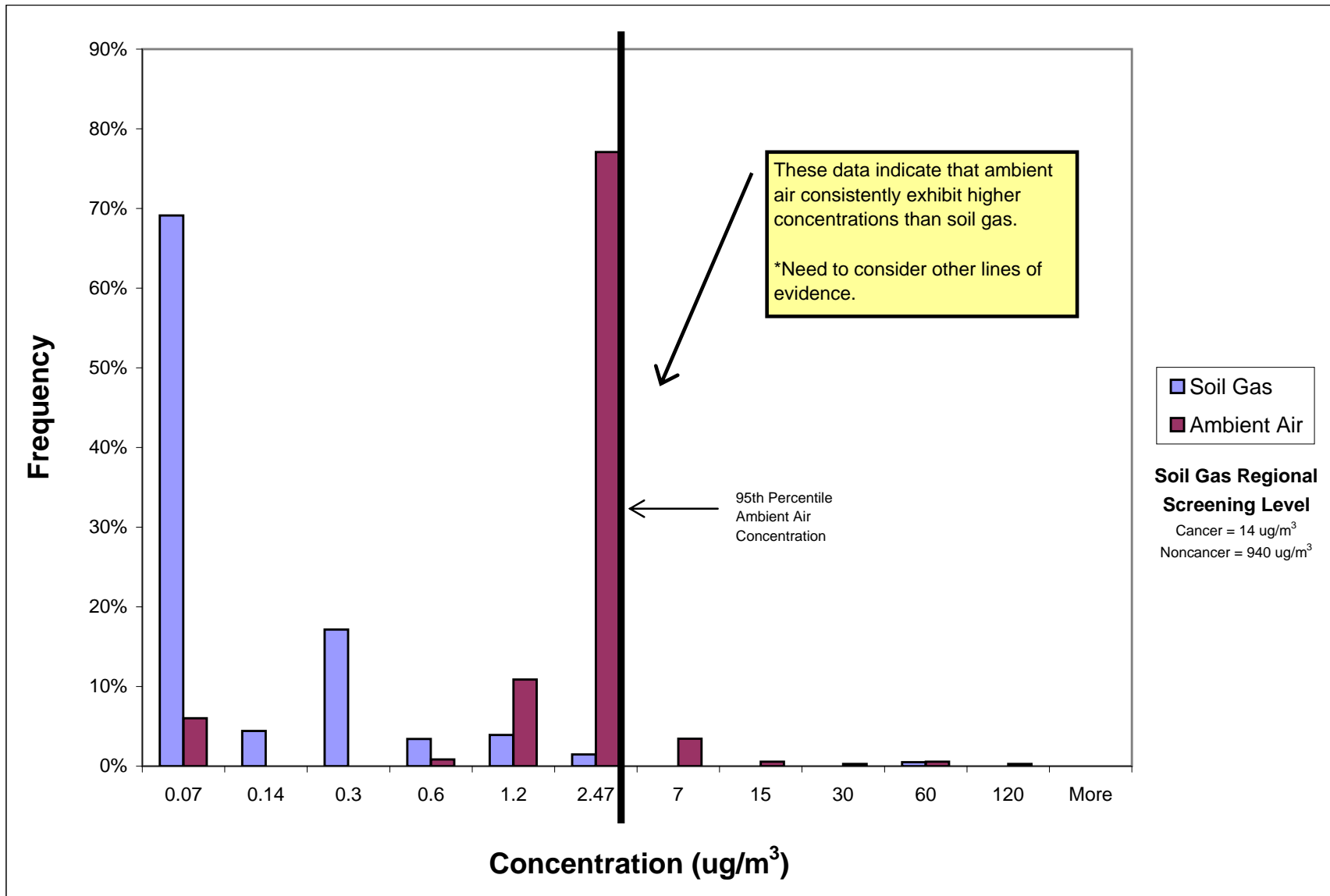


Figure B-16
Frequency Distribution for Ethylbenzene

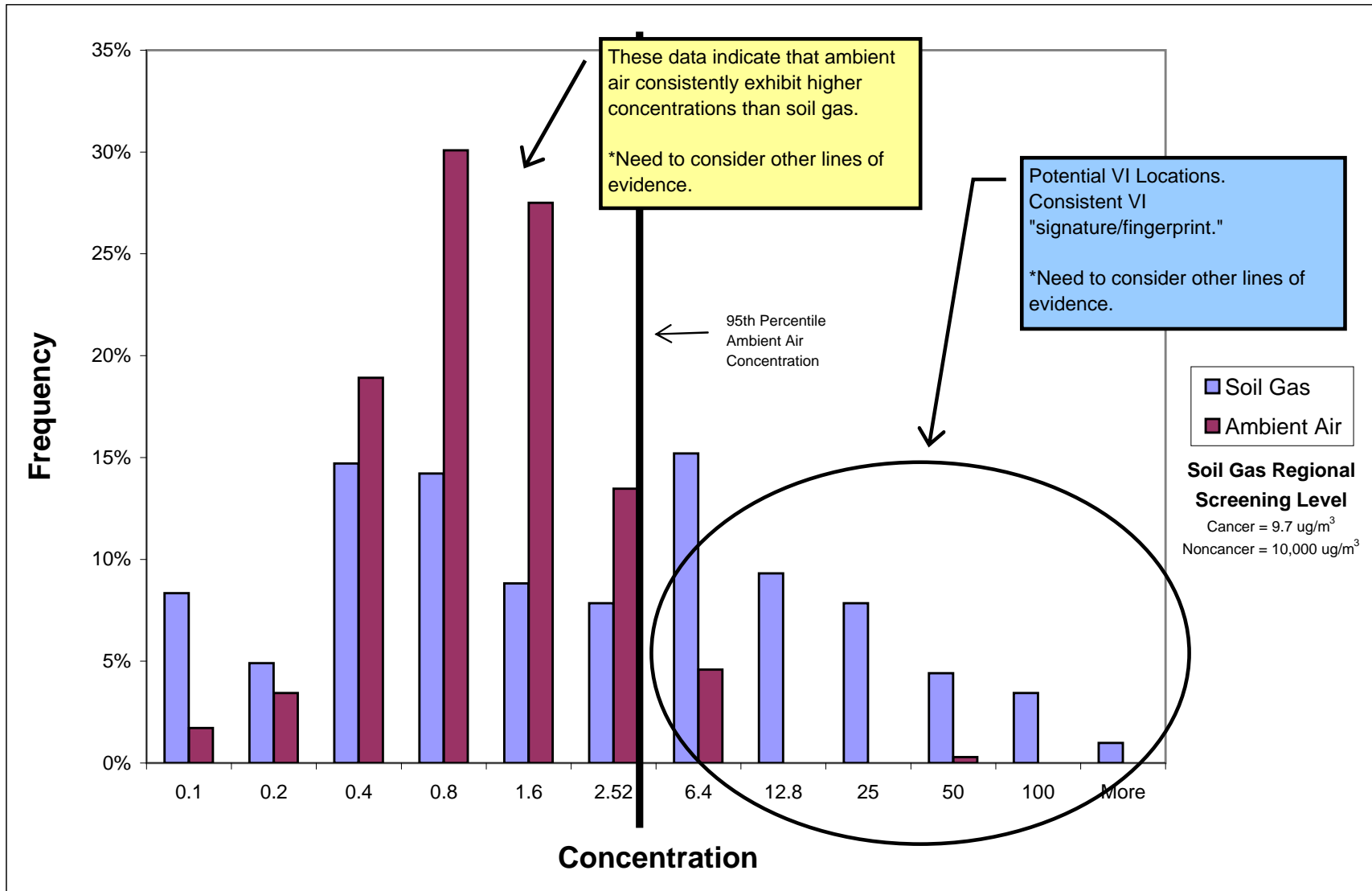


Figure B-17
Frequency Distribution for Hexachlorobutadiene

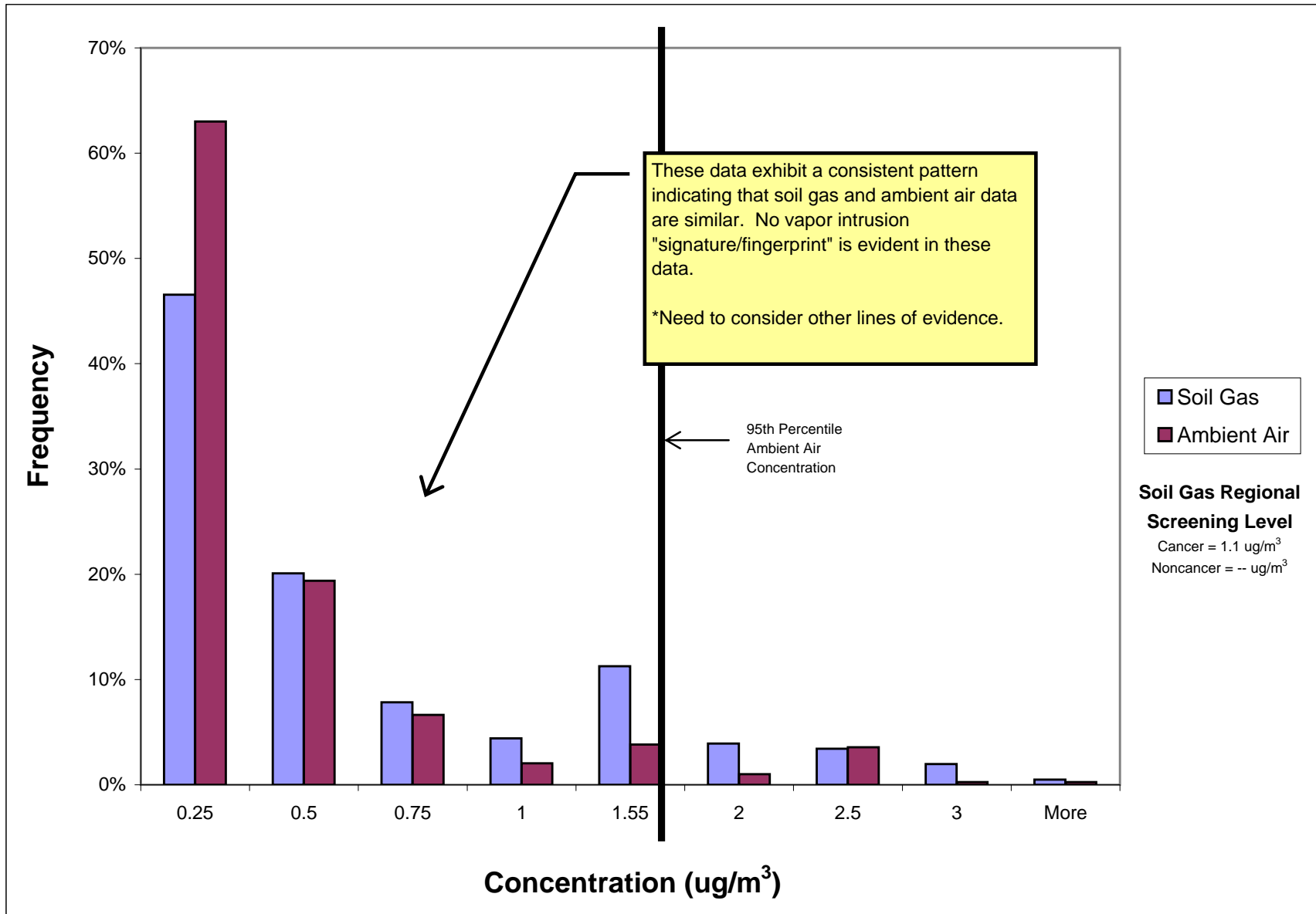


Figure B-18
Frequency Distribution for Hexane

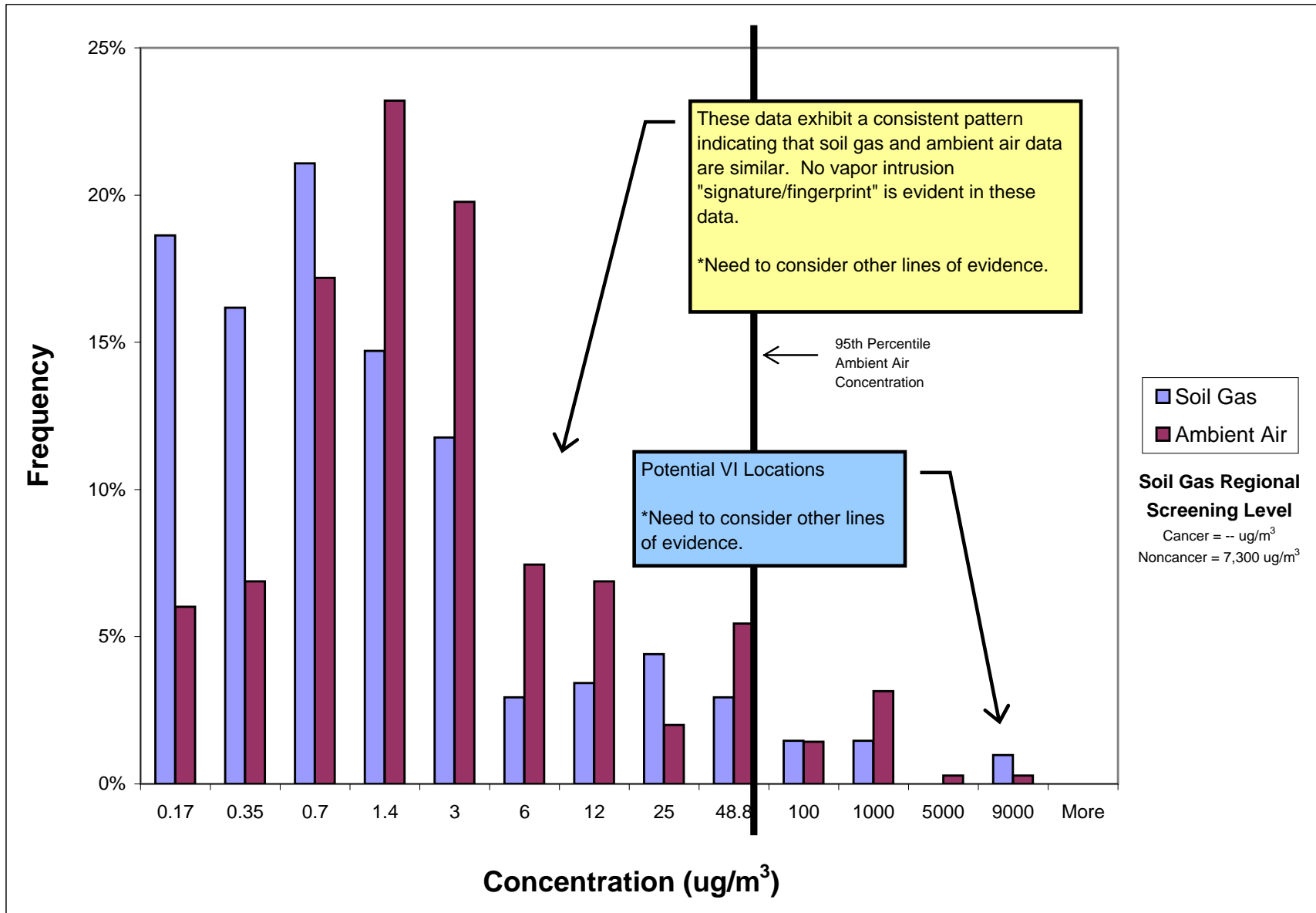


Figure B-19
Frequency Distribution for Methyl tert-Butyl Ether

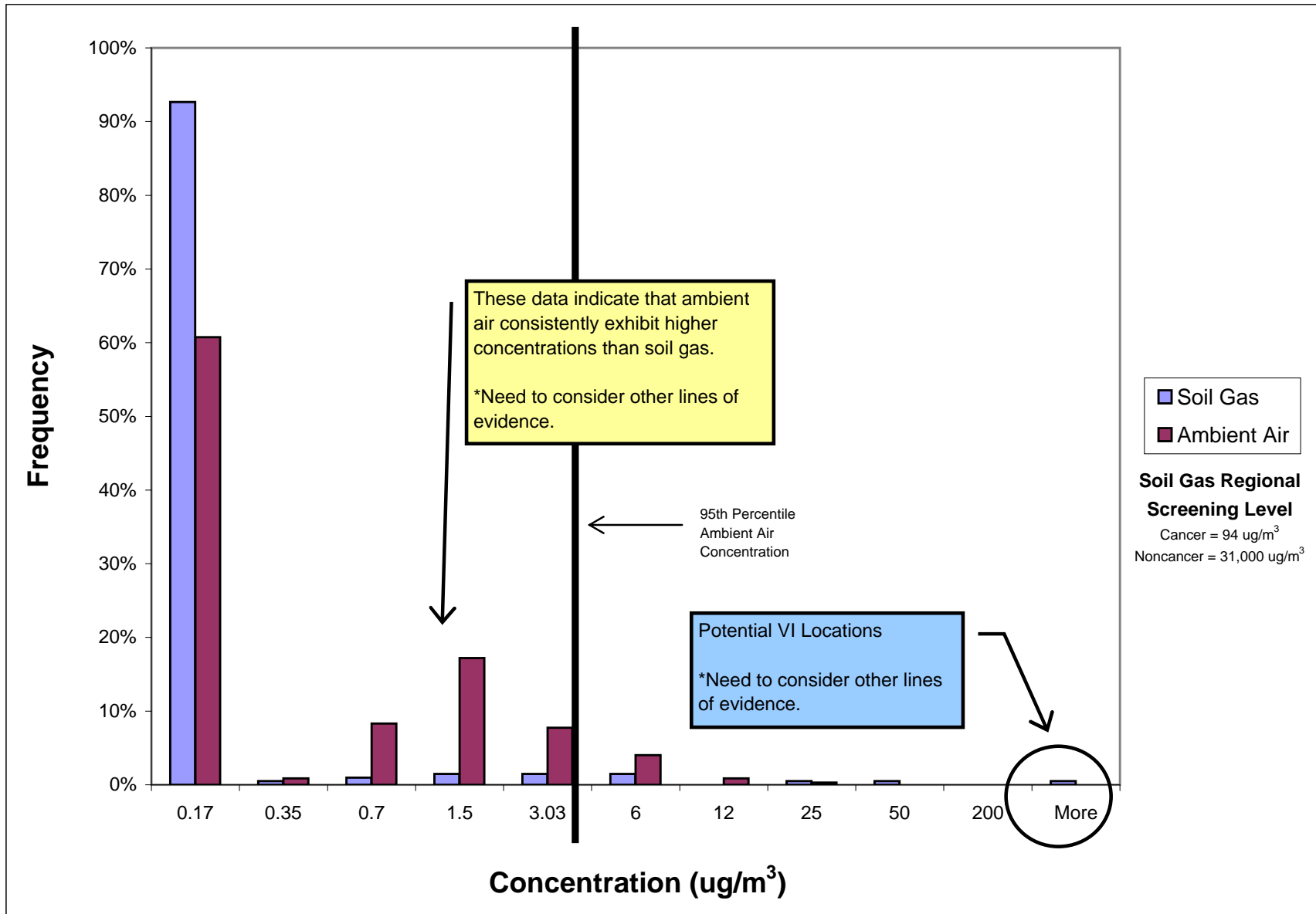


Figure B-20
Frequency Distribution for Tetrachloroethene

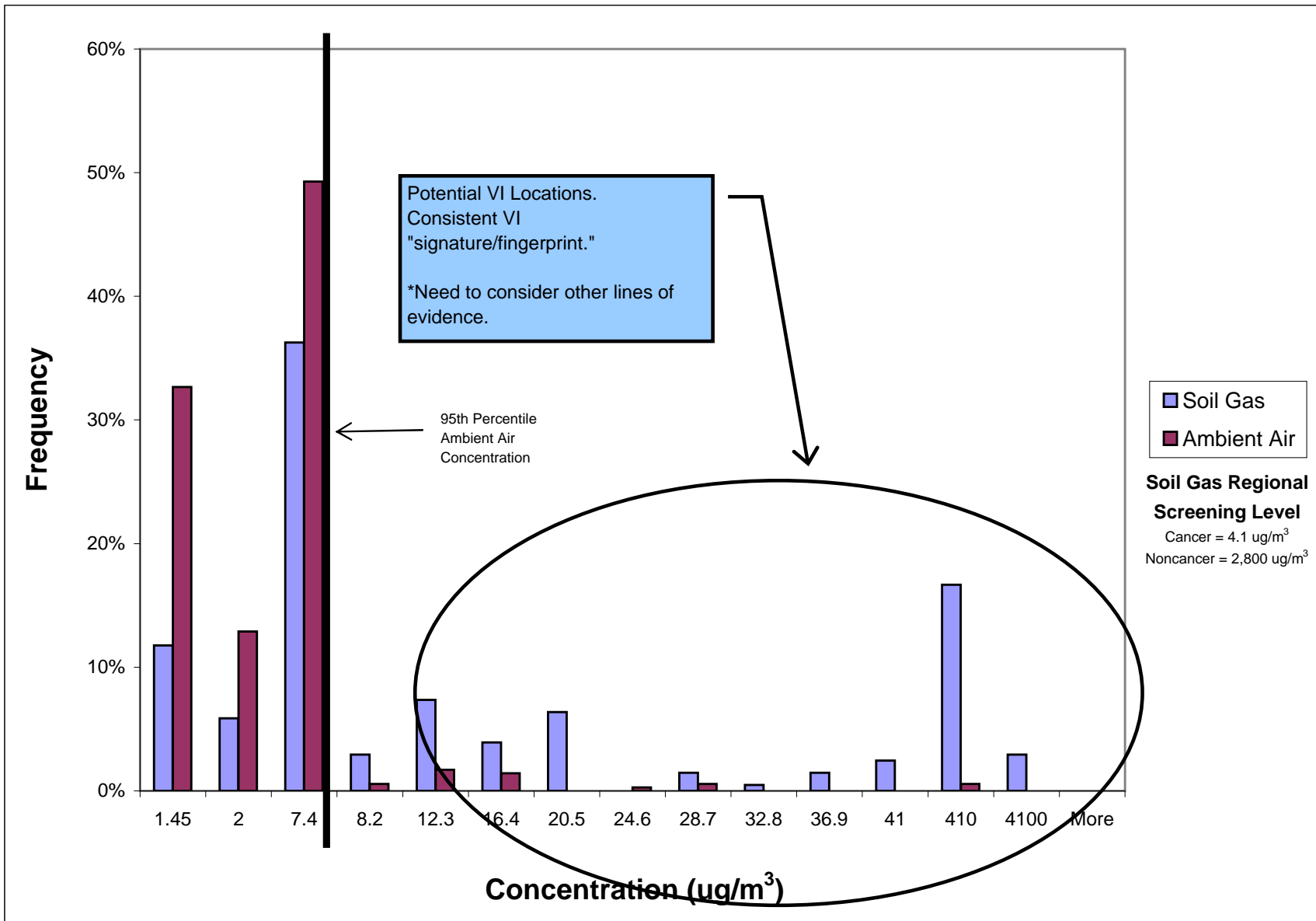


Figure B-21
Frequency Distribution for Trichloroethene

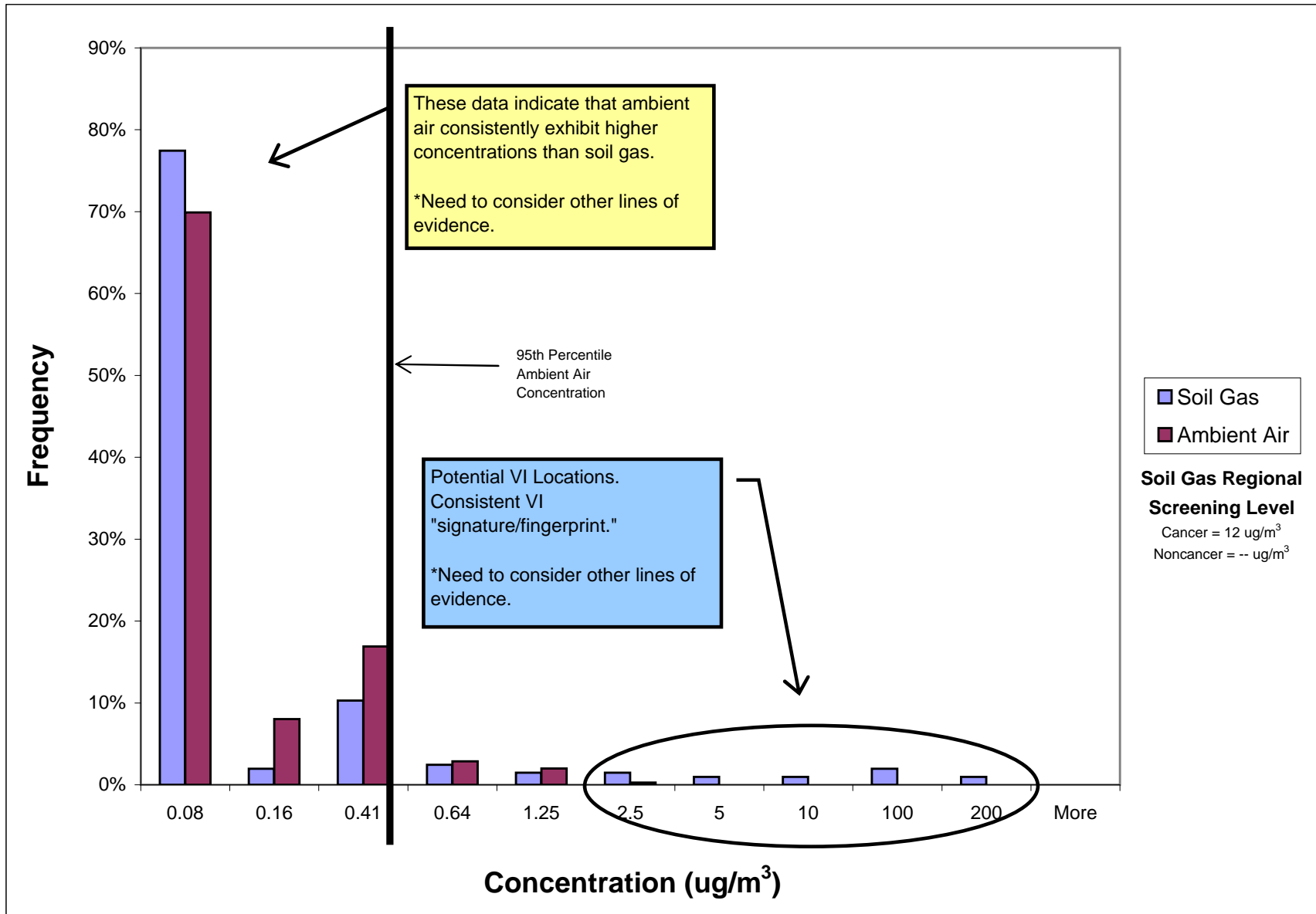
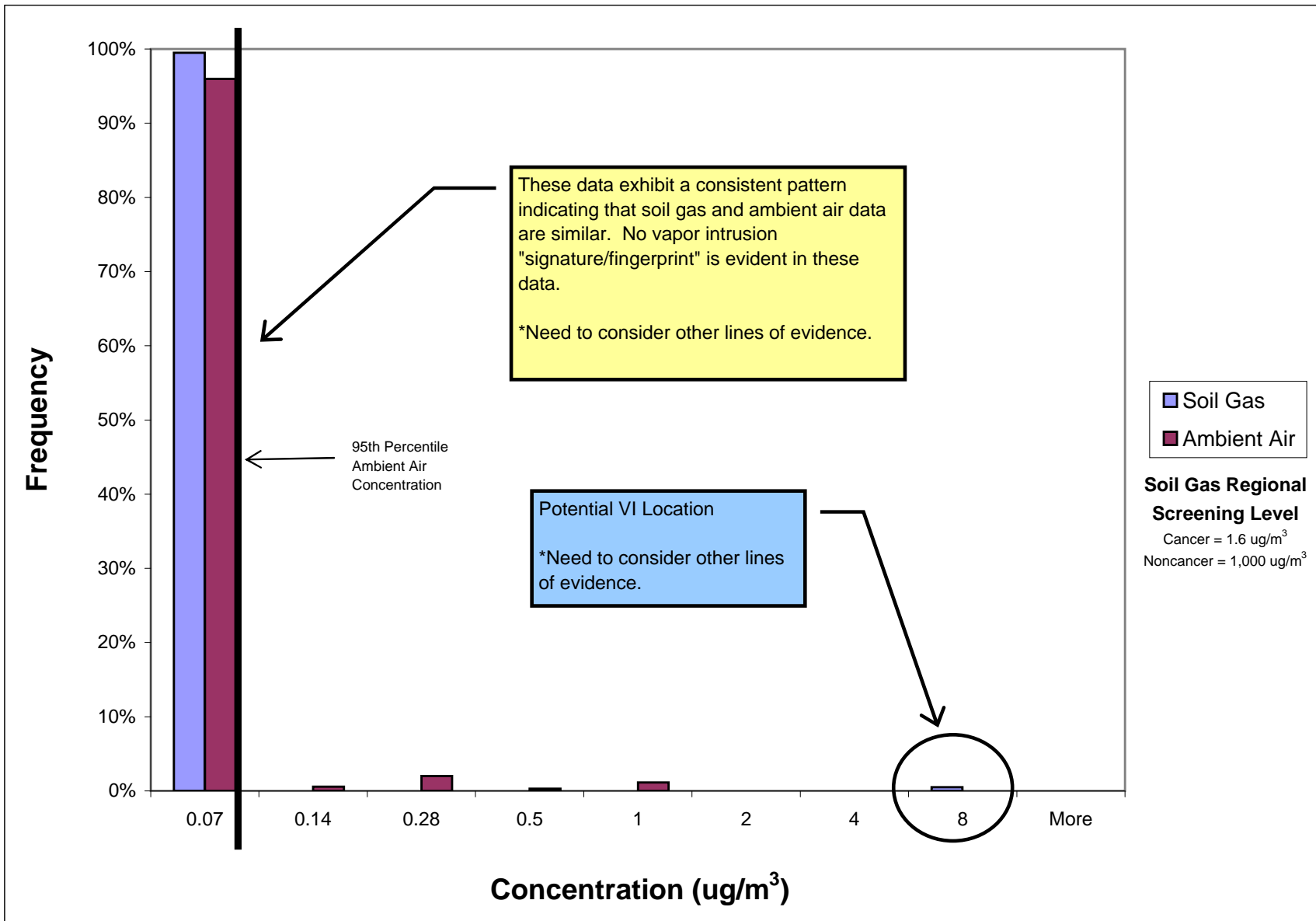


Figure B-22
Frequency Distribution for Vinyl Chloride



Appendix C

Co-Located Sample Results Summary

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

		Location 0073				Location 0171					Location 0185					Location 0214				Location 0225						
		Study Area 1				Study Area 1					Study Area 1					Study Area 8				Study Area 8						
		0073PW001		0073TW001		0171SG001		0171AA001			0185SG001		0185AA001			0214TW001		0214TW002		0225IW001		0225SG001		0225AA001		
		Private Well (ug/l)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Tap Water (ug/l)		Tap Water (ug/l)		Irrigation Well (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)		
CAS No	COPC	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Ratio
630-20-6	1,1,1,2-Tetrachloroethane	0.11	U	0.11	U	0.18	U	0.18	U	ND	0.18	U	0.18	U	ND	0.11	U	0.11	U	0.1	U	0.18	U	0.18	U	ND
79-34-5	1,1,2,2-Tetrachloroethane	0.05	U	0.05	U	0.408		0.368		1.1	0.04	U	0.14	U	ND	0.05	U	0.05	U	0.08	U	0.04	U	0.04	U	ND
96-12-8	1,2-Dibromo-3-Chloropropane	0.25	U	0.25	U	0.1	U	0.284		ND	0.1	U	0.1	U	ND	0.25	U	0.25	U	0.2	U	0.1	U	0.1	U	ND
106-93-4	1,2-Dibromoethane	0.09	U	0.09	U	0.12	U	0.19	J	ND	0.12	U	0.12	U	ND	0.09	U	0.09	U	0.1	U	0.12	U	0.12	U	ND
107-06-2	1,2-Dichloroethane	0.08	U	0.08	U	0.1	U	0.1	U	ND	0.1	U	0.1	U	ND	0.08	U	0.08	U	0.1	U	0.1	U	0.22		ND
78-87-5	1,2-Dichloropropane	0.15	U	0.15	U	0.184	U	0.271	U	ND	0.09	U	0.40		ND	0.15	U	0.15	U	0.1	U	0.09	U	0.09	U	ND
106-99-0	1,3-Butadiene	--		--		0.49	U	0.49	U	ND	0.49	U	0.49	U	ND	--		--		--		0.49	U	0.49	U	ND
106-46-7	1,4-Dichlorobenzene	0.07	U	0.07	U	0.815		0.818		1.0	0.19	U	0.17	U	ND	0.07	U	0.07	U	0.1	U	0.287	U	0.237	U	ND
107-02-8	Acrolein	0.4	U	0.4	U	0.41	U	0.41	U	ND	0.41	U	0.56	J	ND	--		0.4	U	1.3	U	1.16		0.41	U	ND
107-13-1	Acrylonitrile	--		--		0.2	U	0.2	U	ND	0.2	U	0.2	U	ND	--		--		--		0.382	J	0.2	U	ND
71-43-2	Benzene	0.05	U	0.05	U	0.255	U	0.478	U	ND	0.33		2.4		0.1	0.05	U	0.05	U	0.11	U	26		0.263		98.9
75-25-2	Bromoform	0.06	U	2.02		0.11	U	0.11	U	ND	0.11	U	0.11	U	ND	0.06	U	4.45		0.06	U	0.11	U	0.11	U	ND
56-23-5	Carbon Tetrachloride	0.08	U	0.08	U	0.197	U	0.709	U	ND	0.24	J	0.64		0.4	0.08	U	0.08	U	0.08	U	0.13	U	0.732		ND
67-66-3	Chloroform	0.09	U	0.09	U	0.11	U	0.213	U	ND	33		0.11	U	ND	0.09	U	0.09	U	0.09	U	0.787		0.174	J	4.5
74-87-3	Chloromethane	0.21	U	0.21	U	0.07	U	1.45		ND	0.11	J	1.5		0.1	0.21	U	0.21	U	0.2	U	0.07	U	1.38		ND
100-41-4	Ethylbenzene	0.05	U	0.05	U	0.412	U	0.56	U	ND	0.18	U	1.6		ND	0.05	U	0.05	U	0.05	U	8.11		0.163	J	49.8
87-68-3	Hexachlorobutadiene	0.2	U	0.2	U	2.1		2.14		1.0	0.38	U	0.37	U	ND	0.2	U	0.192	U	--		0.755	U	0.603	U	ND
110-54-3	Hexane	--		--		0.488		0.187	J	2.6	0.26	J	1.2		0.2	--		--		--		8.05		0.184	J	43.8
1634-04-4	Methyl tert-Butyl Ether	0.11	U	0.11	U	0.17	U	0.519		ND	0.17	U	3.0		ND	0.11	U	0.11	U	0.1	U	0.17	U	0.17	U	ND
127-18-4	Tetrachloroethene	0.07	U	0.07	U	2.61	J	1.45	U	ND	15		1.5	U	ND	1.23		0.07	U	4.74		37.4		1.45	U	ND
79-01-6	Trichloroethene	0.13	U	0.13	U	0.329		0.325		1.0	11		0.19	J	57.6	0.13	U	0.13	U	0.13	U	0.151	J	0.16	J	0.9
75-01-4	Vinyl Chloride	0.15	U	0.15	U	0.07	U	0.07	U	ND	0.07	U	0.07	U	ND	0.15	U	0.15	U	0.1	U	0.07	U	0.07	U	ND

Notes:

Groundwater samples were collected from either tap water (not public water supply), private wells, or irrigation wells. See Section 1.1 for description of data types.

Qualifiers:

J = Estimated

U = Not detected

UU = Not detected, estimated

Ratio is the co-located, co-collected soil gas concentration over the ambient air concentration.

1,3-butadiene, acrylonitrile, and hexane were not analyzed in groundwater samples.

-- = Not analyzed

ND = Not detected, ratio not calculated

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

CAS No	COPC	Location 0231				Location 0234						Location 0238				Location 0269				Location 0276					
		Study Area 8				Study Area 8						Study Area 8				Study Area 8				Study Area 8					
		0231IW001		0231SG001		0234TW001		0234SG001		0234AA001		0238TW001		0238SG002		0269TW001		0269SG001		0276IW001_DC		0276SG002		0276AA001	
		Irrigation Well (ug/l)		Soil Gas (ug/m ³)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Irrigation Well (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)	
Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Ratio		
630-20-6	1,1,1,2-Tetrachloroethane	0.1	U	0.18	U	0.1	U	0.18	U	0.18	U	ND	0.11	U	0.18	U	0.1	U	0.18	U	0.18	U	ND	ND	
79-34-5	1,1,2,2-Tetrachloroethane	0.08	U	0.04	U	0.08	U	0.04	U	0.13	U	ND	0.05	U	0.04	U	0.08	U	0.04	U	0.04	U	ND	ND	
96-12-8	1,2-Dibromo-3-Chloropropane	0.2	U	--		0.2	U	0.1	U	0.1	U	ND	0.25	U	--		0.2	U	0.1	U	0.1	U	ND	ND	
106-93-4	1,2-Dibromoethane	0.1	U	0.12	U	0.1	U	0.12	U	0.12	U	ND	0.09	U	0.12	U	0.1	U	0.12	U	0.196	J	ND	ND	
107-06-2	1,2-Dichloroethane	0.1	U	0.1	U	0.1	U	0.1	U	0.31		ND	0.08	U	0.1	U	0.1	U	0.1	U	0.23		ND	ND	
78-87-5	1,2-Dichloropropane	0.1	U	1.25		0.1	U	0.09	U	0.41		ND	0.15	U	0.09	U	0.1	U	0.09	U	0.09	U	ND	ND	
106-99-0	1,3-Butadiene	--		0.49	U	--		0.49	U	0.49	U	ND	--		0.49	U	--		0.802	J	0.49	U	ND	ND	
106-46-7	1,4-Dichlorobenzene	0.1	U	0.09	U	0.1	U	0.20	U	0.21	U	ND	0.07	U	0.09	U	0.1	U	0.09	U	0.2	J	ND	ND	
107-02-8	Acrolein	1.3	U	0.554	J	1.3	U	0.50	J	0.82		0.6	0.4	U	0.41	U	1.3	U	0.821		1.11		ND	ND	
107-13-1	Acrylonitrile	--		0.2	U	--		0.2	U	0.2	U	ND	--		0.2	U	--		0.2	U	0.2	U	ND	ND	
71-43-2	Benzene	0.11	U	0.273		0.11	U	2.1		1.4		1.6	0.05	U	0.522		0.11	U	1.55		0.76		74.5		
75-25-2	Bromoform	0.06	U	0.11	U	0.06	U	0.11	U	0.11	U	ND	0.06	U	0.11	U	0.06	U	0.11	U	0.11	U	ND	ND	
56-23-5	Carbon Tetrachloride	0.08	U	0.13	U	0.08	U	0.13	U	0.61		ND	0.08	U	0.13	U	0.08	U	6.24		0.725		0.5		
67-66-3	Chloroform	0.09	U	10.9		0.09	U	1.7		0.25		6.7	0.09	U	9.07		0.09	U	88.3		0.724		ND		
74-87-3	Chloromethane	0.2	U	0.07	U	0.2	U	0.14	J	1.9		0.1	0.21	U	0.07	U	0.2	U	0.07	U	1.44		0.2		
100-41-4	Ethylbenzene	0.05	U	0.208		0.05	U	1.4		1.2		1.1	0.05	U	1.65		0.05	U	0.327		0.579		102.6		
87-68-3	Hexachlorobutadiene	--		0.355	J	--		0.40	U	0.42	U	ND	0.2	U	0.24	U	--		0.488	U	0.499	J	ND	ND	
110-54-3	Hexane	--		0.666		--		0.98		6.4		0.2	--		0.314		--		0.644		1.53		81.0		
1634-04-4	Methyl tert-Butyl Ether	0.1	U	0.17	U	0.1	U	0.17	U	0.17	U	ND	0.11	U	0.17	U	0.1	U	0.17	U	0.17	U	ND	ND	
127-18-4	Tetrachloroethene	30		167		38	0	356		2.3	J	153.4	0.312	J	1690		23.1		193		1.45	U	ND	ND	
79-01-6	Trichloroethene	0.171	J	0.197	J	0.13	U	0.43		1.3		0.3	0.13	U	37.7		0.189	J	0.08	U	0.161	J	1.7		
75-01-4	Vinyl Chloride	0.1	U	0.07	U	0.1	U	0.07	U	0.07	U	ND	0.15	U	0.07	U	0.1	U	0.07	U	0.07	U	ND	ND	

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

CAS No	COPC	Location 0279						Location 0288				Location 0302				Location 0326						Location 0329				
		Study Area 8						Study Area 8				Study Area 8				Study Area 8						Study Area 8				
		0279SG001			0279AA001			0288IW001		0288SG001		0302TW001		0302SG001		0326TW001		0326SG001		0326AA001		0329SG001			0329AA001	
		Soil Gas (ug/m ³)			Ambient Air (ug/m ³)			Irrigation Well (ug/l)		Soil Gas (ug/m ³)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)		Soil Gas (ug/m ³)			Ambient Air (ug/m ³)	
		Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Ratio		
630-20-6	1,1,1,2-Tetrachloroethane	0.18	U	0.18	U	ND	0.1	U	0.18	U	0.1	U	0.18	U	0.1	U	0.18	U	0.18	U	ND	0.18	U	0.18	U	ND
79-34-5	1,1,2,2-Tetrachloroethane	0.04	U	0.04	U	ND	0.08	U	0.04	U	0.08	U	0.04	U	0.08	U	0.04	U	0.36	ND	ND	0.14	U	0.04	U	ND
96-12-8	1,2-Dibromo-3-Chloropropane	0.10	U	0.15	U	ND	0.2	U	0.1	U	0.2	U	0.1	U	0.2	U	0.1	U	0.1	U	ND	0.10	U	0.10	U	ND
106-93-4	1,2-Dibromoethane	0.12	U	0.12	U	ND	0.1	U	0.12	U	0.1	U	0.12	U	0.1	U	0.29		0.31		0.9	0.12	U	0.12	U	ND
107-06-2	1,2-Dichloroethane	0.10	U	0.10	U	ND	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.28	ND	ND	0.10	U	0.18	J	ND
78-87-5	1,2-Dichloropropane	0.09	U	0.10	J	ND	0.1	U	0.179	J	0.1	U	1.58		0.1	U	0.50		0.56		0.9	0.09	U	0.09	U	ND
106-99-0	1,3-Butadiene	0.49	U	0.49	U	ND	--		0.49	U	--		0.49	U	--		0.49	U	0.49	U	ND	0.49	U	0.49	U	ND
106-46-7	1,4-Dichlorobenzene	0.11	J	0.09	J	1.2	0.1	U	0.336		0.1	U	0.09	U	0.1	U	0.25	U	0.31	U	ND	0.16	U	0.19	U	ND
107-02-8	Acrolein	0.65	J	0.41	U	ND	1.3	U	0.41	U	1.3	U	0.41	U	1.3	U	0.65	J	0.54	J	1.2	0.61	J	0.41	U	ND
107-13-1	Acrylonitrile	0.20	U	0.20	U	ND	--		0.2	U	--		0.2	U	--		0.2	U	0.2	U	ND	0.20	U	0.20	U	ND
71-43-2	Benzene	0.23		0.50		0.5	0.11	U	1.05		0.11	U	1.26		0.11	U	1.4		2.4		0.6	0.31		0.33		0.9
75-25-2	Bromoform	0.11	U	0.11	U	ND	0.06	U	0.11	U	0.06	U	0.11	U	0.06	U	0.11	U	0.11	U	ND	0.11	U	0.11	U	ND
56-23-5	Carbon Tetrachloride	0.15	J	0.54		0.3	0.08	U	0.247	J	0.08	U	0.13	U	0.08	U	0.34		0.73		0.5	0.23	J	0.63		0.4
67-66-3	Chloroform	0.11	U	0.11	U	ND	0.09	U	1.44		0.09	U	0.391		0.13	J	1.1		0.34		3.2	0.39		0.11	U	ND
74-87-3	Chloromethane	0.11	J	1.30		0.1	0.2	U	0.07	U	0.2	U	0.07	U	0.2	U	0.21		1.73		0.1	0.12	J	1.5		0.1
100-41-4	Ethylbenzene	0.33		0.39		0.8	0.05	U	5.73		0.05	U	7.76		0.05	U	4.2		1.69		2.5	0.27	U	0.20	U	ND
87-68-3	Hexachlorobutadiene	0.35	J	0.24	U	ND	--		0.693	U	--		0.24	U	--		0.49	J	0.58		0.8	0.35	U	0.37	U	ND
110-54-3	Hexane	0.45		0.24	J	1.9	--		0.298	J	--		0.631		--		0.28	J	1.1		0.2	0.17	U	0.17	U	ND
1634-04-4	Methyl tert-Butyl Ether	0.17	U	0.59		ND	0.1	U	0.17	U	0.1	U	0.17	U	0.1	U	0.17	U	2.2		ND	0.17	U	0.17	U	ND
127-18-4	Tetrachloroethene	6.1		1.45	U	ND	8.32		107		0.639	J	39.6		4.5	0	11		1.5	U	ND	9.6		1.5	U	ND
79-01-6	Trichloroethene	0.08	U	0.08	U	ND	0.269	J	0.22		0.13	U	0.08	U	0.13	U	0.85		0.25		3.4	0.08	U	0.13	J	ND
75-01-4	Vinyl Chloride	0.07	U	0.07	U	ND	0.1	U	0.07	U	0.1	U	0.07	U	0.1	U	0.07	U	0.07	U	ND	0.07	U	0.07	U	ND

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

CAS No	COPC	Location 0333				Location 0339						Location 0343						Location 0354							
		Study Area 8				Study Area 8						Study Area 8						Study Area 8							
		0333TW001		0333SG001		0339TW001		0339SG001		0339AA001		0343TW001		0343SG001		0343AA001		0354IW001		0354TW001		0354SG001			
		Tap Water (ug/l)		Soil Gas (ug/m ³)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)		Irrigation Well (ug/l)		Tap Water (ug/l)		Soil Gas (ug/m ³)			
	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	
630-20-6	1,1,1,2-Tetrachloroethane	0.11	U	0.18	UJ	0.10	U	0.18	U	0.18	U	ND	0.10	U	0.18	U	0.18	U	ND	0.1	U	0.1	U	0.18	U
79-34-5	1,1,2,2-Tetrachloroethane	0.05	U	0.903	J	0.08	U	0.04	U	0.30		ND	0.08	U	0.30		0.29		1.0	0.08	U	0.08	U	0.04	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.25	U	0.1	UJ	0.20	U	0.10	U	0.18	U	ND	0.20	U	0.10	U	0.10	U	ND	0.2	U	0.2	U	0.1	U
106-93-4	1,2-Dibromoethane	0.09	U	0.12	UJ	0.10	U	0.31		0.30		1.0	0.10	U	0.30		0.33		0.9	0.1	U	0.1	U	0.12	U
107-06-2	1,2-Dichloroethane	0.08	U	0.1	UJ	0.10	U	0.25		0.24		1.1	0.10	U	0.19	J	0.26		0.7	0.1	U	0.1	U	0.1	U
78-87-5	1,2-Dichloropropane	0.15	U	1.12	J	0.10	U	0.51		0.38		1.3	0.10	U	0.09	U	0.34		ND	0.1	U	0.1	U	0.51	
106-99-0	1,3-Butadiene	--		0.49	UJ	--		0.49	U	0.49	U	ND	--	--	0.49	U	0.49	U	ND	--		--		0.49	U
106-46-7	1,4-Dichlorobenzene	0.07	U	0.09	UJ	0.10	U	0.31	U	0.30	U	ND	0.10	U	0.25	U	0.27	U	ND	0.1	U	0.1	U	0.52	
107-02-8	Acrolein	--		0.41	UJ	1.3	U	0.69	J	1.0		0.7	1.30	U	0.82		1.02		0.8	1.3	U	1.3	U	0.41	U
107-13-1	Acrylonitrile	--		0.2	UJ	--		0.90		0.20	U	ND	--	--	0.20	U	0.20	U	ND	--		--		0.2	U
71-43-2	Benzene	0.05	U	14.4	J	0.11	U	2.0		1.6		1.2	0.11	U	1.34		0.54		2.5	0.11	U	0.11	U	4.78	
75-25-2	Bromoform	0.06	U	0.11	UJ	0.06	U	0.11	U	0.11	U	ND	0.06	U	0.11	U	0.11	U	ND	0.06	U	0.06	U	0.11	U
56-23-5	Carbon Tetrachloride	0.08	U	0.13	UJ	0.08	U	0.53		0.69		0.8	0.08	U	0.24	J	0.75		0.3	0.08	U	0.08	U	0.202	J
67-66-3	Chloroform	0.11	J	0.11	UJ	0.15	J	1.6		0.31		5.1	0.09	U	0.11	U	0.31		ND	0.114	J	0.114	J	0.578	
74-87-3	Chloromethane	0.21	U	0.07	UJ	0.20	U	0.25		1.7		0.1	0.20	U	0.21		1.76		0.1	0.2	U	0.2	U	0.07	U
100-41-4	Ethylbenzene	0.05	U	14.4	J	0.05	U	13		1.1		11.7	0.05	U	2.40		0.51		4.7	0.05	U	0.05	U	0.934	
87-68-3	Hexachlorobutadiene	0.2	U	0.406	J	--		0.59		0.48	J	1.2	--	--	0.48	J	0.50	J	1.0	--		--		1.55	
110-54-3	Hexane	--		19.4	J	--		5.7		0.85		6.7	--	--	0.36		0.41		0.9	--		--		1.03	
1634-04-4	Methyl tert-Butyl Ether	0.11	U	0.17	UJ	0.10	U	0.17	U	1.7		ND	0.10	U	0.17	U	0.49		ND	0.1	U	0.1	U	0.17	U
127-18-4	Tetrachloroethene	29.97		151	J	3.5		4.8		1.5	U	ND	1.34		5.26		1.45	U	ND	3.04		3.04		6	
79-01-6	Trichloroethene	0.13	U	0.08	UJ	0.13	U	0.80		0.22		3.7	0.13	U	0.20		0.21		1.0	0.13	U	0.13	U	0.08	U
75-01-4	Vinyl Chloride	0.15	U	0.07	UJ	0.10	U	0.07	U	0.07	U	ND	0.10	U	0.07	U	0.07	U	ND	0.1	U	0.1	U	0.07	U

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

CAS No	COPC	Location 0374					Location 0416				Location 0427				Location 0436				Location 0462			
		Study Area 8					Study Area 8				Study Area 8				Study Area 8				Study Area 8			
		0374SG001		0374AA001			0416IW001		0416SG001		0427TW001		0427SG001		0436IW001		0436SG001		0462IW001		0462SG001	
		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Irrigation Well (ug/l)		Soil Gas (ug/m ³)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Irrigation Well (ug/l)		Soil Gas (ug/m ³)		Irrigation Well (ug/l)		Soil Gas (ug/m ³)	
	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	
630-20-6	1,1,1,2-Tetrachloroethane	0.18	U	0.18	U	ND	0.1	U	0.18	U	0.1	U	25.2	0.1	U	0.18	U	0.1	U	0.18	U	
79-34-5	1,1,2,2-Tetrachloroethane	0.04	U	0.20	U	ND	0.08	U	0.04	U	0.08	U	0.04	U	0.08	U	0.04	U	0.08	U	0.04	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.10	U	0.29	U	ND	0.2	U	0.1	U	0.2	U	0.1	U	0.2	U	0.1	U	0.2	U	0.1	U
106-93-4	1,2-Dibromoethane	0.12	U	0.22		ND	0.1	U	0.12	U	0.1	U	0.12	U	0.1	U	0.12	U	0.1	U	0.12	U
107-06-2	1,2-Dichloroethane	0.10	U	0.10	U	ND	0.1	U	2.06		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
78-87-5	1,2-Dichloropropane	0.13	J	0.30		0.4	0.1	U	11.8		0.1	U	0.749	0.1	U	0.09	U	0.1	U	14.2		
106-99-0	1,3-Butadiene	0.49	U	0.49	U	ND	--		0.49	U	--		0.607	J	--		0.49	U	--		0.49	U
106-46-7	1,4-Dichlorobenzene	0.19	U	0.23	U	ND	0.1	U	0.374		0.1	U	0.09	U	0.1	U	0.485		0.1	U	0.589	
107-02-8	Acrolein	0.96		0.53	J	1.8	1.3	U	1.77		1.3	U	0.41	U	1.3	U	0.41	U	1.3	U	1.34	
107-13-1	Acrylonitrile	0.20	U	0.20	U	ND	--		0.2	U	--		0.2	U	--		0.2	U	--		0.2	U
71-43-2	Benzene	3.1		0.90		3.4	0.11	U	21.5		0.11	U	2.59	0.11	U	1.38		0.11	U	14.3		
75-25-2	Bromoform	0.11	U	0.11	U	ND	0.06	U	0.11	U	0.06	U	0.11	U	0.06	U	0.11	U	0.06	U	0.11	U
56-23-5	Carbon Tetrachloride	0.13	U	0.68		ND	0.08	U	0.13	U	0.08	U	0.13	U	0.08	U	0.13	U	0.08	U	0.225	J
67-66-3	Chloroform	21		0.32		66	0.09	U	3.02		0.09	U	0.11	U	0.106	J	0.17	J	0.09	U	0.676	
74-87-3	Chloromethane	0.17	J	1.4		0.1	0.2	U	0.07	U	0.2	U	0.07	U	0.2	U	0.07	U	0.2	U	0.07	U
100-41-4	Ethylbenzene	3.1		0.68		4.5	0.05	U	16.6		0.05	U	86.2	0.05	U	3.71		0.05	U	8.88		
87-68-3	Hexachlorobutadiene	0.37	J	0.43	J	0.9	--		0.822	U	--		0.538	--		1.36		--		1.3		
110-54-3	Hexane	0.67		0.52		1.3	--		13.1		--		0.565	--		0.224	J	--		22		
1634-04-4	Methyl tert-Butyl Ether	0.17	U	0.91		ND	0.1	U	0.17	U	0.1	U	0.17	U	0.1	U	0.17	U	0.1	U	0.17	U
127-18-4	Tetrachloroethene	91		1.5	U	ND	45.6		3270		3.36		9.81	9.34		46.3		0.1	U	1.45	U	
79-01-6	Trichloroethene	0.16	J	0.18	J	0.9	0.138	J	113		0.13	U	0.08	0.132	J	0.08	U	0.13	U	0.08	U	
75-01-4	Vinyl Chloride	0.07	U	0.07	U	ND	0.1	U	0.07	U	0.1	U	0.07	0.1	U	0.07	U	0.1	U	0.07	U	

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

CAS No	COPC	Location 0488							Location 0512					Location 0548									Location 0805				
		Study Area 8							Study Area 8					Study Area 6									Study Area 6				
		0488TW001		0488SG001		0488AA001			0512SG001		0512AA001			0548PW001		0548TW001		0548SG003_DC		0548AA001_DC			0805SG001		0805AA001		
		Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Private Well (ug/l)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Soil Gas (ug/m ³)		Ambient Air (ug/m ³)		
Result	Qual	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Ratio		
630-20-6	1,1,1,2-Tetrachloroethane	0.11	U	0.18	U	0.206	J	ND	0.18	U	0.18	U	ND	0.11	U	0.11	U	0.18	U	0.18	U	ND	0.24	J	0.18	U	ND
79-34-5	1,1,2,2-Tetrachloroethane	0.05	U	0.04	U	0.381		ND	0.04	U	0.04	U	ND	0.05	U	0.05	U	0.04	U	0.149		ND	0.04	U	0.33		ND
96-12-8	1,2-Dibromo-3-Chloropropane	0.25	U	0.1	U	0.27		ND	0.1	U	0.1	U	ND	0.25	U	0.25	U	0.1	U	0.1	U	ND	0.43	U	0.18	U	ND
106-93-4	1,2-Dibromoethane	0.09	U	0.12	U	0.12	U	ND	0.12	U	0.454		ND	0.09	U	0.09	U	0.12	U	0.155	J	ND	0.31		0.40		0.8
107-06-2	1,2-Dichloroethane	0.08	U	0.1	U	0.1	U	ND	0.1	U	0.381		ND	0.08	U	0.08	U	0.1	U	0.1645		ND	0.23		0.33		0.7
78-87-5	1,2-Dichloropropane	0.15	U	0.09	U	0.232	U	ND	0.09	U	0.09	U	ND	0.15	U	0.15	U	1.045		0.154	J	6.8	0.25		0.53		0.5
106-99-0	1,3-Butadiene	--		0.703	J	0.49	U	ND	0.49	U	0.49	U	ND	--		--		0.49	U	0.49	U	ND	0.49	U	0.49	U	ND
106-46-7	1,4-Dichlorobenzene	0.07	U	1.04		0.741		1.4	0.24		0.276		0.9	0.07	U	0.07	U	0.2475		0.168		1.5	0.30	U	0.33	U	ND
107-02-8	Acrolein	0.4	U	0.41	U	0.41	U	ND	2.59		0.544	J	4.8	0.4	U	0.4	U	0.9715		0.41	U	ND	0.48	J	0.45	J	1.1
107-13-1	Acrylonitrile	--		0.2	U	0.2	U	ND	0.2	U	0.2	U	ND	--		--		2.645		0.2	U	ND	0.44		0.20	U	ND
71-43-2	Benzene	0.05	U	16.4		0.82		20.0	3.46		0.564		6.1	0.05	U	0.05	U	0.7575		0.4085		1.9	2.0		1.2		1.7
75-25-2	Bromoform	0.06	U	0.11	U	0.11	U	ND	0.11	U	0.11	U	ND	0.577	J	0.06	U	0.11	U	0.11	U	ND	0.38		0.11	U	ND
56-23-5	Carbon Tetrachloride	0.08	U	0.196	U	0.727	U	ND	0.306		0.636		0.5	1.05		2.56		24.8		0.655		37.9	0.39		0.87		0.5
67-66-3	Chloroform	0.09	U	2.05		0.11	U	ND	0.11	U	2.15		ND	0.753		1.19		6730		0.2385		28218	1.7		0.36		4.7
74-87-3	Chloromethane	0.21	U	0.529		1.3		0.4	0.509		0.858		0.6	0.21	U	0.21	U	0.229		1.295		0.2	0.15	J	1.4		0.1
100-41-4	Ethylbenzene	0.05	U	2.66		0.904		2.9	111		0.488		227.5	0.05	U	0.05	U	0.278		0.3985		0.7	3.0		1.6		1.9
87-68-3	Hexachlorobutadiene	0.193	U	2.39		1.86		1.3	0.624	U	0.633	U	ND	0.201	U	0.193	U	0.46	U	0.455	U	ND	0.64	U	0.65	U	ND
110-54-3	Hexane	--		5.07		0.209	J	24.3	2.41		0.868		2.8	--		--		0.595		0.2485		2.4	0.30		0.84		0.4
1634-04-4	Methyl tert-Butyl Ether	0.11	U	0.17	U	1.07		ND	0.17	U	0.17	U	ND	0.11	U	0.11	U	2.81		0.411		6.8	0.66		1.3		0.5
127-18-4	Tetrachloroethene	0.533	J	3.93		1.45	U	ND	17.9		1.71	J	10.5	0.07	U	0.413	J	104.5		1.45	U	ND	1650		1.5	U	ND
79-01-6	Trichloroethene	0.2	J	0.41		0.323		1.3	0.08	U	0.374		ND	0.365	J	0.589	J	1.335		0.1215		11.0	0.57		0.29		2.0
75-01-4	Vinyl Chloride	0.15	U	0.07	U	0.07	U	ND	0.07	U	0.07	U	ND	0.15	U	0.15	U	0.07	U	0.07	U	ND	0.07	U	0.07	U	ND

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

CAS No	COPC	Location 0815					Location 0827					Location 0851					Location 0882				Location 0921			
		Study Area 6					Study Area 6					Study Area 6					Study Area 5				Study Area 5			
		0815SG001		0815AA001			0827SG001		0827AA001			0851SG001		0851AA001			0882IW001		0882SG001		0921PW001		0921TW001	
		Soil Gas (ug/m3)		Ambient Air (ug/m ³)			Soil Gas (ug/m3)		Ambient Air (ug/m ³)			Soil Gas (ug/m3)		Ambient Air (ug/m ³)			Irrigation Well (ug/l)		Soil Gas (ug/m ³)		Private Well (ug/l)		Tap Water (ug/l)	
Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Result	Qual		
630-20-6	1,1,1,2-Tetrachloroethane	0.18	U	0.18	U	ND	0.18	U	0.18	U	ND	0.18	U	0.18	U	ND	0.1	U	0.18	U	0.11	U	0.11	U
79-34-5	1,1,2,2-Tetrachloroethane	0.04	U	0.04	U	ND	0.458		0.04	U	ND	0.04	U	0.04	U	ND	0.08	U	0.04	U	0.05	U	0.05	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.10	U	0.10	U	ND	0.1	U	0.226	U	ND	0.10	U	0.18	J	ND	0.2	U	0.1	U	0.25	U	0.25	U
106-93-4	1,2-Dibromoethane	0.12	U	0.12	U	ND	0.586		0.12	U	ND	0.12	U	0.12	U	ND	0.1	U	0.12	U	0.09	U	0.09	U
107-06-2	1,2-Dichloroethane	0.10	U	0.10	U	ND	0.387		0.1	U	ND	0.10	U	0.10	U	ND	0.1	U	0.1	U	0.08	U	0.08	U
78-87-5	1,2-Dichloropropane	0.09	U	0.66		ND	0.09	U	0.443		ND	0.33		0.53		0.6	0.1	U	0.09	U	0.15	U	0.15	U
106-99-0	1,3-Butadiene	0.49	U	0.49	U	ND	0.49	U	0.49	U	ND	0.73	J	0.49	U	ND	--		0.49	U	--		--	
106-46-7	1,4-Dichlorobenzene	0.27		0.21		1.3	0.716		0.336	U	ND	0.09	U	0.19	J	ND	0.1	U	0.09	U	0.07	U	0.07	U
107-02-8	Acrolein	2.1		0.76	J	2.7	1.53		0.41	U	ND	0.62	J	0.41	U	ND	1.3	U	2.02		0.4	U	0.4	U
107-13-1	Acrylonitrile	0.61		0.20	U	ND	0.718		0.2	U	ND	0.39	J	0.20	U	ND	--		0.2	U	--		--	
71-43-2	Benzene	3.8		1.1		3.5	0.209		0.929		0.2	6.4		0.42		15.3	0.11	U	0.438		0.05	U	0.05	U
75-25-2	Bromoform	0.11	U	0.11	U	ND	0.11	U	0.11	U	ND	0.11	U	0.11	U	ND	0.06	U	0.11	U	0.934	J	0.691	J
56-23-5	Carbon Tetrachloride	0.13	U	0.52	U	ND	0.737		0.696		1.1	0.26	J	0.68		0.4	0.08	U	0.13	U	0.08	U	0.08	U
67-66-3	Chloroform	0.56		0.11	U	ND	0.11	U	0.201		ND	2.2		0.18	J	12	0.09	U	0.11	U	0.09	U	0.09	U
74-87-3	Chloromethane	0.49		1.2		0.4	0.223		1.27		0.2	0.36		1.4		0.3	0.2	U	0.07	U	0.21	U	0.21	U
100-41-4	Ethylbenzene	1.7		0.62		2.7	0.276		0.79		0.3	8.1		0.37		22	0.05	U	0.792		0.05	U	0.05	U
87-68-3	Hexachlorobutadiene	1.7	U	1.5	U	ND	1.21	U	0.585	U	ND	0.24	U	0.52	U	ND	--		0.24	U	0.197	U	0.191	U
110-54-3	Hexane	0.79		0.71		1.1	0.17	U	2.15		ND	1.7		0.24	J	7.1	--		2.11		--		--	
1634-04-4	Methyl tert-Butyl Ether	1.1		0.65		1.7	0.573		0.17	U	ND	2.0		0.42		4.8	0.1	U	0.17	U	0.11	U	0.11	U
127-18-4	Tetrachloroethene	14		1.5	U	ND	1.45	U	1.45	U	ND	7.7		1.5	U	ND	0.1	U	1.55	J	0.07	U	0.07	U
79-01-6	Trichloroethene	0.08	U	0.08	U	ND	0.08	U	0.08	U	ND	0.08	U	0.13	J	ND	0.13	U	0.08	U	0.13	U	0.13	U
75-01-4	Vinyl Chloride	0.07	U	0.07	U	ND	0.07	U	0.07	U	ND	0.07	U	0.07	U	ND	0.1	U	0.07	U	0.15	U	0.15	U

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

		Location 1194					Location 1621						Location 1713						Location 1751					
		Outside Economy					Study Area 8						Study Area 5						Study Area 5					
		1194SG001		1194AA001			1621TW001		1621SG001		1621AA001		1713PW001		1713TW001		1713TW002		1751SG001		1751AA001			
		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)		Private Well (ug/l)		Tap Water (ug/l)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			
CAS No	COPC	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Ratio		
630-20-6	1,1,1,2-Tetrachloroethane	0.18	U	0.18	U	ND	0.1	U	0.2	U	0.2	U	ND	0.11	U	0.11	U	0.11	U	0.18	U	0.18	U	ND
79-34-5	1,1,2,2-Tetrachloroethane	0.188		0.04	U	ND	0.1	U	0.0	U	0.0	U	ND	0.05	U	0.5	U	0.05	U	0.04	U	0.3		ND
96-12-8	1,2-Dibromo-3-Chloropropane	0.1	U	0.1	U	ND	0.2	U	0.1	U	0.1	U	ND	0.25	U	0.25	U	0.25	U	0.1	U	0.1	U	ND
106-93-4	1,2-Dibromoethane	0.185	J	0.12	U	ND	0.1	U	0.1	U	0.1	U	ND	0.09	U	0.09	U	0.09	U	0.369		0.282		1.3
107-06-2	1,2-Dichloroethane	0.1	U	0.1	U	ND	0.1	U	0.1	U	0.4		ND	0.08	U	0.08	U	0.08	U	0.246		0.235		1.0
78-87-5	1,2-Dichloropropane	0.09	U	0.957		ND	0.1	U	0.1	J	1.0		0.1	0.15	U	0.15	U	0.15	U	0.238		0.343		0.7
106-99-0	1,3-Butadiene	0.49	U	0.49	U	ND	--		0.5	U	0.5	U	ND	--		--		--		0.49	U	0.49	U	ND
106-46-7	1,4-Dichlorobenzene	0.18	J	0.186	J	1.0	0.1	U	0.1	U	0.2	U	ND	0.07	U	0.07	U	0.07	U	0.357	U	0.239	U	ND
107-02-8	Acrolein	0.495	J	0.441	J	1.1	1.3	U	0.5	J	0.7	J	0.7	0.4	U	--		0.4	U	0.495	J	0.691	J	0.7
107-13-1	Acrylonitrile	0.2	U	0.2	U	ND	--		0.2	U	0.2	U	ND	--		--		--		0.226	J	0.2	U	ND
71-43-2	Benzene	0.517		0.925		0.6	0.1	U	0.6		2.2		0.3	0.05	U	0.05	U	0.05	U	2.41		0.731		3.3
75-25-2	Bromoform	0.11	U	0.11	U	ND	0.1	U	0.1	U	0.1	U	ND	0.06	U	1.55		1.41		0.445		0.11	U	ND
56-23-5	Carbon Tetrachloride	0.362		0.715		0.5	0.1	U	0.1	U	0.7		ND	0.08	U	0.08	U	0.08	U	0.291	J	0.702		0.4
67-66-3	Chloroform	0.11	U	0.208		ND	0.2	J	0.3		0.3		0.9	0.09	U	0.3	U	0.09	U	3.22		0.286		11.3
74-87-3	Chloromethane	0.07	U	1.51		ND	0.2	U	0.2	J	1.5		0.1	0.21	U	0.21	U	0.21	U	0.253		1.76		0.1
100-41-4	Ethylbenzene	0.242		0.828		0.3	0.1	U	1.4		1.6		0.9	0.05	U	0.05	U	0.05	U	7.03		1.06		6.6
87-68-3	Hexachlorobutadiene	0.515		0.5		1.0	--		0.3	J	0.3	J	0.9	0.2	U	0.18	U	--		0.664		0.627		1.1
110-54-3	Hexane	0.761		0.498		1.5	--		0.3	J	1.5		0.2	--		--		--		0.668		1.19		0.6
1634-04-4	Methyl tert-Butyl Ether	0.17	U	0.997		ND	0.1	U	0.2	U	5.0		ND	0.11	U	0.11	U	0.11	U	0.17	U	0.767		ND
127-18-4	Tetrachloroethene	202		1.45	U	ND	1.6		32		1.9	J	18	0.174	J	0.07	U	0.07	U	170		1.45	U	ND
79-01-6	Trichloroethene	0.164	J	0.331		0.5	0.4	J	0.1	J	0.2	J	0.7	0.13	U	0.13	U	0.13	U	0.311		0.184	J	1.7
75-01-4	Vinyl Chloride	0.07	U	0.07	U	ND	0.1	U	0.1	U	0.1	U	ND	0.15	U	0.15	U	0.15	U	0.07	U	0.07	U	ND

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

CAS No	COPC	Location 1756					Location 1766				Location 1767				Location 1771					Location 1850						
		Study Area 5					Study Area 5				Study Area 5				Study Area 9					Study Area 6						
		1756SG001		1756AA001			1766IW001		1766SG001		1767TW001		1767TW002		1771SG001		1771AA001			1850SG001		1850AA001				
		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Irrigation Well (ug/l)		Soil Gas (ug/m ³)		Tap Water (ug/l)		Tap Water (ug/l)		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Soil Gas (ug/m ³)		Ambient Air (ug/m ³)				
Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Ratio				
630-20-6	1,1,1,2-Tetrachloroethane	0.18	U		0.437		ND		0.1	U		0.18	U		0.18	U		0.18	U	0.2	U		0.2	U	ND	
79-34-5	1,1,2,2-Tetrachloroethane	0.04	U		0.04	U	ND		0.08	U		0.04	U		0.04	U		0.193		ND	0.0	U		0.0	U	ND
96-12-8	1,2-Dibromo-3-Chloropropane	0.1	U		0.6		ND		0.2	U		0.1	U		0.1	U		0.1	U		0.1	U		0.1	U	ND
106-93-4	1,2-Dibromoethane	0.12	U		0.12	U	ND		0.1	U		0.12	U		0.12	U		0.178	J	ND	0.1	U		0.1	U	ND
107-06-2	1,2-Dichloroethane	0.1	U		0.216		ND		0.1	U		0.1	U		0.1	U		0.206		ND	0.1	U		0.1	U	ND
78-87-5	1,2-Dichloropropane	0.09	U		0.271		ND		0.1	U		0.09	U		0.09	U		0.176	J	ND	0.1	U		0.1	U	ND
106-99-0	1,3-Butadiene	0.536	J		0.49	U	ND		--			0.49	U		--			0.49	U		0.49	U		0.49	U	ND
106-46-7	1,4-Dichlorobenzene	0.215			0.226		1.0		0.1	U		0.09	U		0.07	U		0.231	U		0.206	U		0.206	U	ND
107-02-8	Acrolein	1.2			0.658	J	1.8		1.3	U		2.45			--			0.41	U		0.41	U		0.41	U	ND
107-13-1	Acrylonitrile	0.2	U		0.2	U	ND		--			0.2	U		--			0.2	U		0.2	U		0.2	U	ND
71-43-2	Benzene	1.41			0.252		5.6		0.11	U		0.209			0.05	U		0.05	U		13.9			0.349		39.8
75-25-2	Bromoform	0.11	U		0.11	U	ND		0.06	U		0.11	U		0.06	U		0.11	U		0.231	J		0.231	J	ND
56-23-5	Carbon Tetrachloride	0.171	J		0.748		0.2		0.08	U		0.13	U		0.08	U		0.08	U		0.357			0.717		0.5
67-66-3	Chloroform	0.952			0.11	U	ND		0.09	U		0.817			0.33	U		0.13	J		1.35			0.198	J	6.8
74-87-3	Chloromethane	0.218			1.51		0.1		0.2	U		0.07	U		0.21	U		0.21	U		0.07	U		1.45		ND
100-41-4	Ethylbenzene	1.12			0.188	J	6.0		0.05	U		0.03	U		0.05	U		0.05	U		5.03			0.272		18.5
87-68-3	Hexachlorobutadiene	0.552			0.515		1.1		--			0.24	U		--			0.691	U		0.578	U		0.578	U	ND
110-54-3	Hexane	0.518			0.17	U	ND		--			0.468			--			28			0.17	U		0.17	U	ND
1634-04-4	Methyl tert-Butyl Ether	0.17	U		0.17	U	ND		0.1	U		0.17	U		0.11	U		0.11	U		0.17	U		0.227	J	ND
127-18-4	Tetrachloroethene	288			1.45	U	ND		1.55			3.09			12.42			13.9			34.1			1.45	U	ND
79-01-6	Trichloroethene	0.08	U		0.161	J	ND		0.295	J		0.08	U		0.13	U		0.13	U		0.08	U		0.17	J	ND
75-01-4	Vinyl Chloride	0.07	U		0.07	U	ND		0.1	U		0.07	U		0.15	U		0.15	U		0.07	U		0.07	U	ND

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

CAS No	COPC	Location 1926					Location 1945					Location 1969					Location 2016				Location 2021			
		Study Area 7					Study area 5					Study Area 5					Study Area 5				Study Area 5			
		1926SG001		1926AA001			1945SG001		1945AA001			1969SG001		1969AA001			2016TW001		2016SG001		2021TW001		2021SG001	
		Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Soil Gas (ug/m ³)		Ambient Air (ug/m ³)			Tap Water (ug/l)		Soil Gas (ug/m ³)		Tap Water (ug/l)		Soil Gas (ug/m ³)	
	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Ratio	Result	Qual	Result	Qual	Result	Qual	Result	Qual	
630-20-6	1,1,1,2-Tetrachloroethane	0.18	U	0.248	J	ND	0.18	U	0.269	J	ND	0.18	U	0.18	U	ND	0.1	U	0.18	U	0.1	U	0.18	U
79-34-5	1,1,2,2-Tetrachloroethane	0.427		0.383		1.1	0.406		0.428		0.9	0.182		0.04	U	ND	0.08	U	0.04	U	0.08	U	0.04	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.1	U	0.312		ND	0.296		0.308		1.0	0.1	U	0.1	U	ND	0.2	U	0.1	U	0.2	U	0.1	U
106-93-4	1,2-Dibromoethane	0.12	U	0.12	U	ND	0.12	U	0.12	U	ND	0.12	U	0.173	J	ND	0.1	U	0.12	U	0.1	U	0.12	U
107-06-2	1,2-Dichloroethane	0.1	U	0.1	U	ND	0.1	U	0.116	J	ND	0.1	U	0.144	J	ND	0.1	U	0.1	U	0.1	U	0.1	U
78-87-5	1,2-Dichloropropane	0.159	U	0.404	U	ND	0.167	U	0.191	U	ND	0.09	U	0.357		ND	0.1	U	0.09	U	0.1	U	0.09	U
106-99-0	1,3-Butadiene	0.49	U	0.49	U	ND	0.49	U	0.49	U	ND	0.49	U	0.49	U	ND	--		0.49	U	--		0.49	U
106-46-7	1,4-Dichlorobenzene	0.9		0.752		1.2	0.815		1.44		0.6	0.217		0.243		0.9	0.1	U	0.09	U	0.1	U	0.616	
107-02-8	Acrolein	0.792	J	0.41	U	ND	0.511	J	0.435	J	1.2	0.41	U	0.41	U	ND	1.3	U	0.41	U	1.3	U	2.32	
107-13-1	Acrylonitrile	0.2	U	0.2	U	ND	0.2	U	0.2	U	ND	0.2	U	0.2	U	ND	--		0.2	U	--		0.2	U
71-43-2	Benzene	2.33		0.639		3.6	0.233	U	0.183	U	ND	1.23		0.313		3.9	0.11	U	0.772		0.11	U	1.12	
75-25-2	Bromoform	0.11	U	0.11	U	ND	0.11	U	0.11	U	ND	0.11	U	0.11	U	ND	0.06	U	0.11	U	0.06	U	0.11	U
56-23-5	Carbon Tetrachloride	0.415	U	0.661	U	ND	0.13	U	0.695	U	ND	0.157	J	0.598		0.3	0.08	U	0.13	U	0.08	U	0.13	U
67-66-3	Chloroform	0.403	U	0.194	U	ND	0.361	U	0.195	U	ND	0.11	U	0.11	U	ND	0.09	U	2.31		0.09	U	0.11	U
74-87-3	Chloromethane	0.07	U	1.3		ND	0.07	U	1.29		ND	0.0989	J	1.12		0.1	0.2	U	0.07	U	0.2	U	0.911	
100-41-4	Ethylbenzene	47.2		0.582	U	ND	0.32	U	0.315	U	ND	0.316		0.348		0.9	0.05	U	5.31		0.05	U	1.72	
87-68-3	Hexachlorobutadiene	2.34		1.83		1.3	1.99		2.06		1.0	0.599		0.636		0.9	0.19	U	0.24	U	--		0.772	
110-54-3	Hexane	0.17	U	0.5		ND	0.17	U	0.17	U	ND	0.376		0.481		0.8	--		0.17	U	--		0.698	
1634-04-4	Methyl tert-Butyl Ether	0.17	U	0.17	U	ND	0.17	U	0.17	U	ND	0.17	U	0.17	U	ND	0.1	U	0.17	U	0.1	U	0.17	U
127-18-4	Tetrachloroethene	4.51		1.45	U	ND	1.7	J	1.45	U	ND	2.67	J	1.45	U	ND	21.8		1.85	J	0.1	U	1.59	J
79-01-6	Trichloroethene	0.321		0.331		1.0	0.321	U	0.34	U	ND	0.142	J	0.152	J	0.9	0.13	U	0.08	U	0.13	U	0.08	U
75-01-4	Vinyl Chloride	0.07	U	0.07	U	ND	0.07	U	0.07	U	ND	0.07	U	0.07	U	ND	0.1	U	0.07	U	0.1	U	0.07	U

**Table C-1
Summary of Co-located Soil Gas, Ambient Air, and Groundwater Data**

		Location 2032			
		Study Area 8			
		2032TW001		2032SG001	
		Tap Water (ug/l)		Soil Gas (ug/m ³)	
CAS No	COPC	Result	Qual	Result	Qual
630-20-6	1,1,1,2-Tetrachloroethane	0.1	U	0.18	U
79-34-5	1,1,2,2-Tetrachloroethane	0.08	U	0.04	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.2	U	0.1	U
106-93-4	1,2-Dibromoethane	0.1	U	0.12	U
107-06-2	1,2-Dichloroethane	0.1	U	0.1	U
78-87-5	1,2-Dichloropropane	0.1	U	0.09	U
106-99-0	1,3-Butadiene	--		0.49	U
106-46-7	1,4-Dichlorobenzene	0.1	U	0.09	U
107-02-8	Acrolein	1.3	U	0.41	U
107-13-1	Acrylonitrile	--		0.2	U
71-43-2	Benzene	0.11	U	0.0679	U
75-25-2	Bromoform	0.06	U	0.11	U
56-23-5	Carbon Tetrachloride	0.08	U	0.13	U
67-66-3	Chloroform	0.09	U	0.11	U
74-87-3	Chloromethane	0.2	U	0.07	U
100-41-4	Ethylbenzene	0.05	U	0.768	
87-68-3	Hexachlorobutadiene	--		0.947	
110-54-3	Hexane	--		0.17	U
1634-04-4	Methyl tert-Butyl Ether	0.1	U	0.17	U
127-18-4	Tetrachloroethene	0.462	J	1.45	U
79-01-6	Trichloroethene	0.13	U	0.08	U
75-01-4	Vinyl Chloride	0.1	U	0.07	U

Appendix D

Matrix of Locations that Exceeded CEFs/NCEFs

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	1,1,1,2-Tetrachloroethane (630-20-6)		1,1,2,2-Tetrachloroethane (79-34-5)		1,2-Dibromo-3-Chloropropane (96-12-8)		1,2-Dibromoethane (106-93-4)		1,2-Dichloroethane (107-06-2)		1,2-Dichloropropane (78-87-5)		1,3-Butadiene (106-99-0)		1,4-Dichlorobenzene (106-46-7)		Acrolein (107-02-8)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
00	1194	--	--	0.45	--	--	--	4.51	0.0020	--	--	--	--	--	--	0.082	0.000022	--	2.36
00	2105	--	--	--	--	--	--	--	--	--	--	0.17	0.010	--	--	0.24	0.000062	--	2.90
01	0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01	0021	--	--	--	--	--	--	4.10	0.0018	--	--	0.065	0.0037	--	--	0.51	0.00014	--	--
01	0024	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01	0082	--	--	--	--	--	--	--	--	--	--	0.10	0.0059	--	--	0.21	0.000055	--	2.20
01	0085	--	--	--	--	--	--	--	--	--	--	0.14	0.0079	--	--	0.57	0.00015	--	6.57
01	0167	--	--	--	--	--	--	--	--	--	--	1.23	0.070	--	--	--	--	--	10.62
01	0171	--	--	0.97	--	--	--	--	--	--	--	--	--	--	--	0.37	0.000098	--	--
01	0180	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01	0185	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01	0588	--	--	--	--	--	--	--	--	--	--	0.68	0.039	--	--	--	--	--	--
01	0589	--	--	--	--	--	--	--	--	--	--	0.081	0.0046	--	--	0.25	0.000067	--	6.67
01	0598	--	--	--	--	--	--	--	--	0.34	0.000013	0.47	0.027	--	--	--	--	--	--
01	1227	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01	1312	--	--	--	--	--	--	--	--	--	--	11.04	0.63	--	--	0.55	0.00015	--	5.76
01	1443	--	--	--	--	--	--	--	--	--	--	0.72	0.041	--	--	--	--	--	8.52
01	1450	0.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01	1456	--	--	--	--	--	--	--	--	--	--	0.56	0.032	--	--	--	--	--	15.33
01	1459	--	--	--	--	--	--	--	--	--	--	0.20	0.011	--	--	--	--	--	5.48
01	1529	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01	1811	--	--	--	--	--	--	--	--	--	--	0.53	0.030	--	--	--	--	--	4.29
01	1839	--	--	--	--	--	--	--	--	--	--	0.73	0.042	--	--	--	--	--	13.33
01	1867	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14.45	0.0038	--	2.84
01	1928	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.47	0.00012	--	5.10
01	2090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28	0.000075	--	--
01	2103	--	--	--	--	--	--	--	--	--	--	0.059	0.0034	--	--	0.22	0.000058	--	--
01	2139	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01	2140 ⁽¹⁾	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
02	1334	--	--	--	--	--	--	--	--	--	--	1.79	0.10	--	--	--	--	--	4.64
02	1384	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
02	1389	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
02	1785	6.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
02	1788	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
02	1794	--	--	--	--	--	--	--	--	--	--	1.20	0.068	--	--	--	--	--	10.19
02	1817	--	--	--	--	--	--	--	--	--	--	0.43	0.025	--	--	--	--	--	5.14
02	2110	--	--	--	--	--	--	--	--	--	--	0.26	0.015	--	--	0.24	0.000062	--	--
03	0479	--	--	--	--	--	--	--	--	--	--	1.06	0.060	--	--	--	--	--	6.43
03	1989	--	--	--	--	--	--	--	--	--	--	0.20	0.011	--	--	0.22	0.000058	--	--
03	2044	--	--	--	--	--	--	--	--	--	--	0.64	0.036	0.63	0.024	--	--	--	4.05
03	2045	--	--	--	--	--	--	--	--	--	--	1.18	0.068	--	--	--	--	--	--
03	2079	--	--	--	--	--	--	--	--	--	--	0.58	0.033	--	--	--	--	--	--
03	2106	--	--	--	--	--	--	--	--	--	--	0.18	0.010	--	--	0.22	0.000059	--	3.33
03	2108	--	--	--	--	--	--	--	--	--	--	4.92	0.28	--	--	0.39	0.00010	--	3.75
03	2111	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03	2112	--	--	--	--	--	--	--	--	--	--	0.48	0.028	0.73	0.028	--	--	--	--
04	0114	--	--	--	--	--	--	--	--	--	--	1.77	0.10	--	--	--	--	--	10.14
04	0771	--	--	--	--	--	--	--	--	--	--	0.39	0.022	--	--	--	--	--	4.02

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	1,1,1,2-Tetrachloroethane (630-20-6)		1,1,2,2-Tetrachloroethane (79-34-5)		1,2-Dibromo-3-Chloropropane (96-12-8)		1,2-Dibromoethane (106-93-4)		1,2-Dichloroethane (107-06-2)		1,2-Dichloropropane (78-87-5)		1,3-Butadiene (106-99-0)		1,4-Dichlorobenzene (106-46-7)		Acrolein (107-02-8)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
04	1562	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23	0.000061	--	--	
04	1569	--	--	--	--	--	--	--	--	--	--	1.32	0.075	--	--	--	--	--	--
04	1570	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
04	1872	--	--	--	--	--	--	--	--	--	--	0.18	0.010	--	--	--	--	--	2.95
04	2060	--	--	--	--	--	--	--	--	--	--	0.38	0.022	--	--	--	--	--	7.29
04	2071	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
04	2073	--	--	--	--	--	--	--	--	0.12	0.0000045	0.55	0.031	--	--	--	--	--	26.48
04	2093	--	--	0.48	--	--	--	--	--	--	--	0.23	0.013	--	--	0.26	0.000069	--	--
04	2152	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	0564	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	0574	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	0882	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.62
05	0894	--	--	--	--	--	--	--	--	--	--	--	--	--	0.21	0.000057	--	--	--
05	0917	--	--	--	--	--	--	--	--	--	--	1.31	0.075	--	--	--	--	--	16.71
05	0923	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	0949	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	0975	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	0.000053	--	--	--
05	1020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	1119	5.09	--	--	--	--	--	--	--	--	--	0.12	0.0068	--	--	0.30	0.000080	--	11.95
05	1120	--	--	--	--	--	--	--	--	--	--	0.70	0.040	--	--	--	--	--	2.42
05	1132	--	--	--	--	--	--	--	--	--	--	0.14	0.0079	--	--	0.23	0.000062	--	2.99
05	1148	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	1151	--	--	--	--	--	--	--	--	--	--	1.77	0.10	--	--	--	--	--	27.48
05	1157	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	1182	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	1315	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	1694	--	--	--	--	--	--	--	--	--	--	--	--	0.78	0.030	0.24	0.000063	--	25.62
05	1699	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	1751	--	--	--	--	--	--	9	0.0039	0.26	0.000010	0.10	0.0057	--	--	--	--	--	2.36
05	1756	--	--	--	--	--	--	--	--	--	--	--	--	0.66	0.026	0.10	0.000026	--	5.71
05	1766	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11.67
05	1813	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.27	0.000070	--	--
05	1842	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	0.000080	--	25.33
05	1843	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.52
05	1849	--	--	--	--	--	--	--	--	--	--	0.46	0.026	--	--	--	--	--	4.20
05	1945	--	--	0.97	--	185	0.14	--	--	--	--	--	--	--	--	0.37	0.000098	--	2.43
05	1969	--	--	0.43	--	--	--	--	--	--	--	--	--	--	--	0.10	0.000026	--	--
05	2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28	0.000074	--	11.05
05	2049	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.70
05	2051	--	--	--	--	--	--	--	--	--	--	7.67	0.44	--	--	--	--	--	--
06	0198	--	--	--	--	--	--	--	--	--	--	0.37	0.021	--	--	--	--	--	--
06	0199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06	0548	--	--	0.38	--	--	--	3.88	0.0017	--	--	0.44	0.025	--	--	0.11	0.000030	--	4.68
06	0789	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06	0801	--	--	--	--	--	--	--	--	--	--	0.074	0.0042	--	--	0.24	0.000064	--	--
06	0805	0.073	--	--	--	--	--	7.54	0.0033	0.25	0.0000094	0.10	0.0059	--	--	--	--	--	2.28
06	0813	--	--	--	--	--	--	--	--	--	--	1.72	0.10	--	--	--	--	--	10.33

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	1,1,1,2-Tetrachloroethane (630-20-6)		1,1,2,2-Tetrachloroethane (79-34-5)		1,2-Dibromo-3-Chloropropane (96-12-8)		1,2-Dibromoethane (106-93-4)		1,2-Dichloroethane (107-06-2)		1,2-Dichloropropane (78-87-5)		1,3-Butadiene (106-99-0)		1,4-Dichlorobenzene (106-46-7)		Acrolein (107-02-8)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
06	0814	--	--	--	--	--	--	--	--	--	--	0.14	0.0078	--	--	0.20	0.000053	--	5.10
06	0815	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.12	0.000033	--	9.90
06	0822	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06	0827	--	--	1.09	--	--	--	14.3	0.0062	0.41	0.000015	--	--	--	--	0.33	0.000086	--	7.29
06	0831	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06	0837	--	--	--	--	--	--	--	--	--	--	4.75	0.27	--	--	--	--	--	--
06	0838	--	--	--	--	--	--	--	--	--	--	0.43	0.024	1.00	0.038	--	--	--	10.81
06	0848	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06	0851	--	--	--	--	--	--	--	--	--	--	0.14	0.0079	0.90	0.035	--	--	--	2.97
06	1201	--	--	--	--	--	--	--	--	--	--	0.095	0.0054	--	--	--	--	--	5.71
06	1363	--	--	--	--	--	--	--	--	--	--	0.069	0.0039	--	--	0.19	0.000052	--	--
06	1364	--	--	--	--	--	--	--	--	--	--	0.85	0.049	--	--	--	--	--	--
06	1659	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06	1704	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.14
06	1850	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.17
06	1866	--	--	--	--	--	--	--	--	--	--	1.64	0.094	--	--	--	--	--	6.71
06	1942	--	--	--	--	--	--	--	--	--	--	1.18	0.068	0.82	0.032	--	--	--	16.29
06	2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
06	2055	--	--	--	--	--	--	--	--	--	--	2.36	0.14	--	--	--	--	--	--
06	2080	--	--	--	--	--	--	--	--	--	--	0.11	0.0064	--	--	--	--	--	3.25
06	2081	--	--	--	--	--	--	--	--	--	--	0.26	0.015	4.60	0.18	--	--	--	8.81
06	2082	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.05
07	0104	--	--	--	--	--	--	--	--	--	--	0.70	0.040	--	--	--	--	--	3.65
07	0459	--	--	--	--	--	--	--	--	--	--	1.06	0.060	--	--	--	--	--	--
07	1370	--	--	--	--	--	--	--	--	--	--	1.82	0.10	--	--	--	--	--	--
07	1633	--	--	--	--	--	--	--	--	--	--	2.59	0.15	--	--	--	--	--	2.66
07	1635	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07	1749	--	--	--	--	--	--	--	--	--	--	3.35	0.19	0.84	0.032	--	--	--	6.67
07	1810	--	--	--	--	--	--	--	--	--	--	0.81	0.046	--	--	--	--	--	9.19
07	1911	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07	1923	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07	1926	--	--	1.02	--	--	--	--	--	--	--	--	--	--	--	0.41	0.00011	--	3.77
07	2023	--	--	--	--	--	--	--	--	--	--	1.95	0.11	--	--	--	--	--	5.10
07	2077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07	2113	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	34.38
07	2114	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.62
07	2115	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07	2116	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.10
07	2117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.38
07	2118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07	2130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07	2150	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07	2154	--	--	--	--	--	--	--	--	--	--	--	--	1.73	0.067	0.21	0.000057	--	22.67
07	2156	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.21
08	0120	--	--	--	--	--	--	--	--	--	--	1.26	0.072	--	--	--	--	--	2.64
08	0225	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.52
08	0227	--	--	--	--	--	--	--	--	--	--	0.56	0.032	--	--	--	--	--	8.62
08	0231	--	--	--	--	--	--	--	--	--	--	0.52	0.030	--	--	--	--	--	2.64

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	1,1,1,2-Tetrachloroethane (630-20-6)		1,1,1,2-Tetrachloroethane (79-34-5)		1,2-Dibromo-3-Chloropropane (96-12-8)		1,2-Dibromoethane (106-93-4)		1,2-Dichloroethane (107-06-2)		1,2-Dichloropropane (78-87-5)		1,3-Butadiene (106-99-0)		1,4-Dichlorobenzene (106-46-7)		Acrolein (107-02-8)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
08	0234	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.39
08	0238	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08	0266	--	--	--	--	--	--	--	--	--	--	0.42	0.024	--	--	--	--	--	4.54
08	0269	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.91
08	0275	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.27	0.000071	--	3.64
08	0276	--	--	--	--	--	--	--	--	--	--	--	--	0.99	0.038	--	--	--	9.52
08	0279	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.050	0.000013	--	3.10
08	0288	--	--	--	--	--	--	--	--	--	--	0.075	0.0043	--	--	0.15	0.000040	--	--
08	0290	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.60
08	0302	--	--	--	--	--	--	--	--	--	--	0.66	0.038	--	--	--	--	--	--
08	0326	--	--	--	--	--	--	7.00	0.0031	--	--	0.21	0.012	--	--	--	--	--	3.10
08	0329	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.90
08	0333	--	--	2.15	--	--	--	--	--	--	--	0.47	0.027	--	--	--	--	--	--
08	0339	--	--	--	--	--	--	7.51	0.0033	0.27	0.000010	0.21	0.012	--	--	--	--	--	3.30
08	0341	--	--	--	--	--	--	--	--	--	--	0.55	0.032	3.38	0.13	--	--	--	15.10
08	0343	--	--	0.72	--	--	--	7.20	0.0031	0.20	0.0000075	--	--	--	--	--	--	--	3.90
08	0345	--	--	--	--	--	--	--	--	--	--	0.48	0.028	1.13	0.044	--	--	--	26.10
08	0354	--	--	--	--	--	--	--	--	--	--	0.21	0.012	--	--	0.24	0.000063	--	--
08	0371	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08	0374	--	--	--	--	--	--	--	--	--	--	0.052	0.0030	--	--	--	--	--	4.58
08	0376	--	--	--	--	--	--	--	--	--	--	0.13	0.0074	--	--	0.24	0.000064	--	--
08	0393	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.06
08	0410	--	--	--	--	--	--	--	--	--	--	0.20	0.011	--	--	1.36	0.00036	--	--
08	0416	--	--	--	--	--	--	--	--	2.19	0.000082	4.92	0.28	--	--	0.17	0.000045	--	8.43
08	0419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.07
08	0427	7.64	--	--	--	--	--	--	--	--	--	0.31	0.018	0.75	0.029	--	--	--	--
08	0436	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.22	0.000058	--	--
08	0460	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12.67
08	0462	--	--	--	--	--	--	--	--	--	--	5.92	0.34	--	--	0.27	0.000071	--	6.38
08	0488	--	--	--	--	--	--	--	--	--	--	--	--	0.87	0.033	0.47	0.00013	--	--
08	0502	--	--	--	--	--	--	--	--	--	--	4.79	0.27	--	--	--	--	--	3.84
08	0512	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.11	0.000029	--	12.33
08	0525	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08	1621	--	--	--	--	--	--	--	--	--	--	0.054	0.0031	--	--	--	--	--	2.48
08	1742	--	--	--	--	--	--	--	--	--	--	1.25	0.071	--	--	--	--	--	16.05
08	1827	--	--	--	--	--	--	--	--	--	--	0.13	0.0071	--	--	--	--	--	2.56
08	1835	--	--	--	--	--	--	--	--	--	--	0.55	0.031	--	--	0.45	0.00012	--	4.10
08	1846	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.99
08	1847	--	--	--	--	--	--	--	--	--	--	6.33	0.36	1.30	0.050	--	--	--	11.29
08	1857	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08	1859	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08	1865	--	--	--	--	--	--	--	--	--	--	0.088	0.0050	--	--	0.76	0.00020	--	5.57
08	1874	--	--	--	--	--	--	--	--	--	--	0.43	0.025	--	--	--	--	--	4.10
08	1897	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.46	0.00012	--	--
08	1899	--	--	--	--	--	--	--	--	--	--	4.33	0.25	1.16	0.045	--	--	--	4.76
08	1995	--	--	--	--	--	--	--	--	--	--	0.088	0.0050	--	--	0.20	0.000054	--	--
08	2018	--	--	--	--	--	--	--	--	--	--	6.71	0.38	--	--	0.16	0.000043	--	3.90
08	2032	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	1,1,1,2-Tetrachloroethane (630-20-6)		1,1,2,2-Tetrachloroethane (79-34-5)		1,2-Dibromo-3-Chloropropane (96-12-8)		1,2-Dibromoethane (106-93-4)		1,2-Dichloroethane (107-06-2)		1,2-Dichloropropane (78-87-5)		1,3-Butadiene (106-99-0)		1,4-Dichlorobenzene (106-46-7)		Acrolein (107-02-8)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
08	2074	--	--	--	--	--	--	--	--	--	--	0.11	0.0060	1.60	0.062	--	--	--	5.00
08	2075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.43
09	0551	--	--	--	--	--	--	--	--	--	--	7.63	0.44	--	--	--	--	--	8.29
09	0552	--	--	--	--	--	--	--	--	--	--	1.35	0.077	--	--	--	--	--	4.70
09	1771	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
09	2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.38
09	2040	--	--	--	--	--	--	--	--	--	--	1.35	0.077	--	--	--	--	--	--
09	2078	--	--	--	--	--	--	--	--	--	--	2.37	0.14	--	--	--	--	--	9.29
09	2102	--	--	--	--	--	--	--	--	--	--	0.18	0.010	--	--	0.30	0.000079	--	--

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	Acrylonitrile (107-13-1)		Benzene (71-43-2)		Bromoform (75-25-2)		Carbon Tetrachloride (56-23-5)		Chloroform (67-66-3)		Chloromethane (74-87-3)		Ethylbenzene (100-41-4)		Hexachlorobutadiene (87-68-3)		Hexane (110-54-3)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
04	1562	--	--	111.29	1.11	--	--	--	--	--	--	--	--	5.88	0.0057	1.06	--	--	1.05
04	1569	--	--	0.087	0.00087	--	--	0.14	0.00011	0.12	0.00013	--	--	0.028	0.000028	--	--	--	0.000026
04	1570	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
04	1872	--	--	0.091	0.00091	--	--	--	--	--	--	--	--	0.018	0.000017	--	--	--	0.000068
04	2060	--	--	0.23	0.0023	--	--	--	--	0.39	0.00043	0.015	0.00023	0.086	0.000084	--	--	--	0.00011
04	2071	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
04	2073	--	--	0.35	0.0035	--	--	0.23	0.00019	0.14	0.00016	0.080	0.0012	0.049	0.000048	--	--	--	0.00011
04	2093	--	--	0.074	0.00074	--	--	0.092	0.000074	0.58	0.00064	--	--	0.013	0.000012	1.48	--	--	0.000074
04	2152	--	--	0.19	0.0019	--	--	--	--	2.23	0.0025	--	--	2.40	0.0023	--	--	--	--
05	0564	--	--	0.29	0.0029	--	--	0.17	0.00014	1.09	0.0012	--	--	--	--	--	--	--	0.000066
05	0574	--	--	0.41	0.0041	--	--	0.23	0.00018	--	--	0.066	0.00099	--	--	1.01	--	--	0.000057
05	0882	--	--	0.14	0.0014	--	--	--	--	--	--	--	--	0.082	0.000079	--	--	--	0.00029
05	0894	--	--	0.036	0.00036	--	--	0.35	0.00028	2.05	0.0023	--	--	0.0091	0.0000088	1.37	--	--	--
05	0917	--	--	0.19	0.0019	--	--	--	--	2.23	0.0025	--	--	0.048	0.000047	--	--	--	0.000050
05	0923	--	--	0.47	0.0047	--	--	--	--	13.55	0.015	--	--	0.50	0.00048	--	--	--	0.00021
05	0949	--	--	0.62	0.0062	--	--	--	--	--	--	--	--	8.63	0.0084	--	--	--	--
05	0975	--	--	0.028	0.00028	--	--	0.33	0.00027	42.55	0.047	--	--	0.0070	0.0000068	1.31	--	--	--
05	1020	--	--	2.36	0.024	--	--	--	--	1.04	0.0011	--	--	0.36	0.00035	--	--	--	0.00016
05	1119	--	--	0.36	0.0036	--	--	0.26	0.00021	1.31	0.0014	--	--	0.11	0.00010	--	--	--	0.0017
05	1120	--	--	0.10	0.0010	--	--	--	--	1.23	0.0014	--	--	0.031	0.000030	--	--	--	0.000065
05	1132	--	--	0.089	0.00089	--	--	--	--	0.15	0.00016	--	--	0.025	0.000024	1.28	--	--	0.000034
05	1148	--	--	1.42	0.014	--	--	--	--	2.74	0.0030	--	--	2.07	0.0020	--	--	--	0.00017
05	1151	--	--	0.13	0.0013	--	--	--	--	5.66	0.0062	--	--	0.20	0.00019	2.88	--	--	0.00015
05	1157	--	--	0.055	0.00055	--	--	--	--	--	--	--	--	0.37	0.00036	--	--	--	--
05	1182	--	--	0.050	0.00050	--	--	--	--	--	--	--	--	0.040	0.000038	--	--	--	0.000037
05	1315	--	--	--	--	--	--	--	--	1.24	0.0014	--	--	--	--	--	--	--	--
05	1694	--	--	1.22	0.012	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0075
05	1699	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
05	1751	0.63	0.011	0.78	0.0078	0.020	--	0.18	0.00015	2.93	0.0032	0.018	0.00027	0.72	0.00070	0.60	--	--	0.000092
05	1756	--	--	0.45	0.0045	--	--	0.11	0.000086	0.87	0.00095	0.016	0.00023	0.12	0.00011	0.50	--	--	0.000071
05	1766	--	--	0.067	0.00067	--	--	--	--	0.74	0.00082	--	--	--	--	--	--	--	0.000064
05	1813	--	--	0.29	0.0029	--	--	--	--	0.13	0.00014	0.012	0.00018	0.20	0.00019	1.22	--	--	0.00035
05	1842	--	--	0.36	0.0036	--	--	--	--	--	--	--	--	0.72	0.00070	--	--	--	0.00041
05	1843	--	--	0.28	0.0028	--	--	--	--	274.55	0.30	--	--	0.22	0.00022	--	--	--	0.00022
05	1849	--	--	0.083	0.00083	--	--	--	--	1.30	0.0014	--	--	0.027	0.000026	0.35	--	--	0.000052
05	1945	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.81	--	--	--
05	1969	--	--	0.40	0.0040	--	--	0.10	0.000079	--	--	0.0071	0.00011	0.033	0.000032	0.54	--	--	0.000052
05	2016	--	--	0.25	0.0025	--	--	--	--	2.10	0.0023	--	--	0.55	0.00053	--	--	--	--
05	2021	--	--	0.36	0.0036	--	--	--	--	--	--	0.065	0.00097	0.18	0.00017	0.70	--	--	0.00010
05	2049	--	--	0.11	0.0011	--	--	--	--	0.85	0.00093	--	--	0.017	0.000016	--	--	--	0.000037
05	2051	--	--	1.54	0.015	--	--	0.083	0.000067	--	--	0.052	0.00078	0.11	0.00010	--	--	--	0.00038
06	0198	--	--	0.11	0.0011	--	--	0.21	0.00017	0.19	0.00021	--	--	0.012	0.000012	--	--	--	--
06	0199	--	--	0.16	0.0016	--	--	--	--	1.12	0.0012	--	--	0.18	0.00017	--	--	--	0.00011
06	0548	7.35	0.13	0.85	0.0085	--	--	33	0.026	28000	30.80	0.016	0.00024	5.61	0.0054	--	--	--	0.000082
06	0789	--	--	0.077	0.00077	--	--	--	--	1.25	0.0014	--	--	0.013	0.000013	--	--	--	0.000068
06	0801	--	--	0.20	0.0020	--	--	--	--	--	--	--	--	0.031	0.000030	1.43	--	--	0.000088
06	0805	1.21	0.021	0.65	0.0065	0.017	--	0.25	0.00020	1.54	0.0017	0.011	0.00016	0.31	0.00030	--	--	--	0.000042
06	0813	--	--	0.74	0.0074	--	--	0.13	0.00011	0.27	0.00029	--	--	0.062	0.000060	--	--	--	0.000093

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	Acrylonitrile (107-13-1)		Benzene (71-43-2)		Bromoform (75-25-2)		Carbon Tetrachloride (56-23-5)		Chloroform (67-66-3)		Chloromethane (74-87-3)		Ethylbenzene (100-41-4)		Hexachlorobutadiene (87-68-3)		Hexane (110-54-3)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
08	0234	--	--	0.69	0.0069	--	--	--	--	1.51	0.0017	0.010	0.00015	0.14	0.00014	--	--	--	0.00013
08	0238	--	--	0.17	0.0017	--	--	--	--	8.25	0.0091	--	--	0.17	0.00017	--	--	--	0.000043
08	0266	--	--	0.32	0.0032	--	--	0.15	0.00012	0.39	0.00043	--	--	0.046	0.000044	0.33	--	--	0.000026
08	0269	--	--	0.50	0.0050	--	--	3.90	0.0031	80.27	0.088	--	--	0.034	0.000033	--	--	--	0.000088
08	0275	--	--	1.51	0.015	--	--	--	--	0.56	0.00061	--	--	0.30	0.00029	1.33	--	--	0.000050
08	0276	--	--	18.26	0.18	--	--	0.21	0.00017	0.25	0.00028	0.016	0.00024	6.12	0.0059	--	--	--	0.017
08	0279	--	--	0.074	0.00074	--	--	0.10	0.000076	--	--	0.0079	0.00012	0.034	0.000033	0.31	--	--	0.000062
08	0288	--	--	0.34	0.0034	--	--	0.15	0.00012	1.31	0.0014	--	--	0.59	0.00057	--	--	--	0.000041
08	0290	--	--	0.11	0.0011	--	--	--	--	0.87	0.00096	--	--	0.028	0.000028	--	--	--	0.000033
08	0302	--	--	0.41	0.0041	--	--	--	--	0.36	0.00039	--	--	0.80	0.00078	--	--	--	0.000086
08	0326	--	--	0.45	0.0045	--	--	0.22	0.00017	0.97	0.0011	0.015	0.00022	0.43	0.00042	0.44	--	--	0.000038
08	0329	--	--	0.10	0.0010	--	--	0.14	0.00011	0.36	0.00039	0.0084	0.00013	--	--	--	--	--	--
08	0333	--	--	4.65	0.046	--	--	--	--	--	--	--	--	1.48	0.0014	0.37	--	--	0.0027
08	0339	2.50	0.043	0.65	0.0065	--	--	0.33	0.00026	1.44	0.0016	0.018	0.00027	1.29	0.0013	0.53	--	--	0.00078
08	0341	--	--	22.65	0.23	--	--	--	--	--	--	0.025	0.00037	14.95	0.015	0.30	--	--	0.0055
08	0343	--	--	0.43	0.0043	--	--	0.15	0.00012	--	--	0.015	0.00022	0.25	0.00024	0.44	--	--	0.000049
08	0345	1.40	0.024	6.52	0.065	--	--	--	--	2.22	0.0024	--	--	1.86	0.0018	0.34	--	--	0.00035
08	0354	--	--	1.54	0.015	--	--	0.13	0.00010	0.53	0.00058	--	--	0.10	0.000093	1.41	--	--	0.00014
08	0371	--	--	1.13	0.011	--	--	1.63	0.0013	88.73	0.098	--	--	3.32	0.0032	--	--	--	0.00014
08	0374	--	--	1.00	0.010	--	--	--	--	19.00	0.021	0.012	0.00018	0.32	0.00031	0.34	--	--	0.000092
08	0376	--	--	2.24	0.022	--	--	0.14	0.00011	0.29	0.00032	--	--	0.062	0.000061	1.27	--	--	0.00026
08	0393	--	--	2.61	0.026	--	--	0.15	0.00012	5.25	0.0058	--	--	0.42	0.00041	--	--	--	0.00011
08	0410	--	--	0.45	0.0045	--	--	0.30	0.00024	1.06	0.0012	--	--	2.30	0.0022	--	--	--	0.0014
08	0416	--	--	6.94	0.069	--	--	--	--	2.75	0.0030	--	--	1.71	0.0017	--	--	--	0.0018
08	0419	--	--	0.085	0.00085	--	--	--	--	2.46	0.0027	--	--	0.026	0.000026	0.43	--	--	0.000024
08	0427	--	--	0.84	0.0084	--	--	--	--	--	--	--	--	8.89	0.0086	0.49	--	--	0.000077
08	0436	--	--	0.45	0.0045	--	--	--	--	0.15	0.00017	--	--	0.38	0.00037	1.24	--	--	0.000031
08	0460	0.76	0.013	1.22	0.012	--	--	--	--	0.84	0.00092	0.013	0.00019	0.14	0.00014	--	--	--	0.00014
08	0462	--	--	4.61	0.046	--	--	0.14	0.00011	0.61	0.00068	--	--	0.92	0.00089	1.18	--	--	0.0030
08	0488	--	--	5.29	0.053	--	--	--	--	1.86	0.0021	0.038	0.00056	0.27	0.00027	2.17	--	--	0.00069
08	0502	--	--	0.17	0.0017	--	--	0.28	0.00022	0.20	0.00022	0.021	0.00031	--	--	--	--	--	0.000046
08	0512	--	--	1.12	0.011	--	--	0.19	0.00015	--	--	0.036	0.00054	11.44	0.011	--	--	--	0.00033
08	0525	--	--	145.48	1.45	--	--	0.13	0.00010	--	--	--	--	6	0.0058	--	--	--	1.22
08	1621	--	--	0.19	0.0019	--	--	--	--	0.29	0.00032	0.012	0.00018	0.15	0.00014	0.28	--	--	0.000036
08	1742	--	--	1.12	0.011	--	--	--	--	0.36	0.00040	--	--	2.64	0.0026	--	--	--	0.00033
08	1827	--	--	0.43	0.0043	--	--	--	--	0.91	0.00100	--	--	0.066	0.000064	0.28	--	--	0.000044
08	1835	--	--	1.43	0.014	--	--	0.18	0.00015	34.36	0.038	--	--	1.21	0.0012	0.58	--	--	0.0036
08	1846	0.66	0.011	0.70	0.0070	--	--	--	--	--	--	--	--	0.065	0.000063	0.28	--	--	0.00015
08	1847	--	--	0.85	0.0085	--	--	--	--	--	--	0.013	0.00019	2.21	0.0021	0.28	--	--	0.000088
08	1857	--	--	0.11	0.0011	--	--	0.19	0.00015	0.23	0.00025	--	--	0.075	0.000072	--	--	--	0.0014
08	1859	--	--	--	--	--	--	0.31	0.00025	0.76	0.00083	--	--	0.016	0.000016	--	--	--	--
08	1865	--	--	1.38	0.014	--	--	--	--	0.18	0.00020	--	--	0.14	0.00013	0.84	--	--	0.000033
08	1874	--	--	0.63	0.0063	--	--	--	--	1.42	0.0016	--	--	0.084	0.000081	--	--	--	0.00029
08	1897	--	--	7.77	0.078	--	--	0.31	0.00025	1.73	0.0019	--	--	1.35	0.0013	0.72	--	--	0.0077
08	1899	1.74	0.030	4.45	0.045	--	--	0.28	0.00022	--	--	0.080	0.0012	2.06	0.0020	--	--	--	0.0018
08	1995	--	--	0.12	0.0012	--	--	0.13	0.00011	1.67	0.0018	--	--	0.12	0.00011	1.16	--	--	0.000048
08	2018	--	--	0.34	0.0034	--	--	--	--	0.72	0.00079	--	--	0.18	0.00018	0.42	--	--	0.00013
08	2032	--	--	--	--	--	--	--	--	--	--	--	--	0.079	0.000077	0.86	--	--	--

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	Acrylonitrile (107-13-1)		Benzene (71-43-2)		Bromoform (75-25-2)		Carbon Tetrachloride (56-23-5)		Chloroform (67-66-3)		Chloromethane (74-87-3)		Ethylbenzene (100-41-4)		Hexachlorobutadiene (87-68-3)		Hexane (110-54-3)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
08	2074	--	--	0.46	0.0046	--	--	0.32	0.00025	0.30	0.00033	0.021	0.00031	0.25	0.00024	0.59	--	--	0.000065
08	2075	--	--	0.15	0.0015	--	--	0.32	0.00025	3.65	0.0040	--	--	0.060	0.000058	--	--	--	0.000062
09	0551	--	--	0.29	0.0029	--	--	0.11	0.000085	0.95	0.0010	0.016	0.00024	0.11	0.00010	--	--	--	0.00026
09	0552	--	--	0.21	0.0021	--	--	--	--	5.05	0.0056	0.016	0.00024	0.075	0.000073	--	--	--	0.00021
09	1771	--	--	4.48	0.045	--	--	0.22	0.00018	1.23	0.0014	--	--	0.52	0.00050	--	--	--	0.0038
09	2003	--	--	0.33	0.0033	--	--	--	--	0.54	0.00059	--	--	0.76	0.00074	--	--	--	--
09	2040	--	--	0.38	0.0038	--	--	0.43	0.00035	0.25	0.00028	--	--	0.22	0.00022	0.27	--	--	0.000064
09	2078	--	--	2.17	0.022	--	--	--	--	1.28	0.0014	0.014	0.00020	0.16	0.00016	--	--	--	0.025
09	2102	--	--	1.66	0.017	--	--	0.26	0.00021	1.25	0.0014	--	--	3.13	0.0030	1.52	--	--	0.0017

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	Methyl tert-Butyl Ether (1634-04-4)		Tetrachloroethene (127-18-4)		Trichloroethene (79-01-6)		Vinyl Chloride (75-01-4)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
00	1194	--	--	49.27	0.072	0.014	--	--	--
00	2105	--	--	--	--	--	--	--	--
01	0010	--	--	2.18	0.0032	--	--	--	--
01	0021	--	--	--	--	--	--	--	--
01	0024	--	--	--	--	--	--	--	--
01	0082	--	--	--	--	--	--	--	--
01	0085	--	--	1.13	0.0017	--	--	--	--
01	0167	--	--	2.98	0.0044	--	--	--	--
01	0171	--	--	0.64	0.00093	0.027	--	--	--
01	0180	--	--	15.76	0.023	2.02	--	--	--
01	0185	--	--	3.76	0.0055	0.92	--	--	--
01	0588	--	--	0.86	0.0013	--	--	--	--
01	0589	--	--	--	--	--	--	--	--
01	0598	--	--	26.83	0.039	16.67	--	--	--
01	1227	--	--	0.74	0.0011	--	--	--	--
01	1312	--	--	4.44	0.0065	--	--	--	--
01	1443	--	--	6.34	0.0093	--	--	--	--
01	1450	--	--	0.43	0.00063	--	--	--	--
01	1456	--	--	0.73	0.0011	--	--	--	--
01	1459	--	--	1.11	0.0016	--	--	--	--
01	1529	--	--	0.90	0.0013	--	--	--	--
01	1811	--	--	1.06	0.0016	--	--	--	--
01	1839	--	--	1.52	0.0022	--	--	--	--
01	1867	--	--	2.36	0.0035	--	--	--	--
01	1928	0.0022	0.0000066	1.35	0.0020	--	--	--	--
01	2090	--	--	--	--	--	--	--	--
01	2103	--	--	--	--	--	--	--	--
01	2139	2.41	0.0073	0.58	0.00085	--	--	--	--
01	2140 ⁽¹⁾	--	--	4.76	0.0070	--	--	--	--
02	1334	--	--	3.68	0.0054	--	--	--	--
02	1384	--	--	1.52	0.0022	--	--	--	--
02	1389	--	--	2.10	0.0031	--	--	--	--
02	1785	--	--	0.38	0.00056	--	--	--	--
02	1788	--	--	1.74	0.0025	--	--	--	--
02	1794	--	--	2.44	0.0036	0.14	--	--	--
02	1817	--	--	3.73	0.0055	--	--	--	--
02	2110	--	--	--	--	--	--	--	--
03	0479	--	--	1.19	0.0017	--	--	--	--
03	1989	--	--	4.93	0.0072	--	--	--	--
03	2044	--	--	1.83	0.0027	--	--	--	--
03	2045	--	--	0.79	0.0012	--	--	--	--
03	2079	--	--	0.73	0.0011	--	--	--	--
03	2106	--	--	1.14	0.0017	--	--	--	--
03	2108	--	--	0.49	0.00072	--	--	--	--
03	2111	--	--	--	--	--	--	--	--
03	2112	0.16	0.00048	38.29	0.056	0.36	--	--	--
04	0114	--	--	4.27	0.0063	--	--	--	--
04	0771	--	--	3.68	0.0054	--	--	--	--

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	Methyl tert-Butyl Ether (1634-04-4)		Tetrachloroethene (127-18-4)		Trichloroethene (79-01-6)		Vinyl Chloride (75-01-4)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
04	1562	--	--	--	--	--	--	--	--
04	1569	--	--	1.33	0.0020	--	--	--	--
04	1570	--	--	--	--	--	--	--	--
04	1872	--	--	0.92	0.0013	--	--	--	--
04	2060	--	--	1.26	0.0019	--	--	--	--
04	2071	--	--	2.30	0.0034	--	--	--	--
04	2073	--	--	1.04	0.0015	--	--	--	--
04	2093	--	--	12.90	0.019	--	--	--	--
04	2152	--	--	1.76	0.0026	--	--	--	--
05	0564	--	--	1.01	0.0015	0.017	--	--	--
05	0574	--	--	--	--	--	--	--	--
05	0882	--	--	0.38	0.00055	--	--	--	--
05	0894	--	--	--	--	--	--	--	--
05	0917	--	--	1.80	0.0026	--	--	--	--
05	0923	--	--	0.38	0.00056	0.024	--	--	--
05	0949	--	--	19.93	0.029	--	--	--	--
05	0975	--	--	0.76	0.0011	--	--	--	--
05	1020	--	--	--	--	--	--	--	--
05	1119	--	--	4.66	0.0068	0.036	--	--	--
05	1120	--	--	0.87	0.0013	--	--	--	--
05	1132	--	--	1.17	0.0017	--	--	--	--
05	1148	--	--	--	--	--	--	--	--
05	1151	--	--	18.51	0.027	--	--	--	--
05	1157	--	--	10.15	0.015	--	--	--	--
05	1182	--	--	--	--	--	--	--	--
05	1315	--	--	--	--	--	--	--	--
05	1694	--	--	1.19	0.0017	--	--	--	--
05	1699	--	--	2.07	0.0030	--	--	--	--
05	1751	--	--	41.46	0.061	0.026	--	--	--
05	1756	--	--	70.24	0.10	--	--	--	--
05	1766	--	--	0.75	0.0011	--	--	--	--
05	1813	--	--	--	--	--	--	--	--
05	1842	--	--	11.54	0.017	--	--	--	--
05	1843	--	--	0.67	0.0010	--	--	--	--
05	1849	--	--	1.96	0.0029	--	--	--	--
05	1945	--	--	0.41	0.00061	--	--	--	--
05	1969	--	--	0.65	0.0010	0.012	--	--	--
05	2016	--	--	0.45	0.00066	--	--	--	--
05	2021	--	--	0.39	0.00057	--	--	--	--
05	2049	--	--	0.82	0.0012	--	--	--	--
05	2051	--	--	3.59	0.0053	--	--	--	--
06	0198	--	--	1.91	0.0028	--	--	--	--
06	0199	--	--	43.66	0.064	--	--	--	--
06	0548	0.038	0.00012	63.66	0.09	0.14	--	2.94	0.0047
06	0789	--	--	1.85	0.0027	0.75	--	--	--
06	0801	--	--	0.65	0.0010	--	--	--	--
06	0805	0.0070	0.000021	402.44	0.59	0.048	--	--	--
06	0813	--	--	1.26	0.0019	--	--	--	--

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	Methyl tert-Butyl Ether (1634-04-4)		Tetrachloroethene (127-18-4)		Trichloroethene (79-01-6)		Vinyl Chloride (75-01-4)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
06	0814	--	--	97.56	0.14	--	--	--	--
06	0815	0.012	0.000036	3.29	0.0048	--	--	--	--
06	0822	--	--	0.43	0.00063	--	--	--	--
06	0827	0.0061	0.000018	--	--	--	--	--	--
06	0831	--	--	787.80	1.15	4.76	--	--	--
06	0837	--	--	233.90	0.34	0.036	--	--	--
06	0838	--	--	1.10	0.0016	--	--	--	--
06	0848	--	--	17.05	0.025	--	--	--	--
06	0851	0.022	0.000065	1.88	0.0028	--	--	--	--
06	1201	--	--	3.15	0.0046	--	--	--	--
06	1363	0.022	0.000067	2.83	0.0041	--	--	--	--
06	1364	--	--	0.86	0.0013	--	--	--	--
06	1659	--	--	8.12	0.012	--	--	--	--
06	1704	--	--	3.29	0.0048	--	--	--	--
06	1850	--	--	0.86	0.0013	--	--	--	--
06	1866	--	--	1.06	0.0016	--	--	--	--
06	1942	0.045	0.00014	1.79	0.0026	--	--	--	--
06	2017	--	--	0.64	0.00094	--	--	--	--
06	2055	--	--	1.19	0.0017	--	--	--	--
06	2080	--	--	4.05	0.0059	--	--	--	--
06	2081	--	--	4.22	0.0062	0.030	--	--	--
06	2082	--	--	6.73	0.0099	--	--	--	--
07	0104	--	--	1.11	0.0016	--	--	--	--
07	0459	--	--	0.79	0.0012	--	--	--	--
07	1370	--	--	0.80	0.0012	--	--	--	--
07	1633	--	--	4.85	0.0071	0.093	--	--	--
07	1635	--	--	4.39	0.0064	--	--	--	--
07	1749	--	--	0.73	0.0011	--	--	--	--
07	1810	--	--	1.59	0.0023	--	--	--	--
07	1911	--	--	0.48	0.00070	--	--	--	--
07	1923	--	--	0.81	0.0012	--	--	--	--
07	1926	--	--	1.10	0.0016	0.027	--	--	--
07	2023	--	--	0.60	0.00089	--	--	--	--
07	2077	--	--	4.27	0.0063	--	--	--	--
07	2113	0.012	0.000036	1.89	0.0028	--	--	--	--
07	2114	--	--	0.55	0.00080	--	--	--	--
07	2115	--	--	0.51	0.00075	--	--	--	--
07	2116	--	--	--	--	0.029	--	--	--
07	2117	--	--	0.72	0.0011	--	--	--	--
07	2118	--	--	0.48	0.00070	--	--	--	--
07	2130	--	--	0.39	0.00058	--	--	--	--
07	2150	--	--	9.34	0.014	0.041	--	--	--
07	2154	0.046	0.00014	0.49	0.00071	0.023	--	--	--
07	2156	--	--	1.26	0.0018	--	--	--	--
08	0120	--	--	0.85	0.0012	--	--	--	--
08	0225	--	--	9.12	0.013	0.013	--	--	--
08	0227	--	--	9.37	0.014	--	--	--	--
08	0231	--	--	40.73	0.060	0.016	--	--	--

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	Methyl tert-Butyl Ether (1634-04-4)		Tetrachloroethene (127-18-4)		Trichloroethene (79-01-6)		Vinyl Chloride (75-01-4)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
08	0234	--	--	86.83	0.13	0.036	--	--	--
08	0238	--	--	412.20	0.60	3.14	--	--	--
08	0266	--	--	4.66	0.0068	--	--	--	--
08	0269	--	--	47.07	0.069	--	--	--	--
08	0275	--	--	8.56	0.013	--	--	--	--
08	0276	--	--	20.73	0.030	0.023	--	--	--
08	0279	--	--	1.48	0.0022	--	--	--	--
08	0288	--	--	26.10	0.038	0.018	--	--	--
08	0290	--	--	1.48	0.0022	--	--	--	--
08	0302	--	--	9.66	0.014	--	--	--	--
08	0326	--	--	2.56	0.0038	0.071	--	--	--
08	0329	--	--	2.35	0.0034	--	--	--	--
08	0333	--	--	36.83	0.054	--	--	--	--
08	0339	--	--	1.17	0.0017	0.067	--	--	--
08	0341	0.44	0.0013	57.56	0.084	0.027	--	--	--
08	0343	--	--	1.28	0.0019	0.017	--	--	--
08	0345	--	--	113.66	0.17	--	--	--	--
08	0354	--	--	1.46	0.0021	--	--	--	--
08	0371	--	--	40.98	0.060	--	--	--	--
08	0374	--	--	22.22	0.033	0.014	--	--	--
08	0376	--	--	4.10	0.0060	--	--	--	--
08	0393	--	--	1.23	0.0018	--	--	--	--
08	0410	--	--	0.94	0.0014	--	--	--	--
08	0416	--	--	797.56	1.17	9.42	--	--	--
08	0419	--	--	16.10	0.024	--	--	--	--
08	0427	--	--	2.39	0.0035	--	--	--	--
08	0436	--	--	11.29	0.017	--	--	--	--
08	0460	--	--	17.56	0.026	--	--	--	--
08	0462	--	--	--	--	--	--	--	--
08	0488	--	--	0.96	0.0014	0.034	--	--	--
08	0502	--	--	0.90	0.0013	--	--	--	--
08	0512	--	--	4.37	0.0064	--	--	--	--
08	0525	--	--	1.42	0.0021	--	--	--	--
08	1621	--	--	7.90	0.012	0.011	--	--	--
08	1742	0.0088	0.000027	1.35	0.0020	--	--	--	--
08	1827	--	--	2.95	0.0043	--	--	--	--
08	1835	--	--	43.41	0.064	0.019	--	--	--
08	1846	--	--	13.90	0.020	--	--	--	--
08	1847	--	--	62.20	0.091	--	--	--	--
08	1857	--	--	10	0.015	0.032	--	--	--
08	1859	--	--	--	--	--	--	--	--
08	1865	--	--	1.41	0.0021	--	--	--	--
08	1874	--	--	2.01	0.0030	--	--	--	--
08	1897	--	--	1.27	0.0019	0.022	--	--	--
08	1899	--	--	1.00	0.0015	--	--	--	--
08	1995	--	--	2.42	0.0035	0.25	--	--	--
08	2018	--	--	2.16	0.0032	--	--	--	--
08	2032	--	--	--	--	--	--	--	--

Table D-1
CEFs and NCEFs Calculated from Soil Gas Concentrations for COPCs at Locations Where COPCs Exceeded the RSL

Study Area	Sample Location	Methyl tert-Butyl Ether (1634-04-4)		Tetrachloroethene (127-18-4)		Trichloroethene (79-01-6)		Vinyl Chloride (75-01-4)	
		CEF	NCEF	CEF	NCEF	CEF	NCEF	CEF	NCEF
08	2074	--	--	6.56	0.0096	0.030	--	--	--
08	2075	--	--	22.88	0.034	0.59	--	--	--
09	0551	--	--	1.04	0.0015	--	--	--	--
09	0552	--	--	0.65	0.00095	--	--	--	--
09	1771	--	--	8.32	0.012	--	--	--	--
09	2003	--	--	1.50	0.0022	--	--	--	--
09	2040	--	--	1.35	0.0020	--	--	--	--
09	2078	--	--	1.78	0.0026	--	--	--	--
09	2102	--	--	--	--	--	--	--	--

Notes:

-- Locations where COPC Concentration did not exceed the RSL

CEF = Cancer Exceedance Factor

COPC = Chemical of Potential Concern

NCEF = Noncancer Exceedance Factor

RSL = Regional Screening Level

¹ Location 2140 was incorrectly assigned to Study Area 1, but the coordinates were changed to Study Area 3. The CEF is posted in Study Area 3 on maps in Appendix A.

Appendix E

Technical Memo – Summary of Soil Gas Issues Related to Areas of Volcanic Activity



TECHNICAL MEMORANDUM

SUMMARY OF SOIL GAS ISSUES RELATED TO AREAS OF VOLCANIC ACTIVITY

Tetra Tech NUS, Inc. (Tetra Tech) is the Prime Contractor to the United States Navy participating in an Environmental Testing Support Assessment (ETSA) in the Campania region of Naples, Italy. The overall objective for the ETSA is to assess the potential health risks from past and ongoing illegal and illicit waste disposal practices to United States military and civilian personnel who work and reside in this region. For the purposes of the ETSA, the investigation area includes nine Study Areas, as depicted on Figure 1.

As part of the ETSA, Tetra Tech is sampling various media including soil gas, ambient air, and tap water (with sources including groundwater, municipal water systems, and taps drawing blended water from both groundwater and municipal sources). Air sampling activities included collecting ambient air samples for volatile organic compound (VOC) analysis over the course of 1 year, comprising sampling multiple times per month at each of nine air-monitoring stations. Tetra Tech collected soil gas samples at various properties throughout the nine study areas determined by VOC concentrations, typically one sample per property. The locations of sampling of soil gas and ambient air did not always coincide.

Elevated concentrations, greater than United States Environmental Protection Agency (USEPA) air quality criteria, of VOCs were present in soil gas and ambient air during this ETSA. The objective of this Technical Memorandum is to present information on a potential volcanic source of VOCs detected in ambient air and soil gas. These compounds contribute to human health risk to United States personnel who work and reside in the Naples region.

The mean soil gas concentrations of environmentally significant VOCs consistently exceed the mean concentrations of the same VOCs in ambient (above-ground) air. Soil gas is the vapor found within the spaces between soil particles in the unsaturated zone of overburden soil, where the constituents are in dynamic exchange with adsorbed compounds on soil particles and dissolved in soil water content. These compounds might undergo consumption, creation, and modification by processes acting within the soil like microbial activity, plant respiration, and inorganic chemical processes.

Barometric pumping, which is the repeated movement of ambient air into and out of soil vapor as a result of changing barometric pressure, was considered as an explanation for the observed concentration differences between soil gas and ambient air. Barometric pumping, however, does not explain how soil gas concentrations could be greater than ambient air concentrations by a factor of two or more; therefore, Tetra Tech began an evaluation of other potential contributing factors and explanations for air and tap water VOC results. Additionally, it is also unlikely that soil gas concentrations would be measurable in ambient air because of dilution. This evaluation suggests that the volcanic activity of the Naples region may be one of the possible sources that could be contributing to the detection of VOCs in soil gas. Other possible sources include shallow microbial activity and anthropogenic contamination sources. Microbial activity and plant respiration are a less likely contributing factor because most samples came from covered soil, and anthropogenic contamination would create varying chemical profiles at different sampling sites.

Several scientific literature references document the presence of multiple VOCs in emissions associated with active volcanoes, implying that the observed soil gas VOC concentrations may be due, at least partially, to volcanic activity. Although it is likely that other sources of contamination are also potentially responsible for detections of VOCs in both ambient air and soil gas, the types of VOCs detected during this investigation are similar to VOCs detected in geothermal/hydrothermal emissions referenced in literature.

Mount Vesuvius, a quiescent but active volcano, is located approximately 9 kilometers east of Naples. Ongoing active monitoring of volcanic activity indicators on Vesuvius and the entire region by the Italian

**TECHNICAL MEMORANDUM
SUMMARY OF SOIL GAS ISSUES RELATED TO
AREAS OF VOLCANIC ACTIVITY**



Osservatorio Vesuviano, the oldest volcano observatory in the world, documents the activity shown by seismic tremors, significant ground deformation, and the strong presence of magmatic gases. The strong volcanic influence in the region is prevalent by the presence of numerous hydrothermal sites and hot springs. Volcanic influence affects most of the Campania region, based on the presence of hydrothermal activity such as hot springs, a subset of which are shown in Figure 1. Furthermore, the entire region has high ground heat flow and emissions of magmatic carbon dioxide, and seismic studies indicate the presence of magma pockets under most of the region (Gasparini, 2001). The region near the Gulf of Naples, known as the Phlegraean Fields or Campi Flegrei, is an area of intense hydrothermal activity. Other locations east and northeast of Naples such as Villamaina and Telese contain thermal spas or hot springs that provide evidence of regional volcanic influence. Additionally, hydrothermal activity is present in the Tuscany region located in northern Italy. As shown on Figure 1, the nine ETSA study areas are located west and northwest of Mount Vesuvius.

This Technical Memorandum briefly discusses the categories of VOCs, as trace organic components of volcanic emissions, documented to be associated with volcanic activity and presents lines of evidence that show that volcanic activity may be a contributor to soil gas and ambient air VOC concentrations detected during ETSA sampling. Volcanic activity involves magma in the subsurface, and this hot magma creates a temperature gradient of more than 600°C at the magma surface that decreases to ambient temperatures at the ground surface. At one or more points along this vertical temperature gradient, naturally occurring organic material such as petroleum and organic acids in bedrock, carbon from carbon dioxide, and simple hydrocarbons contained naturally in magma, combine to form naturally occurring halogenated compounds such as sodium chloride or calcium fluoride, and other materials may react chemically to form halogenated and non-halogenated VOCs (Schwandner et al., 2004). VOCs thus formed would migrate upward under thermal gradients and diffusion mechanisms. Mean VOC concentrations in ambient air would necessarily be equal to or less than associated mean soil gas concentrations because ambient air would dilute VOCs emanating from soil gas in the ground.

ETSA DATA PRESENTATION

ETSA soil gas and ambient air sample results indicate that many VOCs had not been detected or were rarely detected. Table 1 lists the mean concentrations of a group of representative VOCs detected during ETSA sampling activities in both ambient air and soil gas across all nine study areas. Of the compounds in Table 1, acrolein and 1,2-dichloropropane have mean ambient air concentrations greater than mean soil gas concentrations, but the differences are slight. The tetrachloroethene concentration in soil gas is 30 times the ambient air mean concentration, but this compound likely originates from non-volcanic contaminant sources. Mean concentrations of the seven other VOCs are also markedly greater in soil gas than in ambient air, and these compounds are often associated with volcanic emissions from soil gas and low- temperature fluids as noted in literature references. These VOCs are often associated with other sources of contamination such as fuel leaks/spills and chlorinated solvents.

**TECHNICAL MEMORANDUM
SUMMARY OF SOIL GAS ISSUES RELATED TO
AREAS OF VOLCANIC ACTIVITY**



**Table 1
Summary of Naples VOC Concentrations**

VOC	Mean Ambient Air Concentration⁽¹⁾ (µg/m³)	Mean Soil Gas Concentration (µg/m³)
Toluene	8.82	29.9
Acetaldehyde	-- ⁽²⁾	45.1
Chloroform	0.22	9.4
Benzene	4.15	17.2
Acrolein	2.94	1.80
Trichlorofluoromethane	1.68	50.1
1,2-Dichloropropane	4.7	3.2
Tetrachloroethene	4.1	122
Styrene	0.78	58.6
Naphthalene	4.9 ⁽³⁾	11.7

Concentrations from USEPA Method TO-15, except as noted in footnotes below.

- 1 Mean ambient air concentrations determined from sampling months 1 through 6.
- 2 Acetaldehyde ambient air concentrations were determined using USEPA Method TO-11. Soil gas results reported using USEPA method TO-15.
- 3 Naphthalene ambient air values shown were analyzed using USEPA method TO-15, but do not cover the entire 6- month air sampling period.

**TECHNICAL MEMORANDUM
SUMMARY OF SOIL GAS ISSUES RELATED TO
AREAS OF VOLCANIC ACTIVITY**



Table 2 lists the mean concentrations of a group of representative VOCs detected in ambient air and soil gas across all nine study areas. Mean soil gas concentrations for chloroform, styrene, trichlorofluoromethane, and tetrachloroethene were greater than ambient air concentrations in samples from all nine study areas. Using mean concentration data, Tetra Tech calculated ratios of soil gas to ambient air concentrations and used these values to graphically compare the data sets.

**Table 2
Mean VOC Concentrations by Study Area**

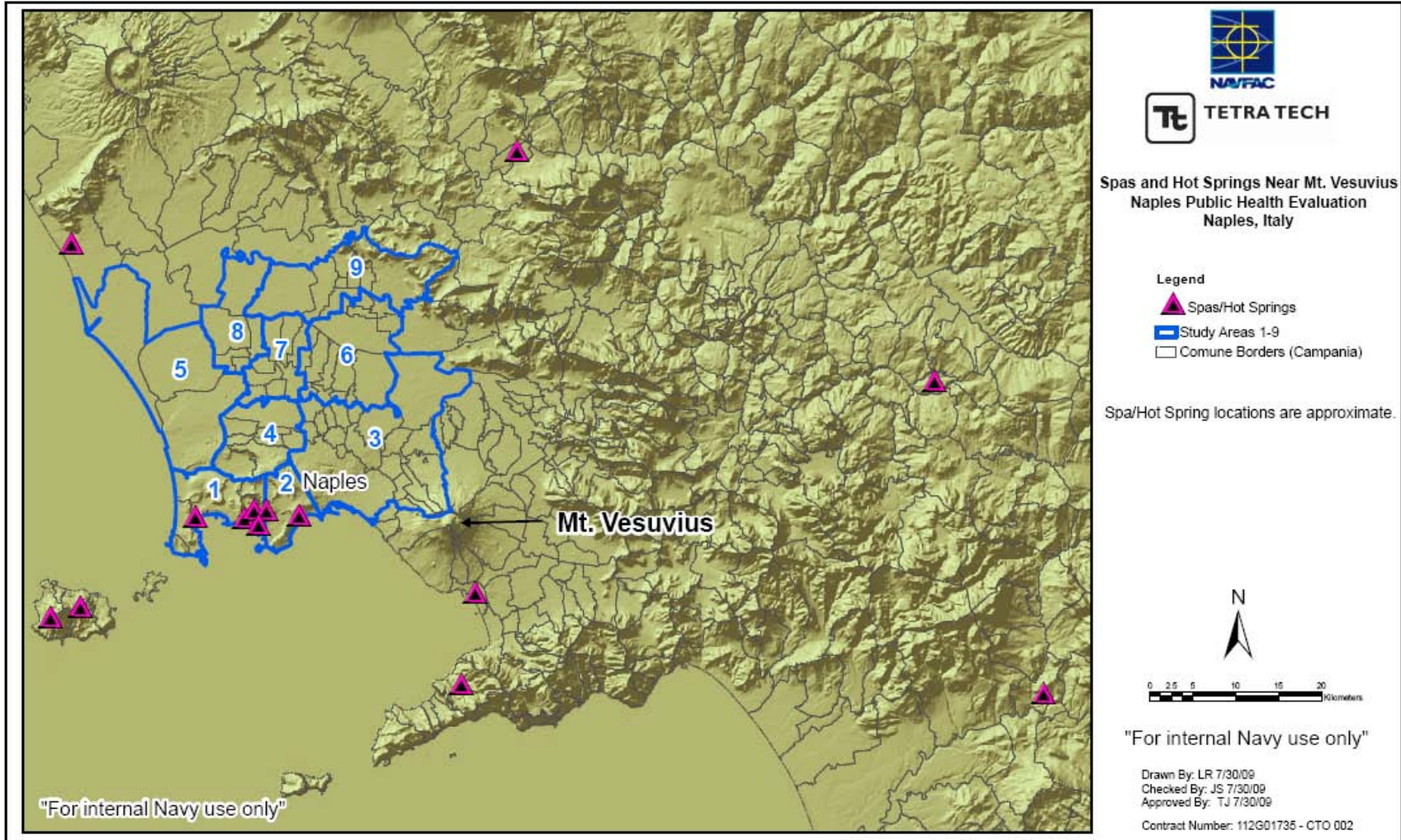
VOC	Soil Gas Average Concentration by Study Area ¹								
	1	2	3	4	5	6	7	8	9
Toluene	7.1	4.8	10.2	46.2	2.9	83.1	5.1	25.8	19.5
Chloroform	24.3	7.2	0.7	0.3	21.7	5.5	4.7	8.0	2.0
Benzene	1.7	2.0	4.5	44.5	1.4	42.4	3.4	17.5	3.3
Acrolein	1.5	1.4	1.7	2.1	2.6	1.8	2.3	1.4	1.5
Trichlorofluoromethane	5.2	2.0	54.6	6.1	62.5	47.5	102.0	67.6	24.7
1,2-Dichloropropane	2.8	2.2	2.6	1.6	3.7	2.2	4.2	3.7	5.3
Tetrachloroethene	16.4	8.1	282.0	14.2	15.7	190.1	9.7	188.0	8.2
Styrene	14.0	15.4	86.9	16.0	36.9	68.1	42.5	85.3	26.4

VOC	Ambient Air Average Concentration by Study Area ¹								
	1	2	3	4	5	6	7	8	9
Toluene	4.6	10.7	8.0	5.0	4.3	5.4	5.8	29.6	5.9
Chloroform	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2
Benzene	1.3	2.8	2.4	1.2	1.9	2.1	2.6	21.0	2.0
Acrolein	2.8	2.5	3.0	1.9	3.0	2.9	3.7	2.5	3.9
Trichlorofluoromethane	1.7	1.6	1.6	1.5	1.8	1.7	1.6	1.8	1.7
1,2-Dichloropropane	5.5	5.8	5.6	3.9	5.0	4.5	4.6	3.8	3.7
Tetrachloroethene	2.3	5.6	3.3	2.6	3.6	5.0	3.1	6.2	5.9
Styrene	0.4	0.6	0.8	0.4	0.6	0.8	1.5	0.9	0.6

¹units µg/m³

Figures 2 through 9 present mean VOC concentration ratios (soil gas/ambient air) for each study area. Ratios greater than unity indicate higher concentrations in soil gas, a characteristic consistent with underground sources such as fuel leaks/spills, groundwater contamination, and volcanic emission origins. The ratios for chloroform, styrene, trichlorofluoromethane, and tetrachloroethene are greater than unity in all nine study areas. Chloroform, styrene, trichlorofluoromethane, and tetrachloroethene were present in more than half of the ambient air samples in the first six months. Benzene and toluene ratios are greater than unity in five and six study areas, respectively, and both of these compounds were present in all of the ambient air samples in the first six months.

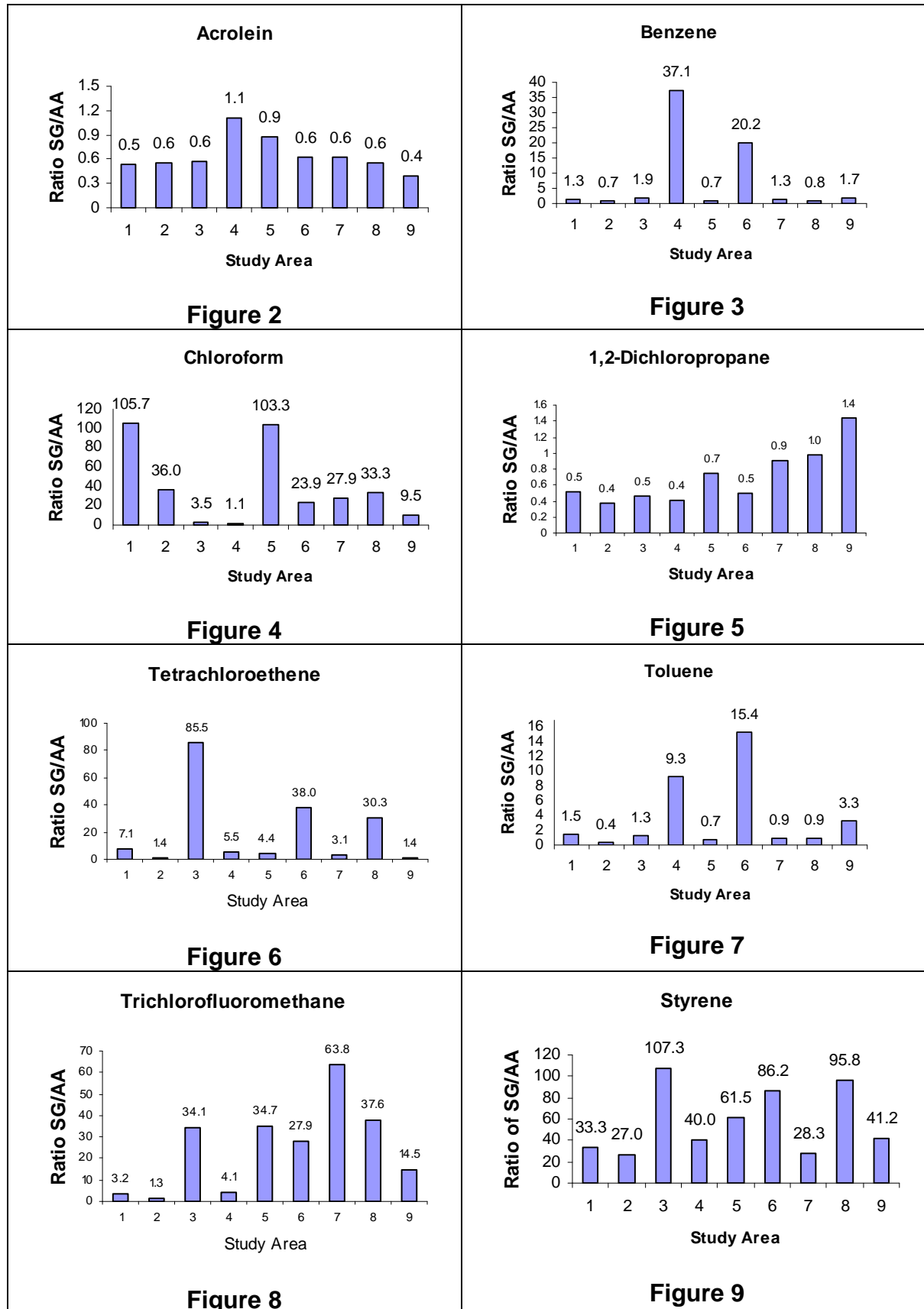
Figure 1



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**TECHNICAL MEMORANDUM
SUMMARY OF SOIL GAS ISSUES RELATED TO
AREAS OF VOLCANIC ACTIVITY**



**TECHNICAL MEMORANDUM
SUMMARY OF SOIL GAS ISSUES RELATED TO
AREAS OF VOLCANIC ACTIVITY**



The main groups of VOC volcanic gaseous emissions relevant to the current Naples ETSA investigation include aromatic hydrocarbons, chlorinated or halogenated hydrocarbons, oxygenated organic compounds, and alkanes. The following presents a subset of literature summaries evaluated for this Technical Memorandum:

- Two literature references identify aromatic hydrocarbons as being present in volcanic emissions at varying concentrations (Schwandner et al., 2004 and Tassi et al., 2008). Schwandner et al. identified styrene and naphthalene at fumaroles and near upper and lower crater flanks. The distances cited in the Schwandner report from the volcanic crater were up to 1,000 meters. Mean concentrations reported by Schwandner et al. for styrene and C2- substituted benzenes were 359 parts per billion by volume (ppbv) and 182 ppbv, respectively. These concentrations are equivalent to approximately 1,530 $\mu\text{g}/\text{m}^3$ and 790 $\mu\text{g}/\text{m}^3$ for the respective compounds.

In the study by Tassi et al., aromatic hydrocarbon concentrations in soil gas were approximately 3.9 percent of the volatile organic components detected in gaseous emissions. In Tassi et al., aromatic compounds made up 49.5 percent of the total VOCs associated with hydrothermal fluids and 8 percent in low-temperature fluids of gas emissions at a volcano in Tuscany, Italy. Tassi et al. did not present percent relative abundance data for VOCs in volcanic emissions; however, concentrations are sufficiently high to detect using routine analytical techniques.

Table 3 summarizes several aromatic compounds as reported by Tassi et al. (2008) and compares the concentrations to the means detected in Naples soil gas samples.

Tassi et al. also references a very high concentration of benzene in the dry-gas phase of hydrothermal fluid discharges (93,800 ppbv). Benzene was also present in low-temperature fluids in the Tuscany region at 16 ppbv. These data suggest the possibility that volcanic activity is a contributing source of aromatic VOCs in soil gas and ambient air. Table 3 details that the mean concentrations reported in Naples soil gas samples were mostly greater than those reported by Tassi, although Tassi et al. includes data from only one soil gas sample.

As noted by Tassi et al., hydrothermal fluids from three distinct systems (Yellowstone, USA; Tendaho, Ethiopia; Tatun, Taiwan) and low-temperature fluids in Tuscany, Italy, contained every compound in Table 3 except for styrene (as mean concentrations). As reported in Schwandner et al., 9 of 14 samples of soil gas emissions from Vulcano, Aeolian Islands, Italy, had detectable concentrations of styrene. These data suggest that, despite geographical location differences, common processes such as below ground combustion sources and carbon dioxide flux associated with volcanic systems are responsible for the formation of VOCs from different subduction zone volcanoes.

**Table 3
Soil Gas VOC Concentrations**

Aromatic VOC	Tassi Report		Naples Soil Gas Mean ($\mu\text{g}/\text{m}^3$)
	Soil Gas (ppb by vol)	Soil Gas ($\mu\text{g}/\text{m}^3$)	
Naphthalene	0.2	1.0	11.7
Benzene	13	41.5	17.2
Toluene	3	11.3	29.9
m-p-xylenes	2	26.1	43.0
o-xylene	0.3	3.9	16.5
Styrene	0.1	0.32	58.6
Ethylbenzene	0.1	0.43	21.0

- Halogenated or chlorinated hydrocarbons include compounds containing fluorine, chlorine, bromine, and iodine. Schwandner et al. documents the presence of the following compounds in fumarole

**TECHNICAL MEMORANDUM
SUMMARY OF SOIL GAS ISSUES RELATED TO
AREAS OF VOLCANIC ACTIVITY**



emissions: methyl iodide, methyl bromide, methyl chloride, chloroform, trichlorofluoromethane, bromoethane, chlorobenzene, and dichlorobenzene. The mean concentrations reported for chloroform and trichlorofluoromethane were 27.5 ppbv and 0.6 ppbv, respectively. These concentrations are equivalent to approximately $130 \mu\text{g}/\text{m}^3$ and $3 \mu\text{g}/\text{m}^3$ for the respective compounds.

Tassi et al. reported the presence of halogenated VOCs such as trichloroethene, 1,2-dichloropropane, chlorohexane, and dichlorobenzenes in soil gas and hydrothermal fluid emissions. In Tassi et al., halogenated compounds made up 5.8 percent of the total VOCs associated with soil gas and 4.5 percent in low-temperature fluids of gas emissions at a volcano in Tuscany, Italy. Tassi et al. also reported 1,2-dichloropropane in hydrothermal fluids at a concentration of 906 ppbv. This compound was present across all nine study areas in ambient air during the Naples air investigation.

Matthias et al. (2006) investigated halocarbon origins from fumarole locations around the Momotombo volcano in Nicaragua and detected a variety of halogenated organic compounds at concentrations greater than in ambient air.

- Oxygenated organic compounds such as ketones and aldehydes, organic acids, alcohols, and esters were present at relatively high concentrations in soil gas samples and in fluids from low-temperature systems in both the Tassi et al. (2008) and Schwandner et al. (2004) studies. Schwandner et al. documented the percent relative concentrations of oxygenated compounds such as acetone and acetaldehyde in soil gas samples as a function of distance from the crater and fumaroles. Acetone concentrations correlate reasonably well with the measured carbon dioxide flux, indicating a volcanic origin. There is a strong positive correlation of compound concentration with CO_2 flux.

Schwandner et al. detected acetaldehyde and acrolein in volcanic gaseous emissions, although the report did not document specific concentrations. The Report on Carcinogens, Eleventh Edition, identified acetaldehyde as a product of combustion, and this VOC occurs naturally in animal wastes and volcanic emissions. The Report on Carcinogens also described acetaldehyde detections in emissions from power plants that burn fossil fuels and from photo-oxidation of hydrocarbons in the atmosphere.

The area west of Mount Vesuvius is a high carbon dioxide release and enhanced rock leaching region. CO_2 and resistivity profiles suggest active faults and/or degassing at shallow depths. The south-southwestern sector of Vesuvius is the main degassing system of the volcano (Federico et al., 2001). Based on these observations, Tetra Tech expects acetaldehyde and acrolein generation in the ETSA study areas.

- Alkanes generally comprise the majority of VOCs in low-temperature (50 to 400°C) volcanic gases, approximately 60 percent. The presence of alkanes in ETSA samples has not been a significant human health concern, but hexane was present in soil gas samples. Hexane is a prominent hydrocarbon found in a variety of low-temperature volcanic and hydrothermal degassing sites around the world (Capaccioni et al., 1993; Kiyoshu and Asada, 1995). VOCs detected in some Naples soil gas samples include alkanes such as propane, butane, and iso-butane.

Tassi, et al (2008) reported C_2 - C_5 alkanes in soil gas samples near the El Chichon volcano in Chiapas, Mexico. Taran and Gigenbach (2003) reported that light alkanes such as CH_4 and C_2H_6 were present at shallow depths in volcanic and hydrothermal systems by thermal decomposition of organic matter. Samples from a fumarole showed an abundance of lower n-alkanes (less than C_{10}).

Because groundwater is in contact with soil gas at the interface, VOCs detected in soil gas may originate from groundwater. Tetra Tech compared concentrations of VOCs detected in soil gas in the nine ETSA study areas to concentrations in groundwater samples. In some cases, as shown in Table 4, the groundwater sample detection limits were not low enough to enable detection of these VOCs at estimated concentrations based on detected soil gas concentrations. For example, using an acrolein mean concentration in soil gas of $1.8 \mu\text{g}/\text{m}^3$ and applying Henry's Law, the equilibrium concentration in water would be approximately $0.35 \mu\text{g}/\text{L}$, whereas the method detection limit (MDL) for acrolein in water for the

**TECHNICAL MEMORANDUM
SUMMARY OF SOIL GAS ISSUES RELATED TO
AREAS OF VOLCANIC ACTIVITY**



ETSA is 0.40 µg/L. Table 4 summarizes mean soil gas concentrations and equates the concentrations to approximate water-equivalent concentrations. This table demonstrates that the lack of VOC detections in groundwater is not evidence to eliminate groundwater as the source of VOCs in soil gas.

**Table 4
VOC Soil Gas and Water Equivalent Comparison**

Compound	Mean Soil Gas Concentration (µg/m³)	Approximate Water Equivalent Concentration ⁽¹⁾ (µg/L)	Water MDL (µg/L)
Acrolein	1.8	0.35	0.40
Benzene	17.2	0.08	0.05
Chloroform	9.4	0.065	0.09
1,2-Dichloropropane	3.2	0.03	0.15
Naphthalene	11.7	0.6	0.19
Styrene	58.6	0.52	0.08

¹ Assumes that soil gas and groundwater are in equilibrium (i.e., no attenuation factors were utilized).

Although some compounds have calculated equivalent water concentrations greater than MDLs, actual water concentrations may be much lower because groundwater and soil gas may not be in equilibrium.

SUMMARY AND CONCLUSIONS

Tetra Tech detected VOCs in soil gas samples collected from a number of locations in the nine study areas. The physical and chemical data presented from various independent researchers indicate that many of these same VOCs are in diffuse gaseous emissions from subsurface volcano-related sources. The articles reviewed identify various trace VOCs from different volcanoes including Vulcano in Italy, El Chichon in Mexico, and Momotombo in Nicaragua. The reporting in the literature of the same VOCs in gaseous emissions from different volcanoes in different parts of the world suggests the possibility that volcanic activity may be a source of the VOCs found in soil gas and ambient air samples in the study areas. However, many other sources are likely to contribute to the ubiquitous presence of these VOCs in ambient air in this region.

The VOCs detected in the soil gas samples are also commonly present near locations where leaks, spills, land-filling and illegal dumping operations occur. Considering the possible contribution of these other sources and given the limited sub-surface investigation results, it is not possible to quantify the contribution of volcanic emissions to the observed soil gas VOC concentrations. Furthermore, the sampling objectives of this study did not seek to determine the VOC contribution caused by the influence of the volcanic system in the region. In order to determine the possible contribution of volcanic emissions to the observed soil gas and ambient air VOC concentrations, Tetra Tech consulted with Dr. Florian Schwandner, an expert volcanologist. Dr. Schwandner was able to examine some of the data for the ETSA study and he found no contradiction of a volcanic signal in the data provided. However, Dr. Schwandner did indicate that Tetra Tech needs considerably more information, such as carbon dioxide flux data, heat flow, oxygenated compounds, alkane/alkene ratio data, and biomarkers to identify the presence of a volcanic source. Therefore, despite the similarities between the VOCs detected in this study and the VOCs identified in scientific research of volcanic emissions in several geographical regions, sufficient data are not available at this time to determine whether volcano-related emissions contribute to the soil-gas or ambient air VOCs. Thus, Tetra Tech cannot prove or disprove the assertion that volcanic activity, as a source of heating and combustion, may be contributing to the presence of VOCs in the subsurface environment of the ETSA study areas.

**TECHNICAL MEMORANDUM
SUMMARY OF SOIL GAS ISSUES RELATED TO
AREAS OF VOLCANIC ACTIVITY**



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Appendix F

Technical Memo – Naphthalene and Acetaldehyde Method Comparison

SUMMARY

Naphthalene and acetaldehyde are among the compounds that TtNUS is monitoring as a part of the Environmental Testing Support Assessment (ETSA) for NSA Naples, Italy. For each of the compounds, the laboratory has reported results using the EPA-approved method and an alternative method. Data reviewers observed some apparent inconsistencies between the results, which raised questions about the appropriate data to use. TtNUS has performed an evaluation of the data and associated analytical methods and has concluded that use of data from the alternative methods in place of data from prescribed EPA methods is not technically supportable. TtNUS recommends the use of TO-13A naphthalene data and TO-11A acetaldehyde data for risk assessment purposes. Bullets that follow present key points from the following detailed discussions:

Naphthalene:

- TtNUS' position is that the use of TO-15 for the analysis of naphthalene in soil gas samples is inappropriate.
- To date, TtNUS cannot find an EPA method validation study for use of TO-15 for naphthalene analysis.
- TtNUS questions the usability of TO-15 naphthalene data as reported at this time for soil gas risk assessment purposes, because of a lack of quantitative data supporting its validity.
- Naphthalene's vapor pressure is below the limit for which TO-15 is applicable.
- EPA does not list naphthalene as a target compound in method TO-15, which is an indication that the method may not produce reliable naphthalene results.
- The Project QAPP prescribes method TO-13A for ambient air analyses, instead of TO-15, and so its use would violate the QAPP.
- A 60% recovery for laboratory proficiency test samples using method TO-13A supports the validity of the method's results. There are no proficiency test results for TO-15 to evaluate its validity for naphthalene analyses.
- The laboratory detailed technical objections with the use of TO-15 to analyze samples for naphthalene
- Table 1 shows TO-15 recoveries an order of magnitude lower than TO13A and there are no other quality control data to demonstrate the validity of the TO-15 performance.

Acetaldehyde:

- TtNUS' position is that the use of TO-15 for the analysis of acetaldehyde is inappropriate.
- To date, TtNUS cannot find specific EPA method validation information regarding TO-15 applicability for acetaldehyde analysis.
- To date, no method validation for use of TO-15 acetaldehyde analysis has been provided.
- PHC prescribed use of method TO-11A for aldehydes and therefore, that is the method listed in the QAPP
- Use of two separate methods for acetaldehyde was unintended, inappropriate, and without a technical basis.
- Interferences may affect acetaldehyde results by TO-15 that could lead to falsely high results.

- An 80% recovery for laboratory a proficiency test sample using method TO-11A supports the validity of the method's results. There are no proficiency test results for TO-15 to evaluate its validity for acetaldehyde analyses.
- Quality control results for acetaldehyde by TO-11A support the validity of the data.

BACKGROUND

Naphthalene and acetaldehyde are among the compounds that TtNUS is monitoring as a part of the Environmental Testing Support Assessment (ETSA) for NSA Naples, Italy. For each of the compounds, the laboratory has reported results using the EPA-approved method and an alternative method: TO-13A (EPA method) and TO-15 for the naphthalene, and TO-11A (EPA method) and TO-15 for acetaldehyde. Data reviewers observed some apparent inconsistencies between the results, which raised questions about the appropriate data to use. TtNUS has performed an evaluation of the data to determine whether it would be appropriate to use data from those alternative methods for risk assessment and decision-making purposes, rather than using data from the prescribed EPA methods.

Naphthalene

TtNUS has been performing naphthalene analyses in ambient air for the ETSA using the EPA-prescribed method TO-13A, a semi-volatile organic compound technique that uses a polyurethane foam (PUF) collection medium followed by gas chromatography/mass spectrometry (GC/MS) analysis. TtNUS selected this technique by applying a DQO process in development of the ETSA QAPP. Method design was specific for the sampling and analysis of semi-volatile compounds, such as naphthalene, in ambient air. Consequently, the method is supported by detailed validation studies that include quantification of quality parameters such as bias, precision, and accuracy.

Collection and analysis of soil gas samples used TO-15, a technique that uses a canister sample collection followed by GC/MS for the analysis of volatile organic compounds (VOCs). Project personnel identified a desire to obtain a measure of the naphthalene in soil gas samples, ultimately selecting TO-15 for this analysis. In addition to the soil gas samples, the team later concluded that it would be appropriate to collect ambient air samples located just outside the locations where the soil gas samples were collected. Note that these samples are not the same ambient air samples collected at the monitoring stations in the nine ETSA study areas and the sampling locations are not co-located with those monitoring stations. In reviewing the TO-15 results, team members identified what appeared to be inconsistencies between the TO-15 data and the TO-13A data from the monitoring stations. The TO-15 results were much higher than the TO-13A results. Because of the distances between the sampling locations, a direct correlation is not possible, but the data did raise questions about preferred method use for naphthalene sampling and analysis.

The compound list for TO-15 does not include naphthalene and the method scope indicates that it is applicable to VOCs, defined as having a vapor pressure greater than 0.1 torr at 25°C and 760 mm Hg. Naphthalene has a vapor pressure of 0.08 torr and so is not a VOC by definition in this method. Because of this, we assume there has been no EPA-approved method validation study using this method for naphthalene and so quality parameters such as bias, precision, accuracy, and interference potential are unquantified. When TtNUS requested that the laboratory analyze for

naphthalene using TO-15, laboratory objected noting the vapor pressure limitation, the fact that naphthalene is a solid at room temperature, and that it is not a method-listed compound.

TtNUS conducted a limited comparison study to aid in determining whether the TO-15 method results for naphthalene and acetaldehyde would be appropriate for risk assessment and decision-making purposes, instead of the results from the EPA-specified methods. The study employed a simple sampling approach using certified gas standards prepared by Scott's Specialty Gases at Tetra Tech's request. Scott's Specialty Gases prepared acetaldehyde and naphthalene standards at concentrations (both at 110 parts per billion by volume) comparable to ETSA study results observed to date. Varying sampling configurations using Tedlar bags, canisters, and sorbent tubes, pre-loaded with the certified acetaldehyde standard, were part of the comparison test. Additional sampling configurations using Tedlar bags, canisters, and PUF media, pre-loaded with the certified naphthalene standard were also set up for the comparison testing. A known volume of gas, added to each sampling configuration, established either the concentration or amount loaded of the standard compound. Discussion of acetaldehyde results are below. Table 1 presents the results of the naphthalene comparison. Both techniques produced low recoveries, but the TO-15 recoveries are approximately an order of magnitude lower than that of TO-13A. The low recoveries for both methods may be indicative of a problem with the design or implementation of the study. Regardless, these data do not support the use of TO-15 data.

As a part of their quality assurance process, the laboratory analyzed a naphthalene proficiency test sample provided by ERA, using method TO-13A. The recoveries for naphthalene for TO-13A were 55.5% and 64.2%, which are well within the acceptance limits for the method. This provides strong evidence of the validity of the laboratory's application of TO-13A for the naphthalene. Because the TO-15 is not an approved method for naphthalene, naphthalene was not a component of the proficiency-test sample from ERA and so there are no proficiency results available to evaluate the method.

The results of the comparability study might indicate that neither procedure is valid for naphthalene analyses nevertheless; readers must recognize that the study was very limited and the project team did not have the opportunity to repeat the study or perform additional measurements to investigate the cause of the low recoveries. However, the TO-13A proficiency test samples as well as the quality control data generated by the laboratory for method TO-13A provided a reasonable level of confidence in the data. There are no independently certified standard data supporting the validity of the TO-15 naphthalene results.

TtNUS concluded that TO-15 naphthalene results should not be used for risk assessment purposes. In the absence of compelling technical evidence that data from an alternative technique is superior, such data should not be used in place of data generated by a prescribed procedure. TO-15 has not been tested or validated for naphthalene analysis and the laboratory does not have independently certified quality control standard data supporting its validity.

Acetaldehyde

In applying the DQO process for the development of the ETSA QAPP, the project team selected the TO-11A, the EPA-prescribed method, for the analysis of acetaldehyde in ambient air. TO-11A uses sorbent-tube sample collection followed by high-performance liquid chromatography analysis. This method, developed specifically for the analysis of carbonyl compounds in ambient air, including aldehydes and ketones, is consistently used for ambient air monitoring. Consequently,

the EPA has completed detailed method validation studies directly applicable to acetaldehyde and has quantified quality parameters such as bias, precision, and accuracy, as well as for the affects of potential interferences.

Ambient air samples are also collected and analyzed to monitor the concentrations of other VOCs, using TO-15. The method's list of analytes includes acetaldehyde, but the method is not specific to acetaldehyde analyses. However, because it was inadvertently included for the TO-15 analysis in the ETSA QAPP and so the laboratory reported concentrations from the TO-15 analyses. Those reported concentrations were significantly higher than those obtained using TO-11A, as much as a factor of 30. The minimum-reported concentrations observed using TO-11A were of the order of 0.2 ug/m^3 , while the minimum TO-15 concentrations were of the order of 7 ug/m^3 . Such a discrepancy would indicate either an extremely low bias for TO-11A or an interference effect for TO-15. TtNUS personnel are not aware of any reports of low bias for acetaldehyde using TO-11A. GC/MS analysis quantifies acetaldehyde using a mass to charge ratio ion of 44 atomic mass units (amu). That mass to charge ratio is the same mass to charge ratio as carbon dioxide and there is a high potential for positive interferences that can lead to falsely elevated values. Carbon dioxide is contained within instrument signal background. Method-validation studies and quality parameters specific to acetaldehyde are not available because method TO-15 is not generally used to quantify it. In addition, laboratories do not usually make special efforts to calibrate for acetaldehyde during TO-15 analyses or to correct for interferences.

TtNUS performed a limited comparison study for the analysis of acetaldehyde using TO-11A and TO-15. The study used an acetaldehyde standard at a concentration of approximately 110 parts per billion by volume, following the approach described above for the naphthalene portion of the study. Table 2 presents the results. For both methods, the recoveries are within acceptable ranges. However, the test standard contained only acetaldehyde, which would minimize the possibility of interferences. Because the study could not test for interference effects, the comparison study is inconclusive with regard to evaluating the appropriateness of TO-15 data.

As a part of their quality assurance process, the laboratory has analyzed an acetaldehyde proficiency test sample provided by ERA, using method TO-11A. The recovery of acetaldehyde for method TO-11A was 80%, which is well within the acceptance limits for the method. This provides strong evidence of the validity of the laboratory's application of TO-11A for the acetaldehyde analysis. Because the analysis of the acetaldehyde by TO-15 was unintentional, it was not a component of the proficiency-test sample from ERA and so there is no proficiency result available to evaluate the method.

TtNUS has concluded that assessments of the ambient air should be based on data from the EPA-prescribed method, TO-11A. This is because TO-11A is a validated method specific to the class of compounds of interest. In addition, the possibility of interferences limits the validity of the TO-15 data. Without a sound technical basis, use of a procedure other than the prescribed one is not technically supportable.

Table 1
Naphthalene TO-13A and TO-15 Comparisons

Sample Train	Naphthalene	Method Used	Average Result	Units	Anticipated Result	% of Anticipated (Recovery)
1	Calibration gas analysis direct from Tedlar bag	TO -15	5.84	ug/M3	576.63	1%
1A	Calibration gas transferred from Tedlar bag to a Summa Canister	TO -15	0.42	ug/M3	576.63	0.1%
2	Calibration gas transferred from Tedlar bag to a PUF module	TO -13A	0.27	ug	2.60	10%
2	Calibration gas (triple-loaded) transferred from Tedlar bag to a PUF module	TO -13A	0.72	ug	7.92	9%

Table 2
Acetaldehyde TO-11A and TO-15 Comparisons

Sample Train	Acetaldehyde	Method Used	Average Result	Units	Anticipated Result	% of Anticipated (Recovery)
1	Calibration gas analysis direct from Tedlar bag	TO -15	157	ug/M3	198	79%
1A	Calibration gas transferred from Tedlar bag to a Summa Canister	TO -15	138	ug/M3	198	70%
2	Calibration gas transferred from Tedlar bag to a Sorbent Tube	TO -11A	0.49	ug	0.96	51%
3	Calibration gas transferred from Tedlar bag to a Sorbent Tube with a backup tube for break-through analysis	TO -11A	0.41	ug	0.98	42%
4	Calibration gas transferred from Tedlar bag to a Sorbent Tube with a Summa canister backup for break-through analysis	TO -11A & TO -15	0.46	ug	0.92	50%

Appendix E

Phase I Screening Risk Evaluation Reports for Parco Artemide, Parco Eva, and Parco Le Ginestre Residences

Appendix E is comprised of 1,478 pages.



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DECEMBER 2010

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ATTACHMENTS

ATTACHMENT E-1 – PHASE I SCREENING RISK EVALUATION FOR PARCO ARTEMIDE RESIDENCES

ATTACHMENT E-2 – PHASE I SCREENING RISK EVALUATION FOR PARCO EVA RESIDENCES

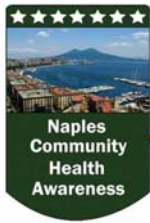
ATTACHMENT E-3 – PHASE I SCREENING RISK EVALUATION FOR PARCO LE GINESTRE RESIDENCES

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ATTACHMENT E-1

PHASE I SCREENING RISK EVALUATION FOR PARCO ARTEMIDE RESIDENCES

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NAPLES Public Health Evaluation



U.S. Navy, Naples Housing Office Premise ID: Parco Artemide

Dear Parco Artemide Resident:

SUBJECT: Phase I Screening Risk Evaluation for Parco Artemide Residences

The Navy Public Health Evaluation Team has completed a Screening Risk Evaluation (SRE) of soil, soil gas and tap water samples that were collected at Parco Artemide residences from 06/27/2008 to 08/05/2008 (See Figure 1). The purpose of the SRE is to evaluate the potential human health risks to Navy personnel and their families residing in the Naples area as a result of public health concerns that could be related to improper refuse disposal (including open burning) and hazardous waste disposal practices. This memo summarizes the results of the investigation that was performed at Parco Artemide residences. These sampling results were compared to U.S. Environmental Protection Agency (USEPA) health standards and of the ten residences sampled in the Parco, nine have been assessed to be Acceptable and one has been assessed to be Unacceptable.

SCREENING RISK EVALUATION RESULTS

The environmental sampling results for soil, soil gas and tap water were compared to risk-based regional screening levels (RSLs) and drinking water standards (maximum contaminant levels [MCLs]) to evaluate potential risks to human health. These levels are considered by the USEPA to be protective of human health. Concentrations of chemicals in soil, soil gas and tap water that exceed these levels may be of concern. Please see Attachment A for further discussion of the SRE approach.

These sampling results are being used as the basis for making recommendations for your residence. They will also be used as part of the overall effort in evaluating potential risks in the Naples area. The two potential outcomes of the SRE are that risks at your residence were: 1) Acceptable or 2) Unacceptable. Please see Attachment B for further discussion of these risk categories. This determination is based on a number of factors and assumes that an individual lives at the residence for 30-years, which is typically used by the USEPA to evaluate residential locations. Your actual risk may be significantly less than the risks presented in this memo. For example, if you live at this location for only three years and do not drink the tap water, then your risks will be significantly less than those presented in this memo.

Finally, risks presented in this SRE are based on a single sampling event at each residence of Parco Artemide. A single sample only provides a "snapshot" of concentrations that are present in soil, soil gas and tap water. One sample may or may not be representative of the soil, soil gas and tap water concentrations present each residence. Please see Attachment C for the sampling results from your residence.

SUBJECT: Phase I Screening Risk Evaluation for Parco Artemide Residences

Typically, in SRE reports, total risks are determined by calculating the potential risk for all of the various ways one might be exposed to contaminants, which are referred to as exposure pathways such as ingestion, inhalation, dermal contact, et cetera. For Naples, Navy leadership has implemented a Bottled Water Advisory and is requiring landlords to provide a water service from Navy-approved sources to eliminate the tap water ingestion exposure pathway. Therefore, we are calculating the risk two ways, assuming exposure via the ingestion pathway, and assuming no exposure via the ingestion pathway. Both of these risk determinations are described below and a table presenting the comparison of the environmental sampling results collected at your residence and applicable screening concentrations is presented in Attachment D.

Risks Calculated Assuming that Tap Water IS Used for Drinking, Cooking, Brushing Teeth and Making Ice

If the tap water at Parco Artemide is used for drinking, cooking, brushing teeth and making ice (in addition to other household uses), then based on USEPA RSLs and MCLs, the risks at eight out of ten residence are Acceptable and two are Unacceptable due to concentrations of chemicals detected in soil and tap water. Of the nearly 220 chemicals that were tested in soil and tap water and the approximately 40 that were tested for in soil gas, three were detected at levels of potential concern¹.

Risks Calculated Assuming that Tap Water IS NOT Used for Drinking, Cooking, Brushing Teeth and Making Ice

The Navy has determined that the tap water in Naples should not be used for drinking, cooking, brushing teeth, or making ice. Therefore, if the tap water at Parco Artemide is not used for drinking, cooking, brushing teeth and making ice (i.e., tap water is only used for other household uses such as showering or washing clothes), then based on USEPA RSLs and MCLs, the risks at nine out of ten residence are Acceptable and one is Unacceptable due to concentrations of chemicals detected in soil and tap water. Of the nearly 220 chemicals that were tested in soil and tap water and approximately 40 that were tested for in soil gas, two were detected at a level of potential concern¹.

Summary of Chemical-Specific Results

In soil, total carcinogenic polycyclic aromatic hydrocarbons (PAHs) exceeded its RSL at location AR03. In tap water, lead exceeded its RSL at locations AR11 and AR16, and naphthalene exceeded its RSL at location AR16. Please see Table 1 for a summary of Parco Artemide residence risks by location.

- 1) PAHs are a class of chemicals which are typically produced during incomplete burning of coal, oil and gas, or other organic substances. They are a product of combustion from common sources such as motor vehicles, wood burning stoves,

¹ This excludes naturally-occurring chemicals, such as arsenic.

SUBJECT: Phase I Screening Risk Evaluation for Parco Artemide Residences

cigarette smoke, industrial smoke or soot, or incomplete burning of wood or materials such as garbage.

- 2) The lead ingestion RSL exceedances are mitigated by the use of bottled water. Lead occurs naturally in the earth's crust. The largest use for inorganic lead is in storage batteries in motor vehicles, although elevated lead in drinking water could be an indication of corrosion of household plumbing systems.
- 3) The naphthalene inhalation RSL exceedance cannot be totally mitigated by bottled water; there will be some exposure via inhalation due to household uses of tap water (e.g., washing clothes and showering). Naphthalene is contained in fuels such as petroleum and coal and is also produced by burning tobacco or wood products. The major commercial use of naphthalene is in the manufacture of polyvinyl chloride (PVC) plastics. It is also found in moth repellents and toilet deodorant blocks.

For more information on these chemicals, please see Attachment E.

It should be noted that the concentrations of naturally-occurring arsenic in soil and tap water were above RSLs at all Parco Artemide residences and the concentrations of naturally-occurring nickel in tap water at locations AR03, AR09 and AR11 were above RSLs.

- 1) Arsenic in soil and tap water is often associated with volcanic activity. This is similar to areas in the United States (e.g., Puget Sound, Washington).
- 2) Nickel is a very abundant natural element that can be combined with other metals, such as iron, copper, chromium and zinc, to form alloys, most commonly stainless steel. These alloys are also used to make coins, jewelry and items such as valves and heat exchangers.

USEPA risk assessors also consider background concentrations of naturally-occurring metals (identified as Inorganics in Attachment D), such as arsenic and nickel, when evaluating risks. The concentrations of these naturally-occurring substances found at your residence were not included in risk-management decisions. The concentrations of metals in soil at your residence were similar to background concentrations found in the Naples area. The concentrations of arsenic and nickel in tap water were below the MCL for all Parco Artemide residences. For more information on arsenic and nickel, please see Attachment E.

The risk-management decision (i.e., Acceptable or Unacceptable) presented in this memo is based on the Incremental Risk (i.e., the risks not including natural background). See the footnotes in Attachment D for more information.

Actions that the Navy Has Taken Based on the Sampling Results

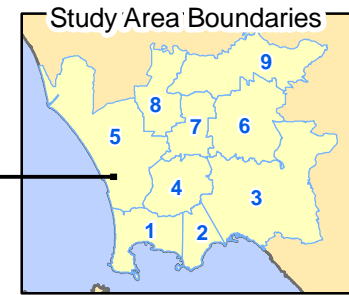
Italian authorities have been and will continue to be notified of the results of the environmental sampling. (Parco Artemide is no longer utilized by the Navy as government quarters.)

SUBJECT: Phase I Screening Risk Evaluation for Parco Artemide Residences

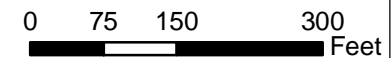
Navy leadership is committed to your health and well-being. The U.S. and Italian governments have both made this study a top priority and we will keep you informed every step of the way. We appreciate your patience with this deliberate and complex process.

We encourage you to ask questions, attend Town Hall Meetings, check the website (<https://www.cnmc.navy.mil/Naples/Programs/HealthAwareness>), and use your chain of command for assistance in getting the answers you deserve. We have established an Environmental Health Information Office as a resource to help with your health related questions or concerns, which is located on the ground floor of Naval Hospital Naples, Room 1096, DSN 629-6071. CDR Tim Halenkamp, who runs this office, is also the Director of Occupational and Environmental Medicine and can be reached at DSN 314-626-6807 or Commercial 39-081-568-6807.

Attachments: (A) Overview of the Phase I Screening Risk Evaluation Approach
(B) Risk Management Framework
(C) Environmental Sampling Results
(D) Comparison of Environmental Sampling Results to Screening Concentrations
(E) Chemical Fact Sheets



- Legend**
- Study Area Boundary (1-9)
 - Sample Locations**
 - Soil Gas
 - Soil
 - Tap Water



**Parco Artemide Sample Locations
Phase I Screening Risk Evaluation
Naples, Italy**



DWN: KR	PROJECT:
DATE: May 2009	FIGURE NO.: 1

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Table 1: Summary of Parco Artemide Residence Risks by Location

Site ID	Water Source	Soil RSL CNCEF	Soil RSL CCEF	Soil Gas RSL CNCEF	Soil Gas RSL CCEF	Tap Water Ing.+Inh. ⁽¹⁾ RSL CNCEF	Tap Water Ing.+Inh. ⁽¹⁾ RSL CCEF	Tap Water Inh. Only ⁽²⁾ RSL CNCEF	Tap Water Inh. Only ⁽²⁾ RSL CCEF	Includes Soil, Soil Gas, and Tap Water				Exceed Fecal or Total Coliform MCL?	Exceed MCL for any Chemical?	Ing.+Inh. Acceptable or Unacceptable	Inh. Only Acceptable or Unacceptable
										Total CNCEF Ing.+Inh. ⁽³⁾	Total CCEF Ing.+Inh. ⁽³⁾	Total CNCEF Inh. Only ⁽⁴⁾	Total CCEF Inh. Only ⁽⁴⁾				
AR03	Public	0.03	2.0	0.0009	0.6	0.6	1.7	0.002	0.6	0.60	4.30	0.03	3.21	No	No	Acceptable	Acceptable
AR05	Public	0.04	0.2	0	0	0.8	2.5	0.0008	0.7	0.84	2.69	0.04	0.87	No	No	Acceptable	Acceptable
AR08	Public	0.03	0.08	0	0	0.7	1.9	0.002	0.6	0.76	1.94	0.04	0.71	No	No	Acceptable	Acceptable
AR09	Public	0.04	0.1	0.001	0.9	0.6	2.2	0.0007	0.6	0.65	3.16	0.04	1.61	No	No	Acceptable	Acceptable
AR10	Public	0.04	0.2	0	0	0.4	1.7	0.0006	0.6	0.46	1.87	0.04	0.79	No	No	Acceptable	Acceptable
AR11	Public	0.05	0.3	0	0	1.3	2.0	0.0006	0.6	1.40	2.27	0.05	0.86	No	No	Unacceptable	Acceptable
AR13	Public	0.03	0.06	0	0.3	0.6	1.1	0.001	0.1	0.59	1.54	0.03	0.50	No	No	Acceptable	Acceptable
AR16	Public	0.04	0.1	0.03	0	2.8	49.3	1.1	48.6	2.85	49.48	1.14	48.75	No	No	Unacceptable	Unacceptable
AR21	Public	0.04	0.1	0	0	0.4	2.0	0.0005	0.5	0.48	2.13	0.04	0.65	No	No	Acceptable	Acceptable
AR24	Public	0.05	0.2	0	0	0.3	1.2	0.0005	0.5	0.34	1.41	0.05	0.72	No	No	Acceptable	Acceptable

Note:
 CCEF = Cumulative Cancer Exceedance Factor, CNCEF = Cumulative Noncancer Exceedance Factor, Inh. = Inhalation, Ing. = Ingestion, RSL = USEPA Regional risk-based screening level, MCL = USEPA Maximum Contaminant Limit
 0.0 = Value is less than 0.01.

Residences that meet the unacceptable criteria for Ing.+Inh. or Inh. Only are shaded and bold.

¹Ing.+Inh. exposure scenario for residences assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.

²Inh. Only exposure scenario for residences assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.

³Ing.+Inh. exposure scenario for residences (Total Cumulative Exceedance Factor-Based on Soil, Soil Gas, and Tap Water) assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.

⁴Inh. Only exposure scenario for residences (Total Cumulative Exceedance Factor-Based on Soil, Soil Gas, and Tap Water) assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.

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Attachment A

Overview of the Phase I Screening Risk Evaluation Approach

Comparison of Environmental Sampling Results to Risk-Based Screening Concentrations

To determine whether or not the sampling results for soil, soil gas, and tap water are potentially of concern to human health, the sampling results were compared to United States Environmental Protection Agency (USEPA) risk-based regional screening levels (RSLs). The RSLs incorporate many conservative assumptions about exposure to be protective of human health.

Concentrations for each chemical were compared to:

1. USEPA RSLs based on 30-year residential exposure
2. USEPA Maximum Contaminant Levels (MCLs) for Drinking Water

The USEPA RSLs are calculated based on carcinogenic (i.e., cancer) risks and noncarcinogenic (i.e., noncancer) health effects. Cancer risk is an estimate of how exposure to a chemical may increase the normal or expected rate of developing cancer in a population of people. The USEPA generally evaluates cancer risk¹ as follows:

- **Acceptable Risk** – A cancer risk of 1×10^{-6} (i.e., one person out of 1,000,000 will develop cancer) or less is considered safe (i.e., acceptable). Note: The USEPA generally also considers the range between one in 10,000 (1×10^{-4}) and one in 1,000,000 (1×10^{-6}) people as a safe (i.e., acceptable) range, and actions to reduce the risk may or may not be required based on various site-specific factors. The USEPA typically considers additional actions to reduce cancer risks that are close to or greater than one in 10,000 (1×10^{-4}) people.
- **Unacceptable Risk** – USEPA considers an increase of “more than” one additional case of cancer (or greater) in 10,000 (1×10^{-4}) people to be of concern (i.e., unacceptable).

Noncancer health effects are expressed by a number known as the “hazard quotient” or “HQ.” The HQ compares the amount of a chemical that people may have been exposed to over a specified time period with the amount that is considered to have no effect (i.e., safe). If people are exposed to an amount greater than that considered safe for a particular chemical, then the ratio will be greater than one. Because people can be

¹ For the purposes of the Phase I SRE, the Navy has decided to use only two categories to categorize risks (i.e., “Acceptable” or “Unacceptable”). See Appendix B for the definition of *Acceptable* and *Unacceptable* risks).

exposed to more than one chemical at a time, the HQs for different chemicals are added together to give an overall “Hazard Index” or “HI,” unless data is available to indicate that they should not be added together. USEPA policy considers chemical concentrations resulting in an HI above one to be of concern for developing potential noncancer health effects. Professional judgment must be used to evaluate the potential noncancer health effects related to the concentration of these chemicals to determine if actions to reduce the risk are needed.

Comparison of Environmental Sampling Results to Maximum Contaminant Levels (MCLs)

MCLs are maximum permissible levels of a contaminant in public water supplies. For private water supplies, MCLs are useful for determining potability. MCLs are protective of public health during a lifetime (70 years) for an individual who drinks two liters of water per day.

Attachment B

Risk Management Criteria

This Screening Risk Evaluation (SRE) characterizes the potential health risks associated with living at your residence for 30 years. This is generally a conservative assumption because typical tour lengths range from three to six years. The risk evaluation results were placed into one of two categories: 1) Acceptable Risks or 2) Unacceptable Risks. Based on the results of the SRE, the appropriate course of action will be taken to ensure the safety of U.S. Navy military and civilian personnel and their families. The criteria for each of the risk-management categories are defined below.

**United States Navy
Naples, Italy Phase I Screening Risk Evaluation
Risk Management Categories**

Criteria/ Actions	Acceptable Risks	Unacceptable Risks
Risk Criteria – for Residences Using Tap Water for Drinking, Cooking, Brushing Teeth, and Making Ice⁶	<ul style="list-style-type: none"> • Total NCEF less than or equal to 1; and • Total CEF less than or equal to 10; and • Concentration less than or equal to USEPA MCL (tap water). Applies to all chemicals. 	<ul style="list-style-type: none"> • Total NCEF greater than 1; or • Total CEF greater than 10; or • Concentration greater than the USEPA MCL (tap water). Applies to all chemicals.
Risk Criteria – for Residences <u>NOT</u> Using Tap Water for Drinking, Cooking, Brushing Teeth, and Making Ice⁷	<ul style="list-style-type: none"> • Total NCEF less than or equal to 1; and • Total CEF less than or equal to 10; and • Concentration less than or equal to USEPA MCL (tap water). Applies only to Fecal Coliform and Total Coliforms (including Fecal Coliform and E. Coli). 	<ul style="list-style-type: none"> • Total NCEF greater than 1; or • Total CEF greater than 10; or • Concentration greater than the USEPA MCL (tap water). Applies only to Fecal Coliform and Total Coliforms (including Fecal Coliform and E. Coli).

**United States Navy
Naples, Italy Phase I Screening Risk Evaluation
Risk Management Categories**

Criteria/ Actions	Acceptable Risks	Unacceptable Risks
	<p>Notes:</p> <ol style="list-style-type: none"> 1. Noncancer exceedance factors (NCEFs) were calculated by dividing the maximum detected concentrations by noncancer-based U.S. Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs). 2. Cancer exceedance factors (CEFs) were calculated by dividing the maximum detected concentrations by cancer-based USEPA RSLs. 3. The individual NCEFs and CEFs were summed to provide the total NCEF and total CEF. 4. An NCEF of 1 corresponds to a Hazard Index of 1. 5. A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million). A CEF of 10 corresponds to a cancer risk of 1×10^{-5} (one in a one hundred thousand). 6. The tap water RSLs used to evaluate residences that <u>USE</u> tap water for drinking, cooking, brushing teeth, and making ice were based on ingestion and inhalation of household uses (e.g., showering) of tap water. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate. 7. The tap water RSLs used to evaluate residences that <u>DO NOT</u> use tap water for drinking, cooking, brushing teeth, and making ice were based on inhalation of household uses (e.g., showering) of tap water only. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate. 	

Attachment C
Environmental Sampling Results

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Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil - mg/kg				
	Sample Results for: AR03SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.00892 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000012054				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	83.90000000000001				
Turbidity	--				
Inorganics					
Aluminum	31000				
Antimony	0.217				
Arsenic	10.7				
Barium	209				
Beryllium	4.19				
Cadmium (Diet)	0.182				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil - mg/kg				
	Sample Results for: AR03SS0010006				
Chromium	5.14				
Cobalt	4.01				
Copper	25.1				
Iron	16400				
Lead	30.7				
Manganese (Diet)	487				
Manganese (Water)	--				
Mercury	0.186 U				
Nickel	4.76				
Selenium	0.159 U				
Silver	0.122 U				
Thallium	1.66				
Tin	2.22				
Vanadium	44.7				
Zinc	47.8				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000499 U				
4,4-DDE	0.00049 U				
4,4-DDT	0.000656 U				
Aldrin	0.000397 U				
alpha-BHC	0.00049 U				
alpha-Chlordane	0.000397 U				
beta-BHC	0.000601 U				
Chlordane	--				
delta-BHC	0.000545 U				
Dieldrin	0.000555 U				
Endosulfan I	0.000499 U				
Endosulfan II	0.000397 U				
Endosulfan Sulfate	0.000564 U				
Endrin	0.000638 U				
Endrin Aldehyde	0.000573 U				

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil - mg/kg			
	Sample Results for: AR03SS0010006			
gamma-BHC (Lindane)	0.000471 U			
gamma-Chlordane	0.000434 U			
Heptachlor	0.000564 U			
Heptachlor Epoxide	0.000434 U			
Methoxychlor	0.000702 U			
Toxaphene	0.00555 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00584 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00584 U			
Aroclor 1232	0.00584 U			
Aroclor 1242	0.00584 U			
Aroclor 1248	0.00584 U			
Aroclor 1254	0.00584 U			
Aroclor 1260	0.00584 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0178 U			
1,2,4,5-Tetrachlorobenzene	0.0142 U			
2,3,4,6-Tetrachlorophenol	0.0841 U			
2,4,5-Trichlorophenol	0.146 U			
2,4,6-Trichlorophenol	0.0782 U			
2,4-Dichlorophenol	0.0912 U			
2,4-Dimethylphenol	0.175 U			
2,4-Dinitrophenol	0.0651 U			
2,4-Dinitrotoluene	0.0213 U			
2,6-Dichlorophenol	0.0557 U			
2,6-Dinitrotoluene	0.0178 U			
2-Chloronaphthalene	0.00948 U			
2-Chlorophenol	0.0592 U			
2-Methylnaphthalene	0.0201 U			
2-Methylphenol (o-Cresol)	0.118 U			
2-Nitrophenol	0.0746 U			
3&4-Methylphenol	0.136 U			
3-Methylphenol	--			
3-Nitroaniline	0.0213 U			

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil - mg/kg			
	Sample Results for: AR03SS0010006			
4,6-Dinitro-2-Methylphenol	0.0794 U			
4-Bromophenylphenylether	0.0142 U			
4-Chloro-3-Methylphenol	0.104 U			
4-Chloroaniline	0.0272 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0521 U			
4-Nitrophenol	0.14 U			
Acenaphthene	0.0118 U			
Acenaphthylene	0.0107 U			
Aniline	0.0237 U			
Anthracene	0.0142 U			
Atrazine	0.0308 U			
Benzo(g,h,i)perylene	0.0332 U			
Bis(2-ethylhexyl)phthalate	0.124 U			
Butylbenzylphthalate	0.0355 U			
Carbazole	0.0213 U			
Di-n-butylphthalate	0.0509 U			
Di-n-octylphthalate	0.0237 U			
Dibenzofuran	0.0118 U			
Diethylphthalate	0.0201 U			
Dimethylphthalate	0.0154 U			
Diphenylamine	0.0616 U			
Fluoranthene	0.0507 J			
Fluorene	0.0142 U			
Hexachlorobenzene	0.013 U			
Hexachlorobutadiene	0.0118 U			
Hexachlorocyclopentadiene	0.0166 U			
Hexachloroethane	0.013 U			
Naphthalene	0.00711 U			
Nitrobenzene	0.0178 U			
o-Toluidine	0.0213 U			
Pentachlorobenzene	0.0332 U			
Pentachloronitrobenzene	0.000462 U			
Pentachlorophenol	0.182 U			
Phenanthrene	0.0355 U			
Phenol	0.0403 U			

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil - mg/kg			
	Sample Results for: AR03SS0010006			
Pyrene	0.0447 J			
Total Carcinogenic PAHS (BaP TEQs)	0.029501			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.0005 U			
1,1,1-Trichloroethane	0.000667 U			
1,1,2,2-Tetrachloroethane	0.000333 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00117 U			
1,1,2-Trichloroethane	0.0005 U			
1,1-Dichloroethane	0.00117 U			
1,1-Dichloroethene	0.000833 U			
1,2,3-Trichlorobenzene	0.000833 U			
1,2,3-Trichloropropane	0.0005 U			
1,2,4-Trichlorobenzene	0.0005 U			
1,2,4-Trimethylbenzene	0.000667 U			
1,2-Dibromo-3-Chloropropane	0.000667 U			
1,2-Dibromoethane	0.000167 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.000167 U			
1,2-Dichloroethane	0.000333 U			
1,2-Dichloropropane	0.0005 U			
1,3,5-Trimethylbenzene	0.000333 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000333 U			
1,3-Dichloropropane	0.000333 U			
1,4-Dichlorobenzene	0.000167 U			
2,2-Dichloropropane	0.000833 U			
2-Butanone (methyl ethyl ketone)	0.003 U			
2-Chlorotoluene	0.0005 U			
2-Hexanone	0.00167 U			
4-Chlorotoluene	0.000333 U			
4-Isopropyltoluene	0.000333 U			
4-Methyl-2-Pentanone	0.0005 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil - mg/kg			
	Sample Results for: AR03SS0010006			
Acetone	0.00967 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.0005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000667 U			
Bromodichloromethane	0.000667 U			
Bromoform	0.000333 U			
Bromomethane	0.005 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000667 U			
Chlorobenzene	0.000333 U			
Chloroethane	0.000667 U			
Chloroform	0.00117 U			
Chloromethane	0.0015 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00117 U			
cis-1,3-Dichloropropene	0.000167 U			
Cyclohexane	--			
Dibromochloromethane	0.000167 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.0005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000333 U			
m,p-Xylenes	0.001 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000833 U			
Methylcyclohexane	--			
Methylene Chloride	0.00167 U			

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil - mg/kg			
	Sample Results for: AR03SS0010006			
n-Butylbenzene	0.000333 U			
n-Propylbenzene	0.0005 U			
o-Xylene	0.000333 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000333 U			
Styrene	0.000333 U			
tert-Butylbenzene	0.000667 U			
Tetrachloroethene	0.001 U			
Toluene	0.000833 U			
trans-1,2-Dichloroethene	0.001 U			
trans-1,3-Dichloropropene	0.0005 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000833 U			
Trichlorofluoromethane	0.00133 UJ			
Vinyl Acetate	--			
Vinyl Chloride	0.000667 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR03SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR03SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR03SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR03SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR03SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.00828			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR03SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR03SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.002543782			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Tap Water - mg/L			
	Sample Results for: AR03TW001	Sample Results for: AR03TW002		
Alkane Hydrocarbon				
Octane	--	--		
Pentadecane	--	--		
Tridecane	--	--		
Undecane	--	--		
Anion				
Chloride	11.5	--		
Cyanide	0.004 U	--		
Fluoride	0.2 U	--		
Nitrate (measured as NO3-)	2.43	--		
Nitrite (measured as NO2-)	0.2 U	--		
Phosphate	0.4 U	--		
Sulfate	7.24	--		
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000005874	--		
Disinfectants				
Chlorine (as Cl2)	0.02	--		
Disinfection Byproducts				
Total Trihalomethanes	0.002447	--		
Field Parameters				
Dissolved Oxygen	7.47	3.94		
Oxidation Reduction Potential	353	299		
pH	7.3	7.25		
Salinity	--	--		
Specific Conductance	0.69	0.75		
Temperature	24.5	26.9		
Total Dissolved Solids	--	--		
Total Solids	--	--		
Turbidity	13	33		
Inorganics				
Aluminum	0.0022 U	--		
Antimony	0.000883 J	--		
Arsenic	0.00359	--		
Barium	0.0123	--		
Beryllium	0.0000384 U	--		
Cadmium (Diet)	--	--		
Cadmium (Water)	0.000541	--		

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Tap Water - mg/L			
	Sample Results for: AR03TW001	Sample Results for: AR03TW002		
Chromium	0.00015 U	--		
Cobalt	0.00153	--		
Copper	0.165	--		
Iron	0.00851 J	--		
Lead	0.00886 J	--		
Manganese (Diet)	--	--		
Manganese (Water)	0.0515	--		
Mercury	0.000042	--		
Nickel	4.38 J	--		
Selenium	0.0002 U	--		
Silver	0.00012 U	--		
Thallium	0.000307 U	--		
Tin	0.0001 U	--		
Vanadium	0.001 U	--		
Zinc	1.98	--		
Microorganisms				
Fecal Coliform	1 <	1 <		
Fecal Streptococcus	0	0		
Heterotrophic Plate Count	1320	1980		
Total Coliforms (including Fecal Coliform and E. Coli)	1 <	1 <		
Pesticides				
4,4-DDD	0.000003 U	--		
4,4-DDE	0.000002 U	--		
4,4-DDT	0.000006 U	--		
Aldrin	0.000002 U	--		
alpha-BHC	0.000003 U	--		
alpha-Chlordane	0.000003 U	--		
beta-BHC	0.000002 U	--		
Chlordane	--	--		
delta-BHC	0.000001 U	--		
Dieldrin	0.000003 U	--		
Endosulfan I	0.000003 U	--		
Endosulfan II	0.000002 U	--		
Endosulfan Sulfate	0.000007 U	--		
Endrin	0.000002 U	--		
Endrin Aldehyde	0.000002 U	--		

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Tap Water - mg/L			
	Sample Results for: AR03TW001	Sample Results for: AR03TW002		
gamma-BHC (Lindane)	0.000001 U	--		
gamma-Chlordane	0.000002 U	--		
Heptachlor	0.000004 U	--		
Heptachlor Epoxide	0.000004 U	--		
Methoxychlor	0.000003 U	--		
Toxaphene	0.00001 U	--		
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U	--		
Aroclor 1016/1260	0.00002 U	--		
Aroclor 1221	0.00002 U	--		
Aroclor 1232	0.00002 U	--		
Aroclor 1242	0.00002 U	--		
Aroclor 1248	0.00002 U	--		
Aroclor 1254	0.00002 U	--		
Aroclor 1260	0.00002 U	--		
Radionuclides				
Uranium	0.000704	--		
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0002 U	--		
1,2,4,5-Tetrachlorobenzene	0.0002 U	--		
2,3,4,6-Tetrachlorophenol	0.0003 U	--		
2,4,5-Trichlorophenol	0.0005 U	--		
2,4,6-Trichlorophenol	0.0005 U	--		
2,4-Dichlorophenol	0.0007 U	--		
2,4-Dimethylphenol	0.001 U	--		
2,4-Dinitrophenol	0.0003 U	--		
2,4-Dinitrotoluene	0.001 U	--		
2,6-Dichlorophenol	0.0008 U	--		
2,6-Dinitrotoluene	0.0001 U	--		
2-Chloronaphthalene	0.0002 U	--		
2-Chlorophenol	0.0009 U	--		
2-Methylnaphthalene	0.0002 U	--		
2-Methylphenol (o-Cresol)	0.0007 U	--		
2-Nitrophenol	0.0009 U	--		
3&4-Methylphenol	0.0012 U	--		
3-Methylphenol	--	--		
3-Nitroaniline	0.001 U	--		

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Tap Water - mg/L			
	Sample Results for: AR03TW001	Sample Results for: AR03TW002		
4,6-Dinitro-2-Methylphenol	0.0002 U	--		
4-Bromophenylphenylether	0.0001 U	--		
4-Chloro-3-Methylphenol	0.0006 U	--		
4-Chloroaniline	0.001 U	--		
4-Methylphenol (p-Cresol)	--	--		
4-Nitroaniline	0.001 U	--		
4-Nitrophenol	0.0003 U	--		
Acenaphthene	0.0001 U	--		
Acenaphthylene	0.0001 U	--		
Aniline	0.001 U	--		
Anthracene	0.0001 U	--		
Atrazine	0.0001 U	--		
Benzo(g,h,i)perylene	0.0001 U	--		
Bis(2-ethylhexyl)phthalate	0.0014 U	--		
Butylbenzylphthalate	0.0001 U	--		
Carbazole	0.0001 U	--		
Di-n-butylphthalate	0.0013 U	--		
Di-n-octylphthalate	0.0002 U	--		
Dibenzofuran	0.0001 U	--		
Diethylphthalate	0.0002 U	--		
Dimethylphthalate	0.0001 U	--		
Diphenylamine	0.0001 U	--		
Fluoranthene	0.0001 U	--		
Fluorene	0.0001 U	--		
Hexachlorobenzene	0.0001 U	--		
Hexachlorobutadiene	0.0002 U	--		
Hexachlorocyclopentadiene	0.001 U	--		
Hexachloroethane	0.0001 U	--		
Naphthalene	0.0002 U	--		
Nitrobenzene	0.0002 U	--		
o-Toluidine	0.0007 U	--		
Pentachlorobenzene	0.0002 U	--		
Pentachloronitrobenzene	0.000003 U	--		
Pentachlorophenol	0.0003 U	--		
Phenanthrene	0.0001 U	--		
Phenol	0.001 U	--		

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Tap Water - mg/L			
	Sample Results for: AR03TW001	Sample Results for: AR03TW002		
Pyrene	0.0001 U	--		
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U	--		
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--	--		
Tph (c08-c40)	--	--		
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U	--		
1,1,1-Trichloroethane	0.00017 U	--		
1,1,2,2-Tetrachloroethane	0.00005 U	--		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U	--		
1,1,2-Trichloroethane	0.00011 U	--		
1,1-Dichloroethane	0.0001 U	--		
1,1-Dichloroethene	0.00013 U	--		
1,2,3-Trichlorobenzene	0.00012 U	--		
1,2,3-Trichloropropane	0.00013 U	--		
1,2,4-Trichlorobenzene	0.00013 U	--		
1,2,4-Trimethylbenzene	0.00006 U	--		
1,2-Dibromo-3-Chloropropane	0.00025 U	--		
1,2-Dibromoethane	0.00009 U	--		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U	--		
1,2-Dichlorobenzene	0.00007 U	--		
1,2-Dichloroethane	0.00008 U	--		
1,2-Dichloropropane	0.00015 U	--		
1,3,5-Trimethylbenzene	0.00008 U	--		
1,3-Butadiene	--	--		
1,3-Dichlorobenzene	0.00013 U	--		
1,3-Dichloropropane	0.00011 U	--		
1,4-Dichlorobenzene	0.00007 U	--		
2,2-Dichloropropane	0.0001 U	--		
2-Butanone (methyl ethyl ketone)	0.0016 U	--		
2-Chlorotoluene	0.00012 U	--		
2-Hexanone	0.0002 U	--		
4-Chlorotoluene	0.00013 U	--		
4-Isopropyltoluene	0.0001 U	--		
4-Methyl-2-Pentanone	0.0001 U	--		

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Tap Water - mg/L			
	Sample Results for: AR03TW001	Sample Results for: AR03TW002		
Acetaldehyde	--	--		
Acetone	0.0046 U	--		
Acetonitrile	--	--		
Acetophenone	--	--		
Acrolein	0.0004 U	--		
Acrylonitrile	--	--		
Benzene	0.00005 U	--		
Bis(2-Chloroethyl)ether	--	--		
Bis(chloromethyl)ether	--	--		
Bromochloromethane	0.0001 U	--		
Bromodichloromethane	0.000144 J	--		
Bromoform	0.00176 J	--		
Bromomethane	0.00037 U	--		
Carbon Disulfide	--	--		
Carbon Tetrachloride	0.00008 U	--		
Chlorobenzene	0.00012 U	--		
Chloroethane	0.00018 U	--		
Chloroform	0.000108 J	--		
Chloromethane	0.000215 J	--		
Chloroprene	--	--		
cis-1,2-Dichloroethene	0.00013 U	--		
cis-1,3-Dichloropropene	0.00015 U	--		
Cyclohexane	--	--		
Dibromochloromethane	0.000435 J	--		
Dibromomethane	--	--		
Dichlorodifluoromethane (Freon 12)	0.00012 U	--		
Ethylbenzene	0.00005 U	--		
Formaldehyde	--	--		
Hexane	--	--		
Isobutyl Alcohol	--	--		
Isophorone	--	--		
Isopropylbenzene	0.00006 U	--		
m,p-Xylenes	0.00009 U	--		
Methyl Acetate	--	--		
Methyl tert-Butyl Ether	0.00011 U	--		
Methylcyclohexane	--	--		

Attachment C - Environmental Sampling Results For Location AR03

Chemical	Tap Water - mg/L			
	Sample Results for: AR03TW001	Sample Results for: AR03TW002		
Methylene Chloride	0.00069 U	--		
n-Butylbenzene	0.00005 U	--		
n-Propylbenzene	0.00007 U	--		
o-Xylene	0.00007 U	--		
Pentachloroethane	--	--		
sec-Butylbenzene	0.00004 U	--		
Styrene	0.00008 U	--		
tert-Butylbenzene	0.00019 U	--		
Tetrachloroethene	0.00007 U	--		
Toluene	0.00017 U	--		
trans-1,2-Dichloroethene	0.00015 U	--		
trans-1,3-Dichloropropene	0.00007 U	--		
Trans-1,4-Dichloro-2-Butene	--	--		
Trichloroethene	0.00013 U	--		
Trichlorofluoromethane	0.00019 U	--		
Vinyl Acetate	--	--		
Vinyl Chloride	0.00015 U	--		
Xylenes, Total	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil - mg/kg			
	Sample Results for: AR05SS0010006	Sample Results for: AR05SS0010006-D		
Alkane Hydrocarbon				
Octane	--	--		
Pentadecane	--	--		
Tridecane	--	--		
Undecane	--	--		
Anion				
Chloride	--	--		
Cyanide	0.24 U	0.00627 U		
Fluoride	--	--		
Nitrate (measured as NO3-)	--	--		
Nitrite (measured as NO2-)	--	--		
Phosphate	--	--		
Sulfate	--	--		
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000046294	0.00000066897		
Disinfectants				
Chlorine (as Cl2)	--	--		
Disinfection Byproducts				
Total Trihalomethanes	--	--		
Field Parameters				
Dissolved Oxygen	--	--		
Oxidation Reduction Potential	--	--		
pH	--	--		
Salinity	--	--		
Specific Conductance	--	--		
Temperature	--	--		
Total Dissolved Solids	--	--		
Total Solids	80.2	89.09999999999999		
Turbidity	--	--		
Inorganics				
Aluminum	34000	40100		
Antimony	0.222	0.386		
Arsenic	10.7	12		
Barium	234	308		
Beryllium	4.33	4.97		
Cadmium (Diet)	0.166	0.214		
Cadmium (Water)	--	--		

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil - mg/kg			
	Sample Results for: AR05SS0010006	Sample Results for: AR05SS0010006-D		
Chromium	5.61	4.89		
Cobalt	4.1	4.42		
Copper	29.3	18.3		
Iron	16500	19500		
Lead	35.7	27.7		
Manganese (Diet)	518	539		
Manganese (Water)	--	--		
Mercury	0.214 U	0.208 U		
Nickel	4.83	4.58		
Selenium	0.143 U	0.0973 U		
Silver	0.124 U	0.122		
Thallium	1.58	1.34 U		
Tin	2.36	2.46		
Vanadium	43.7	42.9		
Zinc	51.6	54.4		
Microorganisms				
Fecal Coliform	--	--		
Fecal Streptococcus	--	--		
Heterotrophic Plate Count	--	--		
Total Coliforms (including Fecal Coliform and E. Coli)	--	--		
Pesticides				
4,4-DDD	0.000465 U	0.000511 U		
4,4-DDE	0.000456 U	0.000502 UJ		
4,4-DDT	0.000611 U	0.000672 U		
Aldrin	0.00037 U	0.000407 U		
alpha-BHC	0.000456 U	0.000502 U		
alpha-Chlordane	0.00037 U	0.000407 UJ		
beta-BHC	0.000559 U	0.000616 U		
Chlordane	--	--		
delta-BHC	0.000508 U	0.000559 U		
Dieldrin	0.000516 U	0.000568 U		
Endosulfan I	0.000465 U	0.000511 UJ		
Endosulfan II	0.00037 U	0.000407 U		
Endosulfan Sulfate	0.000525 U	0.000578 UJ		
Endrin	0.000594 U	0.000653 U		
Endrin Aldehyde	0.000534 U	0.000587 U		

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil - mg/kg			
	Sample Results for: AR05SS0010006	Sample Results for: AR05SS0010006-D		
gamma-BHC (Lindane)	0.000439 U	0.000483 U		
gamma-Chlordane	0.000404 U	0.000445 U		
Heptachlor	0.000525 U	0.000578 U		
Heptachlor Epoxide	0.000404 U	0.000445 U		
Methoxychlor	0.000654 U	0.00072 U		
Toxaphene	0.00516 UJ	0.00568 U		
Polychlorinated bi-phenyls				
Aroclor 1016	0.0066 U	0.00595 U		
Aroclor 1016/1260	--	--		
Aroclor 1221	0.0066 U	0.00595 U		
Aroclor 1232	0.0066 U	0.00595 U		
Aroclor 1242	0.0066 U	0.00595 U		
Aroclor 1248	0.0066 U	0.00595 U		
Aroclor 1254	0.0066 U	0.00595 U		
Aroclor 1260	0.0066 U	0.00595 U		
Radionuclides				
Uranium	--	--		
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0184 U	0.0188 U		
1,2,4,5-Tetrachlorobenzene	0.0148 U	0.0151 U		
2,3,4,6-Tetrachlorophenol	0.0873 U	0.0891 U		
2,4,5-Trichlorophenol	0.151 U	0.154 U		
2,4,6-Trichlorophenol	0.0811 U	0.0829 U		
2,4-Dichlorophenol	0.0947 U	0.0967 U		
2,4-Dimethylphenol	0.182 U	0.186 U		
2,4-Dinitrophenol	0.0676 U	0.0691 U		
2,4-Dinitrotoluene	0.0221 U	0.0226 U		
2,6-Dichlorophenol	0.0578 U	0.059 U		
2,6-Dinitrotoluene	0.0184 U	0.0188 U		
2-Chloronaphthalene	0.00984 U	0.01 U		
2-Chlorophenol	0.0615 U	0.0628 U		
2-Methylnaphthalene	0.0209 U	0.0213 U		
2-Methylphenol (o-Cresol)	0.123 U	0.126 U		
2-Nitrophenol	0.0775 U	0.0791 U		
3&4-Methylphenol	0.141 U	0.144 U		
3-Methylphenol	--	--		
3-Nitroaniline	0.0221 U	0.0226 U		

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil - mg/kg			
	Sample Results for: AR05SS0010006	Sample Results for: AR05SS0010006-D		
4,6-Dinitro-2-Methylphenol	0.0824 U	0.0841 U		
4-Bromophenylphenylether	0.0148 U	0.0151 U		
4-Chloro-3-Methylphenol	0.108 U	0.11 U		
4-Chloroaniline	0.0283 U	0.0289 U		
4-Methylphenol (p-Cresol)	--	--		
4-Nitroaniline	0.0541 U	0.0552 U		
4-Nitrophenol	0.145 U	0.148 U		
Acenaphthene	0.0123 U	0.0126 U		
Acenaphthylene	0.0111 U	0.0113 U		
Aniline	0.0246 U	0.0251 U		
Anthracene	0.0148 U	0.0151 U		
Atrazine	0.032 U	0.0326 U		
Benzo(g,h,i)perylene	0.0344 U	0.0352 U		
Bis(2-ethylhexyl)phthalate	0.129 U	0.132 U		
Butylbenzylphthalate	0.0369 U	0.0377 U		
Carbazole	0.0221 U	0.0226 U		
Di-n-butylphthalate	0.0529 U	0.054 U		
Di-n-octylphthalate	0.0246 U	0.0251 U		
Dibenzofuran	0.0123 U	0.0126 U		
Diethylphthalate	0.0209 U	0.0213 U		
Dimethylphthalate	0.016 U	0.0163 U		
Diphenylamine	0.0639 U	0.0653 U		
Fluoranthene	0.0234 U	0.0239 U		
Fluorene	0.0148 U	0.0151 U		
Hexachlorobenzene	0.0135 U	0.0138 U		
Hexachlorobutadiene	0.0123 U	0.0126 U		
Hexachlorocyclopentadiene	0.0172 U	0.0176 U		
Hexachloroethane	0.0135 U	0.0138 U		
Naphthalene	0.00738 U	0.00753 U		
Nitrobenzene	0.0184 U	0.0188 U		
o-Toluidine	0.0221 U	0.0226 U		
Pentachlorobenzene	0.0344 U	0.0352 U		
Pentachloronitrobenzene	0.00043 U	0.000473 U		
Pentachlorophenol	0.189 U	0.193 U		
Phenanthrene	0.0369 U	0.0377 U		
Phenol	0.0418 U	0.0427 U		

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil - mg/kg			
	Sample Results for: AR05SS0010006	Sample Results for: AR05SS0010006-D		
Pyrene	0.0221 U	0.0226 U		
Total Carcinogenic PAHS (BaP TEQs)	0.053077 U	0.0541823 U		
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--	--		
Tph (c08-c40)	--	--		
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000401 U	0.000504 U		
1,1,1-Trichloroethane	0.000535 U	0.000672 U		
1,1,2,2-Tetrachloroethane	0.000268 U	0.000336 U		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0036 J	0.00118 U		
1,1,2-Trichloroethane	0.000401 U	0.000504 U		
1,1-Dichloroethane	0.000936 U	0.00118 U		
1,1-Dichloroethene	0.000669 U	0.000839 U		
1,2,3-Trichlorobenzene	0.000669 U	0.000839 U		
1,2,3-Trichloropropane	0.000401 U	0.000504 U		
1,2,4-Trichlorobenzene	0.000401 U	0.000504 U		
1,2,4-Trimethylbenzene	0.000535 U	0.000672 U		
1,2-Dibromo-3-Chloropropane	0.000535 U	0.000672 U		
1,2-Dibromoethane	0.000134 U	0.000168 U		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--		
1,2-Dichlorobenzene	0.000134 U	0.000168 U		
1,2-Dichloroethane	0.000268 U	0.000336 U		
1,2-Dichloropropane	0.000401 U	0.000504 U		
1,3,5-Trimethylbenzene	0.000268 U	0.000336 U		
1,3-Butadiene	--	--		
1,3-Dichlorobenzene	0.000268 U	0.000336 U		
1,3-Dichloropropane	0.000268 U	0.000336 U		
1,4-Dichlorobenzene	0.000134 U	0.000168 U		
2,2-Dichloropropane	0.000669 U	0.000839 U		
2-Butanone (methyl ethyl ketone)	0.00241 U	0.00302 U		
2-Chlorotoluene	0.000401 U	0.000504 U		
2-Hexanone	0.00134 U	0.00168 U		
4-Chlorotoluene	0.000268 U	0.000336 U		
4-Isopropyltoluene	0.000268 U	0.000336 U		
4-Methyl-2-Pentanone	0.000401 U	0.000504 U		
Acetaldehyde	--	--		

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil - mg/kg			
	Sample Results for: AR05SS0010006	Sample Results for: AR05SS0010006-D		
Acetone	0.00776 U	0.0307		
Acetonitrile	--	--		
Acetophenone	--	--		
Acrolein	--	--		
Acrylonitrile	--	--		
Benzene	0.000401 U	0.000504 U		
Bis(2-Chloroethyl)ether	--	--		
Bis(chloromethyl)ether	--	--		
Bromochloromethane	0.000535 U	0.000672 U		
Bromodichloromethane	0.000535 U	0.000672 U		
Bromoform	0.000268 U	0.000336 U		
Bromomethane	0.00401 U	0.00504 U		
Carbon Disulfide	--	--		
Carbon Tetrachloride	0.000535 U	0.000672 U		
Chlorobenzene	0.000268 U	0.000336 U		
Chloroethane	0.000535 U	0.000672 U		
Chloroform	0.000936 U	0.00118 U		
Chloromethane	0.0012 U	0.00151 U		
Chloroprene	--	--		
cis-1,2-Dichloroethene	0.000936 U	0.00118 U		
cis-1,3-Dichloropropene	0.000134 U	0.000168 U		
Cyclohexane	--	--		
Dibromochloromethane	0.000134 U	0.000168 U		
Dibromomethane	--	--		
Dichlorodifluoromethane (Freon 12)	--	--		
Ethylbenzene	0.000401 U	0.000504 U		
Formaldehyde	--	--		
Hexane	--	--		
Isobutyl Alcohol	--	--		
Isophorone	--	--		
Isopropylbenzene	0.000268 U	0.000336 U		
m,p-Xylenes	0.000802 U	0.00101 U		
Methyl Acetate	--	--		
Methyl tert-Butyl Ether	0.000669 U	0.000839 U		
Methylcyclohexane	--	--		
Methylene Chloride	0.00134 U	0.00168 U		

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil - mg/kg			
	Sample Results for: AR05SS0010006	Sample Results for: AR05SS0010006-D		
n-Butylbenzene	0.000268 U	0.000336 U		
n-Propylbenzene	0.000401 U	0.000504 U		
o-Xylene	0.000268 U	0.000336 U		
Pentachloroethane	--	--		
sec-Butylbenzene	0.000268 U	0.000336 U		
Styrene	0.000268 U	0.000336 U		
tert-Butylbenzene	0.000535 U	0.000672 U		
Tetrachloroethene	0.000802 U	0.00101 U		
Toluene	0.000669 U	0.000839 J		
trans-1,2-Dichloroethene	0.000802 U	0.00101 U		
trans-1,3-Dichloropropene	0.000401 U	0.000504 U		
Trans-1,4-Dichloro-2-Butene	--	--		
Trichloroethene	0.000669 U	0.000839 U		
Trichlorofluoromethane	0.00107 UJ	0.00134 UJ		
Vinyl Acetate	--	--		
Vinyl Chloride	0.000535 U	0.000672 U		
Xylenes, Total	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR05SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR05SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR05SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR05SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR05SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.002215574 U			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR05SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR05SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Tap Water - mg/L			
	Sample Results for: AR05TW001	Sample Results for: AR05TW001-D	Sample Results for: AR05TW002	
Alkane Hydrocarbon				
Octane	--	--	--	
Pentadecane	--	--	--	
Tridecane	--	--	--	
Undecane	--	--	--	
Anion				
Chloride	10.4	10.3	--	
Cyanide	0.004 U	0.004 U	--	
Fluoride	0.2 U	0.2 U	--	
Nitrate (measured as NO3-)	3.03	3.04	--	
Nitrite (measured as NO2-)	0.2 U	0.2 U	--	
Phosphate	0.4 U	0.4 U	--	
Sulfate	9.789999999999999	10.1	--	
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000000745	0.00000000007154	--	
Disinfectants				
Chlorine (as Cl2)	0.02	--	--	
Disinfection Byproducts				
Total Trihalomethanes	0.003977	0.001163	--	
Field Parameters				
Dissolved Oxygen	7.25	--	2.57	
Oxidation Reduction Potential	224	--	140	
pH	7.68	--	7.56	
Salinity	--	--	--	
Specific Conductance	0.79	--	0.79	
Temperature	25	--	26.12	
Total Dissolved Solids	--	--	--	
Total Solids	--	--	--	
Turbidity	--	--	25	
Inorganics				
Aluminum	0.00272	0.0022 U	--	
Antimony	0.000464 J	0.00265 J	--	
Arsenic	0.00368	0.00244	--	
Barium	0.0165	0.0156	--	
Beryllium	0.000037 U	0.00003 U	--	
Cadmium (Diet)	--	--	--	
Cadmium (Water)	0.000045	0.000139	--	

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Tap Water - mg/L			
	Sample Results for: AR05TW001	Sample Results for: AR05TW001-D	Sample Results for: AR05TW002	
Chromium	0.000235	0.000167	--	
Cobalt	0.000132	0.000236	--	
Copper	0.264	0.227	--	
Iron	0.799 J	0.0117 J	--	
Lead	0.0116 J	0.00604 J	--	
Manganese (Diet)	--	--	--	
Manganese (Water)	0.0179	0.0139	--	
Mercury	0.000043	0.000043	--	
Nickel	0.049 J	0.13 J	--	
Selenium	0.0002 U	0.0002 U	--	
Silver	0.00012 U	0.00012 U	--	
Thallium	0.000305 U	0.00043 U	--	
Tin	0.000192	0.0001 U	--	
Vanadium	0.001 U	0.001 U	--	
Zinc	0.783	0.975	--	
Microorganisms				
Fecal Coliform	1 <	1 <	1 <	
Fecal Streptococcus	0	0	0	
Heterotrophic Plate Count	1330	1450	1660	
Total Coliforms (including Fecal Coliform and E. Coli)	1 <	1 <	1 <	
Pesticides				
4,4-DDD	0.000003 U	0.000003 U	--	
4,4-DDE	0.000002 U	0.000002 U	--	
4,4-DDT	0.000006 U	0.000006 U	--	
Aldrin	0.000002 U	0.000002 U	--	
alpha-BHC	0.000003 U	0.000003 U	--	
alpha-Chlordane	0.000003 U	0.000003 U	--	
beta-BHC	0.000002 U	0.000002 U	--	
Chlordane	--	--	--	
delta-BHC	0.000001 U	0.000001 U	--	
Dieldrin	0.000003 U	0.000003 U	--	
Endosulfan I	0.000003 U	0.000003 U	--	
Endosulfan II	0.000002 U	0.000002 U	--	
Endosulfan Sulfate	0.000007 U	0.000007 U	--	
Endrin	0.000002 U	0.000002 U	--	
Endrin Aldehyde	0.000002 U	0.000002 U	--	

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Tap Water - mg/L				
	Sample Results for: AR05TW001	Sample Results for: AR05TW001-D	Sample Results for: AR05TW002		
gamma-BHC (Lindane)	0.000001 U	0.000001 U	--		
gamma-Chlordane	0.000002 U	0.000002 U	--		
Heptachlor	0.000004 U	0.000004 U	--		
Heptachlor Epoxide	0.000004 U	0.000004 U	--		
Methoxychlor	0.000003 U	0.000003 U	--		
Toxaphene	0.00001 U	0.00001 U	--		
Polychlorinated bi-phenyls					
Aroclor 1016	0.00002 U	0.00002 U	--		
Aroclor 1016/1260	0.00002 U	0.00002 U	--		
Aroclor 1221	0.00002 U	0.00002 U	--		
Aroclor 1232	0.00002 U	0.00002 U	--		
Aroclor 1242	0.00002 U	0.00002 U	--		
Aroclor 1248	0.00002 U	0.00002 U	--		
Aroclor 1254	0.00002 U	0.00002 U	--		
Aroclor 1260	0.00002 U	0.00002 U	--		
Radionuclides					
Uranium	0.000813	0.000805	--		
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0.0002 U	0.0002 U	--		
1,2,4,5-Tetrachlorobenzene	0.0002 U	0.0002 U	--		
2,3,4,6-Tetrachlorophenol	0.0003 U	0.0003 U	--		
2,4,5-Trichlorophenol	0.0005 U	0.0005 U	--		
2,4,6-Trichlorophenol	0.0005 U	0.0005 U	--		
2,4-Dichlorophenol	0.0007 U	0.0007 U	--		
2,4-Dimethylphenol	0.001 U	0.001 U	--		
2,4-Dinitrophenol	0.0003 U	0.0003 U	--		
2,4-Dinitrotoluene	0.001 U	0.001 U	--		
2,6-Dichlorophenol	0.0008 U	0.0008 U	--		
2,6-Dinitrotoluene	0.0001 U	0.0001 U	--		
2-Chloronaphthalene	0.0002 U	0.0002 U	--		
2-Chlorophenol	0.0009 U	0.0009 U	--		
2-Methylnaphthalene	0.0002 U	0.0002 U	--		
2-Methylphenol (o-Cresol)	0.0007 U	0.0007 U	--		
2-Nitrophenol	0.0009 U	0.0009 U	--		
3&4-Methylphenol	0.0012 U	0.0012 U	--		
3-Methylphenol	--	--	--		
3-Nitroaniline	0.001 U	0.001 U	--		

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Tap Water - mg/L			
	Sample Results for: AR05TW001	Sample Results for: AR05TW001-D	Sample Results for: AR05TW002	
4,6-Dinitro-2-Methylphenol	0.0002 U	0.0002 U	--	
4-Bromophenylphenylether	0.0001 U	0.0001 U	--	
4-Chloro-3-Methylphenol	0.0006 U	0.0006 U	--	
4-Chloroaniline	0.001 U	0.001 U	--	
4-Methylphenol (p-Cresol)	--	--	--	
4-Nitroaniline	0.001 U	0.001 U	--	
4-Nitrophenol	0.0003 U	0.0003 U	--	
Acenaphthene	0.0001 U	0.0001 U	--	
Acenaphthylene	0.0001 U	0.0001 U	--	
Aniline	0.00305 J	0.00191 J	--	
Anthracene	0.0001 U	0.0001 U	--	
Atrazine	0.0001 U	0.0001 U	--	
Benzo(g,h,i)perylene	0.0001 U	0.0001 U	--	
Bis(2-ethylhexyl)phthalate	0.0014 U	0.0014 U	--	
Butylbenzylphthalate	0.000106 J	0.0001 U	--	
Carbazole	0.0001 U	0.0001 U	--	
Di-n-butylphthalate	0.0013 U	0.0013 U	--	
Di-n-octylphthalate	0.0002 U	0.0002 U	--	
Dibenzofuran	0.0001 U	0.0001 U	--	
Diethylphthalate	0.0002 U	0.0002 U	--	
Dimethylphthalate	0.0001 U	0.0001 U	--	
Diphenylamine	0.0001 U	0.0001 U	--	
Fluoranthene	0.0001 U	0.0001 U	--	
Fluorene	0.0001 U	0.0001 U	--	
Hexachlorobenzene	0.0001 U	0.0001 U	--	
Hexachlorobutadiene	0.0002 U	0.0002 U	--	
Hexachlorocyclopentadiene	0.001 U	0.001 U	--	
Hexachloroethane	0.0001 U	0.0001 U	--	
Naphthalene	0.0002 U	0.0002 U	--	
Nitrobenzene	0.0002 U	0.0002 U	--	
o-Toluidine	0.0007 U	0.0007 U	--	
Pentachlorobenzene	0.0002 U	0.0002 U	--	
Pentachloronitrobenzene	0.000003 U	0.000003 U	--	
Pentachlorophenol	0.0003 U	0.0003 U	--	
Phenanthrene	0.0001 U	0.0001 U	--	
Phenol	0.001 U	0.001 U	--	

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Tap Water - mg/L				
	Sample Results for: AR05TW001	Sample Results for: AR05TW001-D	Sample Results for: AR05TW002		
Pyrene	0.0001 U	0.0001 U	--		
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U	0.00012 U	--		
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--	--	--		
Tph (c08-c40)	--	--	--		
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0.00011 U	0.00011 U	--		
1,1,1-Trichloroethane	0.00017 U	0.00017 U	--		
1,1,2,2-Tetrachloroethane	0.00005 U	0.00005 U	--		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U	0.0002 U	--		
1,1,2-Trichloroethane	0.00011 U	0.00011 U	--		
1,1-Dichloroethane	0.0001 U	0.0001 U	--		
1,1-Dichloroethene	0.00013 U	0.00013 U	--		
1,2,3-Trichlorobenzene	0.00012 U	0.00012 U	--		
1,2,3-Trichloropropane	0.00013 U	0.00013 U	--		
1,2,4-Trichlorobenzene	0.00013 U	0.00013 U	--		
1,2,4-Trimethylbenzene	0.00006 U	0.00006 U	--		
1,2-Dibromo-3-Chloropropane	0.00025 U	0.00025 U	--		
1,2-Dibromoethane	0.00009 U	0.00009 U	--		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U	0.0004 U	--		
1,2-Dichlorobenzene	0.00007 U	0.00007 U	--		
1,2-Dichloroethane	0.00008 U	0.00008 U	--		
1,2-Dichloropropane	0.00015 U	0.00015 U	--		
1,3,5-Trimethylbenzene	0.00008 U	0.00008 U	--		
1,3-Butadiene	--	--	--		
1,3-Dichlorobenzene	0.00013 U	0.00013 U	--		
1,3-Dichloropropane	0.00011 U	0.00011 U	--		
1,4-Dichlorobenzene	0.00007 U	0.00007 U	--		
2,2-Dichloropropane	0.0001 U	0.0001 U	--		
2-Butanone (methyl ethyl ketone)	0.0016 U	0.0016 U	--		
2-Chlorotoluene	0.00012 U	0.00012 U	--		
2-Hexanone	0.0002 U	0.0002 U	--		
4-Chlorotoluene	0.00013 U	0.00013 U	--		
4-Isopropyltoluene	0.0001 U	0.0001 U	--		
4-Methyl-2-Pentanone	0.0001 U	0.0001 U	--		

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Tap Water - mg/L			
	Sample Results for: AR05TW001	Sample Results for: AR05TW001-D	Sample Results for: AR05TW002	
Acetaldehyde	--	--	--	
Acetone	0.00199 U	0.00352 U	--	
Acetonitrile	--	--	--	
Acetophenone	--	--	--	
Acrolein	0.0004 U	0.0004 U	--	
Acrylonitrile	--	--	--	
Benzene	0.00005 U	0.00005 U	--	
Bis(2-Chloroethyl)ether	--	--	--	
Bis(chloromethyl)ether	--	--	--	
Bromochloromethane	0.0001 U	0.0001 U	--	
Bromodichloromethane	0.000222 J	0.00012 U	--	
Bromoform	0.00296 J	0.000888 J	--	
Bromomethane	0.00037 U	0.00037 U	--	
Carbon Disulfide	--	--	--	
Carbon Tetrachloride	0.00008 U	0.00008 U	--	
Chlorobenzene	0.00012 U	0.00012 U	--	
Chloroethane	0.00018 U	0.00018 U	--	
Chloroform	0.000151 J	0.00009 U	--	
Chloromethane	0.00021 U	0.00021 U	--	
Chloroprene	--	--	--	
cis-1,2-Dichloroethene	0.00013 U	0.00013 U	--	
cis-1,3-Dichloropropene	0.00015 U	0.00015 U	--	
Cyclohexane	--	--	--	
Dibromochloromethane	0.000644	0.000275 J	--	
Dibromomethane	--	--	--	
Dichlorodifluoromethane (Freon 12)	0.00012 U	0.00012 U	--	
Ethylbenzene	0.00005 U	0.00005 U	--	
Formaldehyde	--	--	--	
Hexane	--	--	--	
Isobutyl Alcohol	--	--	--	
Isophorone	--	--	--	
Isopropylbenzene	0.00006 U	0.00006 U	--	
m,p-Xylenes	0.00009 U	0.00009 U	--	
Methyl Acetate	--	--	--	
Methyl tert-Butyl Ether	0.00011 U	0.00011 U	--	
Methylcyclohexane	--	--	--	

Attachment C - Environmental Sampling Results For Location AR05

Chemical	Tap Water - mg/L				
	Sample Results for: AR05TW001	Sample Results for: AR05TW001-D	Sample Results for: AR05TW002		
Methylene Chloride	0.00069 U	0.00069 U	--		
n-Butylbenzene	0.00005 U	0.00005 U	--		
n-Propylbenzene	0.00007 U	0.00007 U	--		
o-Xylene	0.00007 U	0.00007 U	--		
Pentachloroethane	--	--	--		
sec-Butylbenzene	0.00004 U	0.00004 U	--		
Styrene	0.00008 U	0.00008 U	--		
tert-Butylbenzene	0.00019 U	0.00019 U	--		
Tetrachloroethene	0.00007 U	0.00007 U	--		
Toluene	0.00017 U	0.00017 U	--		
trans-1,2-Dichloroethene	0.00015 U	0.00015 U	--		
trans-1,3-Dichloropropene	0.00007 U	0.00007 U	--		
Trans-1,4-Dichloro-2-Butene	--	--	--		
Trichloroethene	0.00013 U	0.00013 U	--		
Trichlorofluoromethane	0.00019 U	0.00019 U	--		
Vinyl Acetate	--	--	--		
Vinyl Chloride	0.00015 U	0.00015 U	--		
Xylenes, Total	--	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil - mg/kg				
	Sample Results for: AR08SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.0602 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000339				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	80.8				
Turbidity	--				
Inorganics					
Aluminum	36600				
Antimony	0.524				
Arsenic	12.4				
Barium	251				
Beryllium	4.63				
Cadmium (Diet)	0.226				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil - mg/kg				
	Sample Results for: AR08SS0010006				
Chromium	4.39				
Cobalt	4.73				
Copper	32.2				
Iron	19200				
Lead	37.1				
Manganese (Diet)	592				
Manganese (Water)	--				
Mercury	0.199 U				
Nickel	4.79				
Selenium	0.131 U				
Silver	0.12				
Thallium	1.51				
Tin	2.52				
Vanadium	39.6				
Zinc	65.5				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000462 UJ				
4,4-DDE	0.000454 UJ				
4,4-DDT	0.000608 UJ				
Aldrin	0.000368 UJ				
alpha-BHC	0.000454 UJ				
alpha-Chlordane	0.000368 UJ				
beta-BHC	0.000557 UJ				
Chlordane	--				
delta-BHC	0.000505 UJ				
Dieldrin	0.000514 UJ				
Endosulfan I	0.000462 UJ				
Endosulfan II	0.000368 UJ				
Endosulfan Sulfate	0.000522 UJ				
Endrin	0.000591 UJ				
Endrin Aldehyde	0.000531 UJ				

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil - mg/kg			
	Sample Results for: AR08SS0010006			
gamma-BHC (Lindane)	0.000437 UJ			
gamma-Chlordane	0.000402 UJ			
Heptachlor	0.000522 UJ			
Heptachlor Epoxide	0.000402 UJ			
Methoxychlor	0.000651 UJ			
Toxaphene	0.00514 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00599 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00599 UJ			
Aroclor 1232	0.00599 UJ			
Aroclor 1242	0.00599 UJ			
Aroclor 1248	0.00599 UJ			
Aroclor 1254	0.00599 UJ			
Aroclor 1260	0.00599 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0179 U			
1,2,4,5-Tetrachlorobenzene	0.0143 U			
2,3,4,6-Tetrachlorophenol	0.0848 U			
2,4,5-Trichlorophenol	0.147 U			
2,4,6-Trichlorophenol	0.0788 U			
2,4-Dichlorophenol	0.0919 U			
2,4-Dimethylphenol	0.177 U			
2,4-Dinitrophenol	0.0657 U			
2,4-Dinitrotoluene	0.0215 U			
2,6-Dichlorophenol	0.0561 U			
2,6-Dinitrotoluene	0.0179 U			
2-Chloronaphthalene	0.00955 U			
2-Chlorophenol	0.0597 U			
2-Methylnaphthalene	0.0203 U			
2-Methylphenol (o-Cresol)	0.119 U			
2-Nitrophenol	0.0752 U			
3&4-Methylphenol	0.137 U			
3-Methylphenol	--			
3-Nitroaniline	0.0215 U			

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil - mg/kg			
	Sample Results for: AR08SS0010006			
4,6-Dinitro-2-Methylphenol	0.08 U			
4-Bromophenylphenylether	0.0143 U			
4-Chloro-3-Methylphenol	0.105 U			
4-Chloroaniline	0.0275 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0525 U			
4-Nitrophenol	0.141 U			
Acenaphthene	0.0119 U			
Acenaphthylene	0.0107 U			
Aniline	0.0239 U			
Anthracene	0.0143 U			
Atrazine	0.031 U			
Benzo(g,h,i)perylene	0.0334 U			
Bis(2-ethylhexyl)phthalate	0.125 U			
Butylbenzylphthalate	0.0358 U			
Carbazole	0.0215 U			
Di-n-butylphthalate	0.0513 U			
Di-n-octylphthalate	0.0239 U			
Dibenzofuran	0.0119 U			
Diethylphthalate	0.0203 U			
Dimethylphthalate	0.0155 U			
Diphenylamine	0.0621 U			
Fluoranthene	0.0227 U			
Fluorene	0.0143 U			
Hexachlorobenzene	0.0131 U			
Hexachlorobutadiene	0.0119 U			
Hexachlorocyclopentadiene	0.0167 U			
Hexachloroethane	0.0131 U			
Naphthalene	0.00716 U			
Nitrobenzene	0.0179 U			
o-Toluidine	0.0215 U			
Pentachlorobenzene	0.0334 U			
Pentachloronitrobenzene	0.000428 UJ			
Pentachlorophenol	0.184 U			
Phenanthrene	0.0358 U			
Phenol	0.0406 U			

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil - mg/kg			
	Sample Results for: AR08SS0010006			
Pyrene	0.0215 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0515805 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000362 U			
1,1,1-Trichloroethane	0.000483 U			
1,1,2,2-Tetrachloroethane	0.000242 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000846 U			
1,1,2-Trichloroethane	0.000362 U			
1,1-Dichloroethane	0.000846 U			
1,1-Dichloroethene	0.000604 U			
1,2,3-Trichlorobenzene	0.000604 U			
1,2,3-Trichloropropane	0.000362 U			
1,2,4-Trichlorobenzene	0.000362 U			
1,2,4-Trimethylbenzene	0.000483 U			
1,2-Dibromo-3-Chloropropane	0.000483 U			
1,2-Dibromoethane	0.000121 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000725 U			
1,2-Dichlorobenzene	0.000121 U			
1,2-Dichloroethane	0.000242 U			
1,2-Dichloropropane	0.000362 U			
1,3,5-Trimethylbenzene	0.000242 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000242 U			
1,3-Dichloropropane	0.000242 U			
1,4-Dichlorobenzene	0.000121 U			
2,2-Dichloropropane	0.000604 U			
2-Butanone (methyl ethyl ketone)	0.00217 U			
2-Chlorotoluene	0.000362 U			
2-Hexanone	0.00121 UJ			
4-Chlorotoluene	0.000242 U			
4-Isopropyltoluene	0.000242 U			
4-Methyl-2-Pentanone	0.000362 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil - mg/kg			
	Sample Results for: AR08SS0010006			
Acetone	0.00701 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000362 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000483 U			
Bromodichloromethane	0.000483 U			
Bromoform	0.000242 U			
Bromomethane	0.00362 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000483 U			
Chlorobenzene	0.000242 U			
Chloroethane	0.000483 U			
Chloroform	0.000846 U			
Chloromethane	0.00109 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000846 U			
cis-1,3-Dichloropropene	0.000121 U			
Cyclohexane	--			
Dibromochloromethane	0.000121 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000362 U			
Ethylbenzene	0.000362 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000242 U			
m,p-Xylenes	0.000725 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000604 U			
Methylcyclohexane	--			
Methylene Chloride	0.00121 U			

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil - mg/kg			
	Sample Results for: AR08SS0010006			
n-Butylbenzene	0.000242 U			
n-Propylbenzene	0.000362 U			
o-Xylene	0.000242 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000242 U			
Styrene	0.000242 U			
tert-Butylbenzene	0.000483 U			
Tetrachloroethene	0.000725 U			
Toluene	0.00173 J			
trans-1,2-Dichloroethene	0.000725 U			
trans-1,3-Dichloropropene	0.000362 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000604 U			
Trichlorofluoromethane	0.000967 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000483 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR08SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR08SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR08SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR08SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR08SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.01797166			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR08SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR08SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Tap Water - mg/L			
	Sample Results for: AR08TW001	Sample Results for: AR08TW002		
Alkane Hydrocarbon				
Octane	--	--		
Pentadecane	--	--		
Tridecane	--	--		
Undecane	--	--		
Anion				
Chloride	43.7	--		
Cyanide	0.004 U	--		
Fluoride	0.591	--		
Nitrate (measured as NO3-)	10.5	--		
Nitrite (measured as NO2-)	0.2 U	--		
Phosphate	0.4 U	--		
Sulfate	15.7	--		
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000282	--		
Disinfectants				
Chlorine (as Cl2)	0.01	--		
Disinfection Byproducts				
Total Trihalomethanes	0.00302	--		
Field Parameters				
Dissolved Oxygen	9.51	--		
Oxidation Reduction Potential	368	234		
pH	7.27	7.46		
Salinity	--	--		
Specific Conductance	0.75	0.88		
Temperature	24.4	27.33		
Total Dissolved Solids	--	--		
Total Solids	--	--		
Turbidity	3	30		
Inorganics				
Aluminum	0.00295	--		
Antimony	0.000202	--		
Arsenic	0.00672	--		
Barium	0.017	--		
Beryllium	0.00003 U	--		
Cadmium (Diet)	--	--		
Cadmium (Water)	0.000126	--		

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Tap Water - mg/L			
	Sample Results for: AR08TW001	Sample Results for: AR08TW002		
Chromium	0.000587	--		
Cobalt	0.000244	--		
Copper	0.184	--		
Iron	0.377	--		
Lead	0.011	--		
Manganese (Diet)	--	--		
Manganese (Water)	0.0138	--		
Mercury	0.000015 U	--		
Nickel	0.0825	--		
Selenium	0.0002 U	--		
Silver	0.00012 U	--		
Thallium	0.00004 U	--		
Tin	0.000381	--		
Vanadium	0.00147 U	--		
Zinc	4.87	--		
Microorganisms				
Fecal Coliform	1 <	1 <		
Fecal Streptococcus	0	0		
Heterotrophic Plate Count	970	400		
Total Coliforms (including Fecal Coliform and E. Coli)	1 <	1 <		
Pesticides				
4,4-DDD	0.000003 U	--		
4,4-DDE	0.000002 U	--		
4,4-DDT	0.000006 U	--		
Aldrin	0.000002 U	--		
alpha-BHC	0.000003 U	--		
alpha-Chlordane	0.000003 U	--		
beta-BHC	0.000002 U	--		
Chlordane	--	--		
delta-BHC	0.000001 U	--		
Dieldrin	0.000003 U	--		
Endosulfan I	0.000003 U	--		
Endosulfan II	0.000002 U	--		
Endosulfan Sulfate	0.000007 U	--		
Endrin	0.000002 U	--		
Endrin Aldehyde	0.000002 U	--		

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Tap Water - mg/L			
	Sample Results for: AR08TW001	Sample Results for: AR08TW002		
gamma-BHC (Lindane)	0.000001 U	--		
gamma-Chlordane	0.000002 U	--		
Heptachlor	0.000004 U	--		
Heptachlor Epoxide	0.000004 U	--		
Methoxychlor	0.000003 U	--		
Toxaphene	0.00001 U	--		
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U	--		
Aroclor 1016/1260	--	--		
Aroclor 1221	0.00002 U	--		
Aroclor 1232	0.00002 U	--		
Aroclor 1242	0.00002 U	--		
Aroclor 1248	0.00002 U	--		
Aroclor 1254	0.00002 U	--		
Aroclor 1260	0.00002 U	--		
Radionuclides				
Uranium	0.000505	--		
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0002 U	--		
1,2,4,5-Tetrachlorobenzene	0.0002 U	--		
2,3,4,6-Tetrachlorophenol	0.0003 U	--		
2,4,5-Trichlorophenol	0.0005 U	--		
2,4,6-Trichlorophenol	0.0005 U	--		
2,4-Dichlorophenol	0.0007 U	--		
2,4-Dimethylphenol	0.001 U	--		
2,4-Dinitrophenol	0.0003 U	--		
2,4-Dinitrotoluene	0.001 U	--		
2,6-Dichlorophenol	0.0008 U	--		
2,6-Dinitrotoluene	0.0001 U	--		
2-Chloronaphthalene	0.0002 U	--		
2-Chlorophenol	0.0009 U	--		
2-Methylnaphthalene	0.0002 U	--		
2-Methylphenol (o-Cresol)	0.0007 U	--		
2-Nitrophenol	0.0009 U	--		
3&4-Methylphenol	0.0012 U	--		
3-Methylphenol	--	--		
3-Nitroaniline	0.001 U	--		

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Tap Water - mg/L			
	Sample Results for: AR08TW001	Sample Results for: AR08TW002		
4,6-Dinitro-2-Methylphenol	0.0002 U	--		
4-Bromophenylphenylether	0.0001 U	--		
4-Chloro-3-Methylphenol	0.0006 U	--		
4-Chloroaniline	0.001 U	--		
4-Methylphenol (p-Cresol)	--	--		
4-Nitroaniline	0.001 U	--		
4-Nitrophenol	0.0003 U	--		
Acenaphthene	0.0001 U	--		
Acenaphthylene	0.0001 U	--		
Aniline	0.001 U	--		
Anthracene	0.0001 U	--		
Atrazine	0.0001 U	--		
Benzo(g,h,i)perylene	0.0001 U	--		
Bis(2-ethylhexyl)phthalate	0.0014 U	--		
Butylbenzylphthalate	0.0001 U	--		
Carbazole	0.0001 U	--		
Di-n-butylphthalate	0.0013 U	--		
Di-n-octylphthalate	0.0002 U	--		
Dibenzofuran	0.0001 U	--		
Diethylphthalate	0.0002 U	--		
Dimethylphthalate	0.0001 U	--		
Diphenylamine	0.0001 U	--		
Fluoranthene	0.0001 U	--		
Fluorene	0.0001 U	--		
Hexachlorobenzene	0.0001 U	--		
Hexachlorobutadiene	0.0002 U	--		
Hexachlorocyclopentadiene	0.001 U	--		
Hexachloroethane	0.0001 U	--		
Naphthalene	0.0002 U	--		
Nitrobenzene	0.0002 U	--		
o-Toluidine	0.0007 U	--		
Pentachlorobenzene	0.0002 U	--		
Pentachloronitrobenzene	0.000003 U	--		
Pentachlorophenol	0.0003 U	--		
Phenanthrene	0.0001 U	--		
Phenol	0.001 U	--		

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Tap Water - mg/L			
	Sample Results for: AR08TW001	Sample Results for: AR08TW002		
Pyrene	0.0001 U	--		
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U	--		
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--	--		
Tph (c08-c40)	--	--		
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U	--		
1,1,1-Trichloroethane	0.00017 U	--		
1,1,2,2-Tetrachloroethane	0.00005 U	--		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U	--		
1,1,2-Trichloroethane	0.00011 U	--		
1,1-Dichloroethane	0.0001 U	--		
1,1-Dichloroethene	0.00013 U	--		
1,2,3-Trichlorobenzene	0.00012 U	--		
1,2,3-Trichloropropane	0.00013 U	--		
1,2,4-Trichlorobenzene	0.00013 U	--		
1,2,4-Trimethylbenzene	0.00006 U	--		
1,2-Dibromo-3-Chloropropane	0.00025 U	--		
1,2-Dibromoethane	0.00009 U	--		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U	--		
1,2-Dichlorobenzene	0.00007 U	--		
1,2-Dichloroethane	0.00008 U	--		
1,2-Dichloropropane	0.00015 U	--		
1,3,5-Trimethylbenzene	0.00008 U	--		
1,3-Butadiene	--	--		
1,3-Dichlorobenzene	0.00013 U	--		
1,3-Dichloropropane	0.00011 U	--		
1,4-Dichlorobenzene	0.00007 U	--		
2,2-Dichloropropane	0.0001 U	--		
2-Butanone (methyl ethyl ketone)	0.0016 U	--		
2-Chlorotoluene	0.00012 U	--		
2-Hexanone	0.0002 U	--		
4-Chlorotoluene	0.00013 U	--		
4-Isopropyltoluene	0.0001 U	--		
4-Methyl-2-Pentanone	0.0001 U	--		

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Tap Water - mg/L			
	Sample Results for: AR08TW001	Sample Results for: AR08TW002		
Acetaldehyde	--	--		
Acetone	0.001 U	--		
Acetonitrile	--	--		
Acetophenone	--	--		
Acrolein	0.0004 U	--		
Acrylonitrile	--	--		
Benzene	0.00005 U	--		
Bis(2-Chloroethyl)ether	--	--		
Bis(chloromethyl)ether	--	--		
Bromochloromethane	0.0001 U	--		
Bromodichloromethane	0.000172 J	--		
Bromoform	0.00221	--		
Bromomethane	0.00037 U	--		
Carbon Disulfide	--	--		
Carbon Tetrachloride	0.00008 U	--		
Chlorobenzene	0.00012 U	--		
Chloroethane	0.00018 U	--		
Chloroform	0.000112 J	--		
Chloromethane	0.000264 J	--		
Chloroprene	--	--		
cis-1,2-Dichloroethene	0.00013 U	--		
cis-1,3-Dichloropropene	0.00015 U	--		
Cyclohexane	--	--		
Dibromochloromethane	0.000526	--		
Dibromomethane	--	--		
Dichlorodifluoromethane (Freon 12)	0.00012 U	--		
Ethylbenzene	0.00005 U	--		
Formaldehyde	--	--		
Hexane	--	--		
Isobutyl Alcohol	--	--		
Isophorone	--	--		
Isopropylbenzene	0.00006 U	--		
m,p-Xylenes	0.00009 U	--		
Methyl Acetate	--	--		
Methyl tert-Butyl Ether	0.00011 U	--		
Methylcyclohexane	--	--		

Attachment C - Environmental Sampling Results For Location AR08

Chemical	Tap Water - mg/L			
	Sample Results for: AR08TW001	Sample Results for: AR08TW002		
Methylene Chloride	0.00069 U	--		
n-Butylbenzene	0.00005 U	--		
n-Propylbenzene	0.00007 U	--		
o-Xylene	0.00007 U	--		
Pentachloroethane	--	--		
sec-Butylbenzene	0.00004 U	--		
Styrene	0.00008 U	--		
tert-Butylbenzene	0.00019 U	--		
Tetrachloroethene	0.00007 U	--		
Toluene	0.00017 U	--		
trans-1,2-Dichloroethene	0.00015 U	--		
trans-1,3-Dichloropropene	0.00007 U	--		
Trans-1,4-Dichloro-2-Butene	--	--		
Trichloroethene	0.00013 U	--		
Trichlorofluoromethane	0.00019 U	--		
Vinyl Acetate	--	--		
Vinyl Chloride	0.00015 U	--		
Xylenes, Total	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil - mg/kg				
	Sample Results for: AR09SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.00302 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000050716				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	80.40000000000001				
Turbidity	--				
Inorganics					
Aluminum	36100				
Antimony	0.499				
Arsenic	11.9				
Barium	257				
Beryllium	4.79				
Cadmium (Diet)	0.205				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil - mg/kg				
	Sample Results for: AR09SS0010006				
Chromium	5.5				
Cobalt	4.75				
Copper	43.5				
Iron	18600				
Lead	41.7				
Manganese (Diet)	590				
Manganese (Water)	--				
Mercury	0.212 U				
Nickel	5.84				
Selenium	0.129 U				
Silver	0.121 U				
Thallium	1.52 U				
Tin	2.62				
Vanadium	45				
Zinc	61				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000451 U				
4,4-DDE	0.000442 U				
4,4-DDT	0.000593 U				
Aldrin	0.000359 U				
alpha-BHC	0.000442 U				
alpha-Chlordane	0.000359 U				
beta-BHC	0.000543 U				
Chlordane	--				
delta-BHC	0.000492 U				
Dieldrin	0.000501 U				
Endosulfan I	0.000451 U				
Endosulfan II	0.000359 U				
Endosulfan Sulfate	0.000509 U				
Endrin	0.000576 U				
Endrin Aldehyde	0.000518 U				

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil - mg/kg			
	Sample Results for: AR09SS0010006			
gamma-BHC (Lindane)	0.000426 U			
gamma-Chlordane	0.000392 U			
Heptachlor	0.000509 U			
Heptachlor Epoxide	0.000392 U			
Methoxychlor	0.000634 U			
Toxaphene	0.00501 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00627 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00627 U			
Aroclor 1232	0.00627 U			
Aroclor 1242	0.00627 U			
Aroclor 1248	0.00627 U			
Aroclor 1254	0.00627 U			
Aroclor 1260	0.00627 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.018 U			
1,2,4,5-Tetrachlorobenzene	0.0144 U			
2,3,4,6-Tetrachlorophenol	0.0854 U			
2,4,5-Trichlorophenol	0.148 U			
2,4,6-Trichlorophenol	0.0794 U			
2,4-Dichlorophenol	0.0926 U			
2,4-Dimethylphenol	0.178 U			
2,4-Dinitrophenol	0.0662 U			
2,4-Dinitrotoluene	0.0217 U			
2,6-Dichlorophenol	0.0565 U			
2,6-Dinitrotoluene	0.018 U			
2-Chloronaphthalene	0.00962 U			
2-Chlorophenol	0.0602 U			
2-Methylnaphthalene	0.0205 U			
2-Methylphenol (o-Cresol)	0.12 U			
2-Nitrophenol	0.0758 U			
3&4-Methylphenol	0.138 U			
3-Methylphenol	--			
3-Nitroaniline	0.0217 U			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil - mg/kg			
	Sample Results for: AR09SS0010006			
4,6-Dinitro-2-Methylphenol	0.0806 U			
4-Bromophenylphenylether	0.0144 U			
4-Chloro-3-Methylphenol	0.106 U			
4-Chloroaniline	0.0277 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0529 U			
4-Nitrophenol	0.142 U			
Acenaphthene	0.012 U			
Acenaphthylene	0.0108 U			
Aniline	0.0241 U			
Anthracene	0.0144 U			
Atrazine	0.0313 U			
Benzo(g,h,i)perylene	0.0337 U			
Bis(2-ethylhexyl)phthalate	0.126 U			
Butylbenzylphthalate	0.0361 U			
Carbazole	0.0217 U			
Di-n-butylphthalate	0.0517 U			
Di-n-octylphthalate	0.0241 U			
Dibenzofuran	0.012 U			
Diethylphthalate	0.0205 U			
Dimethylphthalate	0.0156 U			
Diphenylamine	0.0626 U			
Fluoranthene	0.0229 U			
Fluorene	0.0144 U			
Hexachlorobenzene	0.0132 U			
Hexachlorobutadiene	0.012 U			
Hexachlorocyclopentadiene	0.0168 U			
Hexachloroethane	0.0132 U			
Naphthalene	0.00722 U			
Nitrobenzene	0.018 U			
o-Toluidine	0.0217 U			
Pentachlorobenzene	0.0337 U			
Pentachloronitrobenzene	0.000417 U			
Pentachlorophenol	0.185 U			
Phenanthrene	0.0361 U			
Phenol	0.0409 U			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil - mg/kg				
	Sample Results for: AR09SS0010006				
Pyrene	0.0217 U				
Total Carcinogenic PAHS (BaP TEQs)	0.0520526 U				
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--				
Tph (c08-c40)	--				
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0.00044 U				
1,1,1-Trichloroethane	0.000587 U				
1,1,2,2-Tetrachloroethane	0.000293 U				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00103 U				
1,1,2-Trichloroethane	0.00044 U				
1,1-Dichloroethane	0.00103 U				
1,1-Dichloroethene	0.000733 U				
1,2,3-Trichlorobenzene	0.000733 U				
1,2,3-Trichloropropane	0.00044 U				
1,2,4-Trichlorobenzene	0.00044 U				
1,2,4-Trimethylbenzene	0.000587 U				
1,2-Dibromo-3-Chloropropane	0.000587 U				
1,2-Dibromoethane	0.000147 U				
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--				
1,2-Dichlorobenzene	0.000147 U				
1,2-Dichloroethane	0.000293 U				
1,2-Dichloropropane	0.00044 U				
1,3,5-Trimethylbenzene	0.000293 U				
1,3-Butadiene	--				
1,3-Dichlorobenzene	0.000293 U				
1,3-Dichloropropane	0.000293 U				
1,4-Dichlorobenzene	0.000147 U				
2,2-Dichloropropane	0.000733 U				
2-Butanone (methyl ethyl ketone)	0.00264 U				
2-Chlorotoluene	0.00044 U				
2-Hexanone	0.00147 U				
4-Chlorotoluene	0.000293 U				
4-Isopropyltoluene	0.000293 U				
4-Methyl-2-Pentanone	0.00044 U				
Acetaldehyde	--				

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil - mg/kg			
	Sample Results for: AR09SS0010006			
Acetone	0.00851 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.00044 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000587 U			
Bromodichloromethane	0.000587 U			
Bromoform	0.000293 U			
Bromomethane	0.0044 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000587 U			
Chlorobenzene	0.000293 U			
Chloroethane	0.000587 U			
Chloroform	0.00103 U			
Chloromethane	0.00132 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00103 U			
cis-1,3-Dichloropropene	0.000147 U			
Cyclohexane	--			
Dibromochloromethane	0.000147 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.00044 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000293 U			
m,p-Xylenes	0.00088 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000733 U			
Methylcyclohexane	--			
Methylene Chloride	0.00147 U			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil - mg/kg			
	Sample Results for: AR09SS0010006			
n-Butylbenzene	0.000293 U			
n-Propylbenzene	0.00044 U			
o-Xylene	0.000293 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000293 U			
Styrene	0.000293 U			
tert-Butylbenzene	0.000587 U			
Tetrachloroethene	0.00088 U			
Toluene	0.000733 U			
trans-1,2-Dichloroethene	0.00088 U			
trans-1,3-Dichloropropene	0.00044 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000733 U			
Trichlorofluoromethane	0.00117 UJ			
Vinyl Acetate	--			
Vinyl Chloride	0.000587 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR09SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR09SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR09SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR09SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR09SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.002215574 U			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR09SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR09SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.003261127			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000783907			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Tap Water - mg/L				
	Sample Results for: AR09TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	10.3				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	2.69				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	9.26				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000732				
Disinfectants					
Chlorine (as Cl2)	0.02				
Disinfection Byproducts					
Total Trihalomethanes	0.00375				
Field Parameters					
Dissolved Oxygen	6.6				
Oxidation Reduction Potential	288				
pH	7.72				
Salinity	--				
Specific Conductance	0.77				
Temperature	24.7				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	22				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00142 J				
Arsenic	0.00505				
Barium	0.021				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.000215				

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Tap Water - mg/L				
	Sample Results for: AR09TW001				
Chromium	0.00015 U				
Cobalt	0.00262				
Copper	0.0783				
Iron	3.93 J				
Lead	0.0107 J				
Manganese (Diet)	--				
Manganese (Water)	0.0534				
Mercury	0.000053				
Nickel	6.32 J				
Selenium	0.0002 U				
Silver	0.00012 U				
Thallium	0.000266 U				
Tin	0.0001 U				
Vanadium	0.001 U				
Zinc	2.34				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	2630				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Tap Water - mg/L			
	Sample Results for: AR09TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	0.00002 U			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.000971			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0002 U			
1,2,4,5-Tetrachlorobenzene	0.0002 U			
2,3,4,6-Tetrachlorophenol	0.0003 U			
2,4,5-Trichlorophenol	0.0005 U			
2,4,6-Trichlorophenol	0.0005 U			
2,4-Dichlorophenol	0.0007 U			
2,4-Dimethylphenol	0.001 U			
2,4-Dinitrophenol	0.0003 U			
2,4-Dinitrotoluene	0.001 U			
2,6-Dichlorophenol	0.0008 U			
2,6-Dinitrotoluene	0.0001 U			
2-Chloronaphthalene	0.0002 U			
2-Chlorophenol	0.0009 U			
2-Methylnaphthalene	0.0002 U			
2-Methylphenol (o-Cresol)	0.0007 U			
2-Nitrophenol	0.0009 U			
3&4-Methylphenol	0.0012 U			
3-Methylphenol	--			
3-Nitroaniline	0.001 U			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Tap Water - mg/L			
	Sample Results for: AR09TW001			
4,6-Dinitro-2-Methylphenol	0.0002 U			
4-Bromophenylphenylether	0.0001 U			
4-Chloro-3-Methylphenol	0.0006 U			
4-Chloroaniline	0.001 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.001 U			
4-Nitrophenol	0.0003 U			
Acenaphthene	0.0001 U			
Acenaphthylene	0.0001 U			
Aniline	0.001 U			
Anthracene	0.0001 U			
Atrazine	0.0001 U			
Benzo(g,h,i)perylene	0.0001 U			
Bis(2-ethylhexyl)phthalate	0.0014 U			
Butylbenzylphthalate	0.000103 J			
Carbazole	0.0001 U			
Di-n-butylphthalate	0.0013 U			
Di-n-octylphthalate	0.0002 U			
Dibenzofuran	0.0001 U			
Diethylphthalate	0.0002 U			
Dimethylphthalate	0.0001 U			
Diphenylamine	0.0001 U			
Fluoranthene	0.0001 U			
Fluorene	0.0001 U			
Hexachlorobenzene	0.0001 U			
Hexachlorobutadiene	0.0002 U			
Hexachlorocyclopentadiene	0.001 U			
Hexachloroethane	0.0001 U			
Naphthalene	0.0002 U			
Nitrobenzene	0.0002 U			
o-Toluidine	0.0007 U			
Pentachlorobenzene	0.0002 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.0003 U			
Phenanthrene	0.0001 U			
Phenol	0.001 U			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Tap Water - mg/L			
	Sample Results for: AR09TW001			
Pyrene	0.0001 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Tap Water - mg/L			
	Sample Results for: AR09TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000236 J			
Bromoform	0.00273 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000132 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000652			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR09

Chemical	Tap Water - mg/L			
	Sample Results for: AR09TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil - mg/kg				
	Sample Results for: AR10SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.0384 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000085772				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	84				
Turbidity	--				
Inorganics					
Aluminum	34300				
Antimony	0.52				
Arsenic	12.5				
Barium	251				
Beryllium	4.57				
Cadmium (Diet)	0.22				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil - mg/kg				
	Sample Results for: AR10SS0010006				
Chromium	3.33				
Cobalt	4.49				
Copper	27.1				
Iron	18600				
Lead	32.6				
Manganese (Diet)	606				
Manganese (Water)	--				
Mercury	0.202 U				
Nickel	4.04				
Selenium	0.133 U				
Silver	0.124				
Thallium	1.41				
Tin	2.54				
Vanadium	36.7				
Zinc	61.3				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000471 U				
4,4-DDE	0.000462 U				
4,4-DDT	0.00062 U				
Aldrin	0.000375 U				
alpha-BHC	0.000462 U				
alpha-Chlordane	0.000375 U				
beta-BHC	0.000567 U				
Chlordane	--				
delta-BHC	0.000515 U				
Dieldrin	0.000524 U				
Endosulfan I	0.000471 U				
Endosulfan II	0.000375 U				
Endosulfan Sulfate	0.000532 U				
Endrin	0.000602 U				
Endrin Aldehyde	0.000541 U				

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil - mg/kg			
	Sample Results for: AR10SS0010006			
gamma-BHC (Lindane)	0.000445 U			
gamma-Chlordane	0.00041 U			
Heptachlor	0.000532 U			
Heptachlor Epoxide	0.00041 U			
Methoxychlor	0.000663 U			
Toxaphene	0.00524 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00611 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00611 U			
Aroclor 1232	0.00611 U			
Aroclor 1242	0.00611 U			
Aroclor 1248	0.00611 U			
Aroclor 1254	0.00611 U			
Aroclor 1260	0.00611 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0179 U			
1,2,4,5-Tetrachlorobenzene	0.0143 U			
2,3,4,6-Tetrachlorophenol	0.0846 U			
2,4,5-Trichlorophenol	0.146 U			
2,4,6-Trichlorophenol	0.0786 U			
2,4-Dichlorophenol	0.0917 U			
2,4-Dimethylphenol	0.176 U			
2,4-Dinitrophenol	0.0655 U			
2,4-Dinitrotoluene	0.0214 U			
2,6-Dichlorophenol	0.056 U			
2,6-Dinitrotoluene	0.0179 U			
2-Chloronaphthalene	0.00953 U			
2-Chlorophenol	0.0596 U			
2-Methylnaphthalene	0.0202 U			
2-Methylphenol (o-Cresol)	0.119 U			
2-Nitrophenol	0.075 U			
3&4-Methylphenol	0.137 U			
3-Methylphenol	--			
3-Nitroaniline	0.0214 U			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil - mg/kg			
	Sample Results for: AR10SS0010006			
4,6-Dinitro-2-Methylphenol	0.0798 U			
4-Bromophenylphenylether	0.0143 U			
4-Chloro-3-Methylphenol	0.105 U			
4-Chloroaniline	0.0274 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0524 U			
4-Nitrophenol	0.141 U			
Acenaphthene	0.0119 U			
Acenaphthylene	0.0107 U			
Aniline	0.0238 U			
Anthracene	0.0143 U			
Atrazine	0.031 U			
Benzo(g,h,i)perylene	0.0333 U			
Bis(2-ethylhexyl)phthalate	0.125 U			
Butylbenzylphthalate	0.0357 U			
Carbazole	0.0214 U			
Di-n-butylphthalate	0.0512 U			
Di-n-octylphthalate	0.0238 U			
Dibenzofuran	0.0119 U			
Diethylphthalate	0.0202 U			
Dimethylphthalate	0.0155 U			
Diphenylamine	0.0619 U			
Fluoranthene	0.0226 U			
Fluorene	0.0143 U			
Hexachlorobenzene	0.0131 U			
Hexachlorobutadiene	0.0119 U			
Hexachlorocyclopentadiene	0.0167 U			
Hexachloroethane	0.0131 U			
Naphthalene	0.00715 U			
Nitrobenzene	0.0179 U			
o-Toluidine	0.0214 U			
Pentachlorobenzene	0.0333 U			
Pentachloronitrobenzene	0.000436 U			
Pentachlorophenol	0.183 U			
Phenanthrene	0.0357 U			
Phenol	0.0405 U			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil - mg/kg			
	Sample Results for: AR10SS0010006			
Pyrene	0.0214 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0513595 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000555 U			
1,1,1-Trichloroethane	0.00074 U			
1,1,2,2-Tetrachloroethane	0.00037 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00129 U			
1,1,2-Trichloroethane	0.000555 U			
1,1-Dichloroethane	0.00129 U			
1,1-Dichloroethene	0.000925 U			
1,2,3-Trichlorobenzene	0.000925 U			
1,2,3-Trichloropropane	0.000555 U			
1,2,4-Trichlorobenzene	0.000555 U			
1,2,4-Trimethylbenzene	0.00074 U			
1,2-Dibromo-3-Chloropropane	0.00074 U			
1,2-Dibromoethane	0.000185 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.00111 U			
1,2-Dichlorobenzene	0.000185 U			
1,2-Dichloroethane	0.00037 U			
1,2-Dichloropropane	0.000555 U			
1,3,5-Trimethylbenzene	0.00037 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00037 U			
1,3-Dichloropropane	0.00037 U			
1,4-Dichlorobenzene	0.000185 U			
2,2-Dichloropropane	0.000925 U			
2-Butanone (methyl ethyl ketone)	0.00333 U			
2-Chlorotoluene	0.000555 U			
2-Hexanone	0.00185 UJ			
4-Chlorotoluene	0.00037 U			
4-Isopropyltoluene	0.00037 U			
4-Methyl-2-Pentanone	0.000555 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil - mg/kg			
	Sample Results for: AR10SS0010006			
Acetone	0.0107 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000555 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.00074 U			
Bromodichloromethane	0.00074 U			
Bromoform	0.00037 U			
Bromomethane	0.00555 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00074 U			
Chlorobenzene	0.00037 U			
Chloroethane	0.00074 U			
Chloroform	0.00129 U			
Chloromethane	0.00166 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00129 U			
cis-1,3-Dichloropropene	0.000185 U			
Cyclohexane	--			
Dibromochloromethane	0.000185 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000555 U			
Ethylbenzene	0.000555 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00037 U			
m,p-Xylenes	0.00111 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000925 U			
Methylcyclohexane	--			
Methylene Chloride	0.00185 U			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil - mg/kg			
	Sample Results for: AR10SS0010006			
n-Butylbenzene	0.00037 U			
n-Propylbenzene	0.000555 U			
o-Xylene	0.00037 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00037 U			
Styrene	0.00037 U			
tert-Butylbenzene	0.00074 U			
Tetrachloroethene	0.00111 U			
Toluene	0.000925 U			
trans-1,2-Dichloroethene	0.00111 U			
trans-1,3-Dichloropropene	0.000555 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000925 U			
Trichlorofluoromethane	0.00148 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00074 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR10SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.010806023				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR10SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR10SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR10SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR10SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	2.743808113			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR10SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR10SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Tap Water - mg/L				
	Sample Results for: AR10TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	9.06				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	2.93				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	6.65				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000073582 U				
Disinfectants					
Chlorine (as Cl2)	0.06				
Disinfection Byproducts					
Total Trihalomethanes	0.002039				
Field Parameters					
Dissolved Oxygen	8.859999999999999				
Oxidation Reduction Potential	552				
pH	7.29				
Salinity	--				
Specific Conductance	0.67				
Temperature	25.5				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.000192				
Arsenic	0.00236				
Barium	0.0121				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.0000404				

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Tap Water - mg/L				
	Sample Results for: AR10TW001				
Chromium	0.000464				
Cobalt	0.0000922				
Copper	0.258				
Iron	0.078				
Lead	0.00443				
Manganese (Diet)	--				
Manganese (Water)	0.0127				
Mercury	0.000015 U				
Nickel	0.143				
Selenium	0.0002 U				
Silver	0.00012 U				
Thallium	0.00004 U				
Tin	0.0001 U				
Vanadium	0.00169 U				
Zinc	0.496				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	180				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Tap Water - mg/L			
	Sample Results for: AR10TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.000666			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0002 U			
1,2,4,5-Tetrachlorobenzene	0.0002 U			
2,3,4,6-Tetrachlorophenol	0.0003 U			
2,4,5-Trichlorophenol	0.0005 U			
2,4,6-Trichlorophenol	0.0005 U			
2,4-Dichlorophenol	0.0007 U			
2,4-Dimethylphenol	0.001 U			
2,4-Dinitrophenol	0.0003 U			
2,4-Dinitrotoluene	0.001 U			
2,6-Dichlorophenol	0.0008 U			
2,6-Dinitrotoluene	0.0001 U			
2-Chloronaphthalene	0.0002 U			
2-Chlorophenol	0.0009 U			
2-Methylnaphthalene	0.0002 U			
2-Methylphenol (o-Cresol)	0.0007 U			
2-Nitrophenol	0.0009 U			
3&4-Methylphenol	0.0012 U			
3-Methylphenol	--			
3-Nitroaniline	0.001 U			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Tap Water - mg/L			
	Sample Results for: AR10TW001			
4,6-Dinitro-2-Methylphenol	0.0002 U			
4-Bromophenylphenylether	0.0001 U			
4-Chloro-3-Methylphenol	0.0006 U			
4-Chloroaniline	0.001 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.001 U			
4-Nitrophenol	0.0003 U			
Acenaphthene	0.0001 U			
Acenaphthylene	0.0001 U			
Aniline	0.001 U			
Anthracene	0.0001 U			
Atrazine	0.0001 U			
Benzo(g,h,i)perylene	0.0001 U			
Bis(2-ethylhexyl)phthalate	0.0014 U			
Butylbenzylphthalate	0.0001 U			
Carbazole	0.0001 U			
Di-n-butylphthalate	0.0013 U			
Di-n-octylphthalate	0.0002 U			
Dibenzofuran	0.0001 U			
Diethylphthalate	0.0002 U			
Dimethylphthalate	0.0001 U			
Diphenylamine	0.0001 U			
Fluoranthene	0.0001 U			
Fluorene	0.0001 U			
Hexachlorobenzene	0.0001 U			
Hexachlorobutadiene	0.0002 U			
Hexachlorocyclopentadiene	0.001 U			
Hexachloroethane	0.0001 U			
Naphthalene	0.0002 U			
Nitrobenzene	0.0002 U			
o-Toluidine	0.0007 U			
Pentachlorobenzene	0.0002 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.0003 U			
Phenanthrene	0.0001 U			
Phenol	0.001 U			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Tap Water - mg/L			
	Sample Results for: AR10TW001			
Pyrene	0.0001 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Tap Water - mg/L			
	Sample Results for: AR10TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000299 J			
Bromoform	0.00112			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000126 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000494 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR10

Chemical	Tap Water - mg/L			
	Sample Results for: AR10TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil - mg/kg				
	Sample Results for: AR11SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.00302 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000115502				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	80.8				
Turbidity	--				
Inorganics					
Aluminum	43500				
Antimony	0.0988				
Arsenic	14.3				
Barium	309				
Beryllium	5.61				
Cadmium (Diet)	0.252				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil - mg/kg			
	Sample Results for: AR11SS0010006			
Chromium	7.11			
Cobalt	5.25			
Copper	41.6			
Iron	21400			
Lead	42.8			
Manganese (Diet)	714			
Manganese (Water)	--			
Mercury	0.2 U			
Nickel	5.8			
Selenium	0.133 U			
Silver	0.118			
Thallium	1.59			
Tin	2.31			
Vanadium	56.2			
Zinc	57			
Microorganisms				
Fecal Coliform	--			
Fecal Streptococcus	--			
Heterotrophic Plate Count	--			
Total Coliforms (including Fecal Coliform and E. Coli)	--			
Pesticides				
4,4-DDD	0.00048 UJ			
4,4-DDE	0.000471 UJ			
4,4-DDT	0.000631 UJ			
Aldrin	0.000382 UJ			
alpha-BHC	0.000471 UJ			
alpha-Chlordane	0.000382 UJ			
beta-BHC	0.000577 UJ			
Chlordane	--			
delta-BHC	0.000524 UJ			
Dieldrin	0.000533 UJ			
Endosulfan I	0.00048 UJ			
Endosulfan II	0.000382 UJ			
Endosulfan Sulfate	0.000542 UJ			
Endrin	0.000613 UJ			
Endrin Aldehyde	0.000551 UJ			

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil - mg/kg			
	Sample Results for: AR11SS0010006			
gamma-BHC (Lindane)	0.000453 UJ			
gamma-Chlordane	0.000417 UJ			
Heptachlor	0.000542 UJ			
Heptachlor Epoxide	0.000417 UJ			
Methoxychlor	0.000675 UJ			
Toxaphene	0.00567 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00622 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00622 UJ			
Aroclor 1232	0.00622 UJ			
Aroclor 1242	0.00622 UJ			
Aroclor 1248	0.00622 UJ			
Aroclor 1254	0.00622 UJ			
Aroclor 1260	0.00622 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0183 U			
1,2,4,5-Tetrachlorobenzene	0.0147 U			
2,3,4,6-Tetrachlorophenol	0.0868 U			
2,4,5-Trichlorophenol	0.15 U			
2,4,6-Trichlorophenol	0.0807 U			
2,4-Dichlorophenol	0.0942 U			
2,4-Dimethylphenol	0.181 U			
2,4-Dinitrophenol	0.0673 U			
2,4-Dinitrotoluene	0.022 U			
2,6-Dichlorophenol	0.0575 U			
2,6-Dinitrotoluene	0.0183 U			
2-Chloronaphthalene	0.00978 U			
2-Chlorophenol	0.0612 U			
2-Methylnaphthalene	0.0208 U			
2-Methylphenol (o-Cresol)	0.122 U			
2-Nitrophenol	0.077 U			
3&4-Methylphenol	0.141 U			
3-Methylphenol	--			
3-Nitroaniline	0.022 U			

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil - mg/kg			
	Sample Results for: AR11SS0010006			
4,6-Dinitro-2-Methylphenol	0.0819 U			
4-Bromophenylphenylether	0.0147 U			
4-Chloro-3-Methylphenol	0.108 U			
4-Chloroaniline	0.0281 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0538 U			
4-Nitrophenol	0.144 U			
Acenaphthene	0.0122 U			
Acenaphthylene	0.011 U			
Aniline	0.0245 U			
Anthracene	0.0147 U			
Atrazine	0.0318 U			
Benzo(g,h,i)perylene	0.0342 U			
Bis(2-ethylhexyl)phthalate	0.128 U			
Butylbenzylphthalate	0.0367 U			
Carbazole	0.022 U			
Di-n-butylphthalate	0.0526 U			
Di-n-octylphthalate	0.0245 U			
Dibenzofuran	0.0122 U			
Diethylphthalate	0.0208 U			
Dimethylphthalate	0.0159 U			
Diphenylamine	0.0636 U			
Fluoranthene	0.0232 U			
Fluorene	0.0147 U			
Hexachlorobenzene	0.0135 U			
Hexachlorobutadiene	0.0122 U			
Hexachlorocyclopentadiene	0.0171 U			
Hexachloroethane	0.0135 U			
Naphthalene	0.00734 U			
Nitrobenzene	0.0183 U			
o-Toluidine	0.022 U			
Pentachlorobenzene	0.0342 U			
Pentachloronitrobenzene	0.000444 UJ			
Pentachlorophenol	0.188 U			
Phenanthrene	0.0367 U			
Phenol	0.0416 U			

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil - mg/kg			
	Sample Results for: AR11SS0010006			
Pyrene	0.022 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0528259 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000397 U			
1,1,1-Trichloroethane	0.00053 U			
1,1,2,2-Tetrachloroethane	0.000265 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000927 U			
1,1,2-Trichloroethane	0.000397 U			
1,1-Dichloroethane	0.000927 U			
1,1-Dichloroethene	0.000662 U			
1,2,3-Trichlorobenzene	0.000662 U			
1,2,3-Trichloropropane	0.000397 U			
1,2,4-Trichlorobenzene	0.000397 U			
1,2,4-Trimethylbenzene	0.00053 U			
1,2-Dibromo-3-Chloropropane	0.00053 U			
1,2-Dibromoethane	0.000132 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.000132 U			
1,2-Dichloroethane	0.000265 U			
1,2-Dichloropropane	0.000397 U			
1,3,5-Trimethylbenzene	0.000265 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000265 U			
1,3-Dichloropropane	0.000265 U			
1,4-Dichlorobenzene	0.000132 U			
2,2-Dichloropropane	0.000662 U			
2-Butanone (methyl ethyl ketone)	0.00238 U			
2-Chlorotoluene	0.000397 U			
2-Hexanone	0.00132 U			
4-Chlorotoluene	0.000265 U			
4-Isopropyltoluene	0.000265 U			
4-Methyl-2-Pentanone	0.000397 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil - mg/kg			
	Sample Results for: AR11SS0010006			
Acetone	0.00768 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000397 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.00053 U			
Bromodichloromethane	0.00053 U			
Bromoform	0.000265 U			
Bromomethane	0.00397 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00053 U			
Chlorobenzene	0.000265 U			
Chloroethane	0.00053 U			
Chloroform	0.000927 U			
Chloromethane	0.00119 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000927 U			
cis-1,3-Dichloropropene	0.000132 U			
Cyclohexane	--			
Dibromochloromethane	0.000132 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.000397 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000265 U			
m,p-Xylenes	0.000795 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000662 U			
Methylcyclohexane	--			
Methylene Chloride	0.00132 U			

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil - mg/kg			
	Sample Results for: AR11SS0010006			
n-Butylbenzene	0.000265 U			
n-Propylbenzene	0.000397 U			
o-Xylene	0.000265 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000265 U			
Styrene	0.000265 U			
tert-Butylbenzene	0.00053 U			
Tetrachloroethene	0.000795 U			
Toluene	0.000662 U			
trans-1,2-Dichloroethene	0.000795 U			
trans-1,3-Dichloropropene	0.000397 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000662 U			
Trichlorofluoromethane	0.00106 UJ			
Vinyl Acetate	--			
Vinyl Chloride	0.00053 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR11SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR11SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR11SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR11SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR11SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.004703823			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR11SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR11SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Tap Water - mg/L			
	Sample Results for: AR11TW001	Sample Results for: AR11TW002		
Alkane Hydrocarbon				
Octane	--	--		
Pentadecane	--	--		
Tridecane	--	--		
Undecane	--	--		
Anion				
Chloride	10.2	--		
Cyanide	0.004 U	--		
Fluoride	0.2 U	--		
Nitrate (measured as NO3-)	3.19	--		
Nitrite (measured as NO2-)	0.2 U	--		
Phosphate	0.4 U	--		
Sulfate	9.19	--		
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000039	--		
Disinfectants				
Chlorine (as Cl2)	0.01	--		
Disinfection Byproducts				
Total Trihalomethanes	0.00376	--		
Field Parameters				
Dissolved Oxygen	8.15	2.28		
Oxidation Reduction Potential	275	224		
pH	7.69	7.22		
Salinity	--	--		
Specific Conductance	0.76	0.83		
Temperature	24.6	27.19		
Total Dissolved Solids	--	--		
Total Solids	--	--		
Turbidity	9	42		
Inorganics				
Aluminum	0.0022 U	--		
Antimony	0.00154 J	--		
Arsenic	0.00404	--		
Barium	0.0264	--		
Beryllium	0.00003 U	--		
Cadmium (Diet)	--	--		
Cadmium (Water)	0.000489	--		

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Tap Water - mg/L			
	Sample Results for: AR11TW001	Sample Results for: AR11TW002		
Chromium	0.000222	--		
Cobalt	0.00426	--		
Copper	0.215	--		
Iron	1.14 J	--		
Lead	0.0235 J	--		
Manganese (Diet)	--	--		
Manganese (Water)	0.189	--		
Mercury	0.000026	--		
Nickel	8.33 J	--		
Selenium	0.0002 U	--		
Silver	0.000164	--		
Thallium	0.000761 U	--		
Tin	0.000829	--		
Vanadium	0.001 U	--		
Zinc	6.45	--		
Microorganisms				
Fecal Coliform	1 <	1 <		
Fecal Streptococcus	0	0		
Heterotrophic Plate Count	690	1030		
Total Coliforms (including Fecal Coliform and E. Coli)	1 <	1 <		
Pesticides				
4,4-DDD	0.000003 U	--		
4,4-DDE	0.000002 U	--		
4,4-DDT	0.000006 U	--		
Aldrin	0.000002 U	--		
alpha-BHC	0.000003 U	--		
alpha-Chlordane	0.000003 U	--		
beta-BHC	0.000002 U	--		
Chlordane	--	--		
delta-BHC	0.000001 U	--		
Dieldrin	0.000003 U	--		
Endosulfan I	0.000003 U	--		
Endosulfan II	0.000002 U	--		
Endosulfan Sulfate	0.000007 U	--		
Endrin	0.000002 U	--		
Endrin Aldehyde	0.000002 U	--		

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Tap Water - mg/L			
	Sample Results for: AR11TW001	Sample Results for: AR11TW002		
gamma-BHC (Lindane)	0.000001 U	--		
gamma-Chlordane	0.000002 U	--		
Heptachlor	0.000004 U	--		
Heptachlor Epoxide	0.000004 U	--		
Methoxychlor	0.000003 U	--		
Toxaphene	0.00001 U	--		
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U	--		
Aroclor 1016/1260	0.00002 U	--		
Aroclor 1221	0.00002 U	--		
Aroclor 1232	0.00002 U	--		
Aroclor 1242	0.00002 U	--		
Aroclor 1248	0.00002 U	--		
Aroclor 1254	0.00002 U	--		
Aroclor 1260	0.00002 U	--		
Radionuclides				
Uranium	0.000908	--		
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0002 U	--		
1,2,4,5-Tetrachlorobenzene	0.0002 U	--		
2,3,4,6-Tetrachlorophenol	0.0003 U	--		
2,4,5-Trichlorophenol	0.0005 U	--		
2,4,6-Trichlorophenol	0.0005 U	--		
2,4-Dichlorophenol	0.0007 U	--		
2,4-Dimethylphenol	0.001 U	--		
2,4-Dinitrophenol	0.0003 U	--		
2,4-Dinitrotoluene	0.001 U	--		
2,6-Dichlorophenol	0.0008 U	--		
2,6-Dinitrotoluene	0.0001 U	--		
2-Chloronaphthalene	0.0002 U	--		
2-Chlorophenol	0.0009 U	--		
2-Methylnaphthalene	0.0002 U	--		
2-Methylphenol (o-Cresol)	0.0007 U	--		
2-Nitrophenol	0.0009 U	--		
3&4-Methylphenol	0.0012 U	--		
3-Methylphenol	--	--		
3-Nitroaniline	0.001 U	--		

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Tap Water - mg/L			
	Sample Results for: AR11TW001	Sample Results for: AR11TW002		
4,6-Dinitro-2-Methylphenol	0.0002 U	--		
4-Bromophenylphenylether	0.0001 U	--		
4-Chloro-3-Methylphenol	0.0006 U	--		
4-Chloroaniline	0.001 U	--		
4-Methylphenol (p-Cresol)	--	--		
4-Nitroaniline	0.001 U	--		
4-Nitrophenol	0.0003 U	--		
Acenaphthene	0.0001 U	--		
Acenaphthylene	0.0001 U	--		
Aniline	0.001 U	--		
Anthracene	0.0001 U	--		
Atrazine	0.0001 U	--		
Benzo(g,h,i)perylene	0.0001 U	--		
Bis(2-ethylhexyl)phthalate	0.0014 U	--		
Butylbenzylphthalate	0.0001 U	--		
Carbazole	0.0001 U	--		
Di-n-butylphthalate	0.0013 U	--		
Di-n-octylphthalate	0.0002 U	--		
Dibenzofuran	0.0001 U	--		
Diethylphthalate	0.0002 U	--		
Dimethylphthalate	0.0001 U	--		
Diphenylamine	0.0001 U	--		
Fluoranthene	0.0001 U	--		
Fluorene	0.0001 U	--		
Hexachlorobenzene	0.0001 U	--		
Hexachlorobutadiene	0.0002 U	--		
Hexachlorocyclopentadiene	0.001 U	--		
Hexachloroethane	0.0001 U	--		
Naphthalene	0.0002 U	--		
Nitrobenzene	0.0002 U	--		
o-Toluidine	0.0007 U	--		
Pentachlorobenzene	0.0002 U	--		
Pentachloronitrobenzene	0.000003 U	--		
Pentachlorophenol	0.0003 U	--		
Phenanthrene	0.0001 U	--		
Phenol	0.001 U	--		

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Tap Water - mg/L			
	Sample Results for: AR11TW001	Sample Results for: AR11TW002		
Pyrene	0.0001 U	--		
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U	--		
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--	--		
Tph (c08-c40)	--	--		
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U	--		
1,1,1-Trichloroethane	0.00017 U	--		
1,1,2,2-Tetrachloroethane	0.00005 U	--		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U	--		
1,1,2-Trichloroethane	0.00011 U	--		
1,1-Dichloroethane	0.0001 U	--		
1,1-Dichloroethene	0.00013 U	--		
1,2,3-Trichlorobenzene	0.00012 U	--		
1,2,3-Trichloropropane	0.00013 U	--		
1,2,4-Trichlorobenzene	0.00013 U	--		
1,2,4-Trimethylbenzene	0.00006 U	--		
1,2-Dibromo-3-Chloropropane	0.00025 U	--		
1,2-Dibromoethane	0.00009 U	--		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U	--		
1,2-Dichlorobenzene	0.00007 U	--		
1,2-Dichloroethane	0.00008 U	--		
1,2-Dichloropropane	0.00015 U	--		
1,3,5-Trimethylbenzene	0.00008 U	--		
1,3-Butadiene	--	--		
1,3-Dichlorobenzene	0.00013 U	--		
1,3-Dichloropropane	0.00011 U	--		
1,4-Dichlorobenzene	0.00007 U	--		
2,2-Dichloropropane	0.0001 U	--		
2-Butanone (methyl ethyl ketone)	0.0016 U	--		
2-Chlorotoluene	0.00012 U	--		
2-Hexanone	0.0002 U	--		
4-Chlorotoluene	0.00013 U	--		
4-Isopropyltoluene	0.0001 U	--		
4-Methyl-2-Pentanone	0.0001 U	--		

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Tap Water - mg/L			
	Sample Results for: AR11TW001	Sample Results for: AR11TW002		
Acetaldehyde	--	--		
Acetone	0.001 U	--		
Acetonitrile	--	--		
Acetophenone	--	--		
Acrolein	0.0004 U	--		
Acrylonitrile	--	--		
Benzene	0.00005 U	--		
Bis(2-Chloroethyl)ether	--	--		
Bis(chloromethyl)ether	--	--		
Bromochloromethane	0.0001 U	--		
Bromodichloromethane	0.000265 J	--		
Bromoform	0.0028 J	--		
Bromomethane	0.00037 U	--		
Carbon Disulfide	--	--		
Carbon Tetrachloride	0.00008 U	--		
Chlorobenzene	0.00012 U	--		
Chloroethane	0.00018 U	--		
Chloroform	0.000125 J	--		
Chloromethane	0.00021 U	--		
Chloroprene	--	--		
cis-1,2-Dichloroethene	0.00013 U	--		
cis-1,3-Dichloropropene	0.00015 U	--		
Cyclohexane	--	--		
Dibromochloromethane	0.00057	--		
Dibromomethane	--	--		
Dichlorodifluoromethane (Freon 12)	0.00012 U	--		
Ethylbenzene	0.00005 U	--		
Formaldehyde	--	--		
Hexane	--	--		
Isobutyl Alcohol	--	--		
Isophorone	--	--		
Isopropylbenzene	0.00006 U	--		
m,p-Xylenes	0.00009 U	--		
Methyl Acetate	--	--		
Methyl tert-Butyl Ether	0.00011 U	--		
Methylcyclohexane	--	--		

Attachment C - Environmental Sampling Results For Location AR11

Chemical	Tap Water - mg/L			
	Sample Results for: AR11TW001	Sample Results for: AR11TW002		
Methylene Chloride	0.00069 U	--		
n-Butylbenzene	0.00005 U	--		
n-Propylbenzene	0.00007 U	--		
o-Xylene	0.00007 U	--		
Pentachloroethane	--	--		
sec-Butylbenzene	0.00004 U	--		
Styrene	0.00008 U	--		
tert-Butylbenzene	0.00019 U	--		
Tetrachloroethene	0.00007 U	--		
Toluene	0.00017 U	--		
trans-1,2-Dichloroethene	0.00015 U	--		
trans-1,3-Dichloropropene	0.00007 U	--		
Trans-1,4-Dichloro-2-Butene	--	--		
Trichloroethene	0.00013 U	--		
Trichlorofluoromethane	0.00019 U	--		
Vinyl Acetate	--	--		
Vinyl Chloride	0.00015 U	--		
Xylenes, Total	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil - mg/kg				
	Sample Results for: AR13SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.013 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000002524				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	86.2				
Turbidity	--				
Inorganics					
Aluminum	24000				
Antimony	0.364				
Arsenic	11.5				
Barium	171				
Beryllium	3.57				
Cadmium (Diet)	0.173				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil - mg/kg				
	Sample Results for: AR13SS0010006				
Chromium	3.35				
Cobalt	3.13				
Copper	14.4				
Iron	12900				
Lead	22.3				
Manganese (Diet)	455				
Manganese (Water)	--				
Mercury	0.195 U				
Nickel	2.77				
Selenium	0.0902 U				
Silver	0.113 U				
Thallium	1.12				
Tin	1.96				
Vanadium	29.7				
Zinc	50.1				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000462 UJ				
4,4-DDE	0.000453 UJ				
4,4-DDT	0.000607 UJ				
Aldrin	0.000368 UJ				
alpha-BHC	0.000453 UJ				
alpha-Chlordane	0.000368 UJ				
beta-BHC	0.000556 UJ				
Chlordane	--				
delta-BHC	0.000504 UJ				
Dieldrin	0.000513 UJ				
Endosulfan I	0.000462 UJ				
Endosulfan II	0.000368 UJ				
Endosulfan Sulfate	0.000521 UJ				
Endrin	0.00059 UJ				
Endrin Aldehyde	0.00053 UJ				

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil - mg/kg			
	Sample Results for: AR13SS0010006			
gamma-BHC (Lindane)	0.000436 UJ			
gamma-Chlordane	0.000402 UJ			
Heptachlor	0.000521 UJ			
Heptachlor Epoxide	0.000402 UJ			
Methoxychlor	0.00065 UJ			
Toxaphene	0.00513 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00598 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00598 UJ			
Aroclor 1232	0.00598 UJ			
Aroclor 1242	0.00598 UJ			
Aroclor 1248	0.00598 UJ			
Aroclor 1254	0.00598 UJ			
Aroclor 1260	0.00598 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0169 U			
1,2,4,5-Tetrachlorobenzene	0.0135 U			
2,3,4,6-Tetrachlorophenol	0.0799 U			
2,4,5-Trichlorophenol	0.138 U			
2,4,6-Trichlorophenol	0.0743 U			
2,4-Dichlorophenol	0.0867 U			
2,4-Dimethylphenol	0.167 U			
2,4-Dinitrophenol	0.0619 U			
2,4-Dinitrotoluene	0.0203 U			
2,6-Dichlorophenol	0.0529 U			
2,6-Dinitrotoluene	0.0169 U			
2-Chloronaphthalene	0.00901 U			
2-Chlorophenol	0.0563 U			
2-Methylnaphthalene	0.0191 U			
2-Methylphenol (o-Cresol)	0.113 U			
2-Nitrophenol	0.0709 U			
3&4-Methylphenol	0.129 U			
3-Methylphenol	--			
3-Nitroaniline	0.0203 U			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil - mg/kg			
	Sample Results for: AR13SS0010006			
4,6-Dinitro-2-Methylphenol	0.0754 U			
4-Bromophenylphenylether	0.0135 U			
4-Chloro-3-Methylphenol	0.0991 U			
4-Chloroaniline	0.0259 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0495 U			
4-Nitrophenol	0.133 U			
Acenaphthene	0.0113 U			
Acenaphthylene	0.0101 U			
Aniline	0.0225 U			
Anthracene	0.0135 U			
Atrazine	0.0293 U			
Benzo(g,h,i)perylene	0.0315 U			
Bis(2-ethylhexyl)phthalate	0.118 U			
Butylbenzylphthalate	0.0338 U			
Carbazole	0.0203 U			
Di-n-butylphthalate	0.0484 U			
Di-n-octylphthalate	0.0225 U			
Dibenzofuran	0.0113 U			
Diethylphthalate	0.0191 U			
Dimethylphthalate	0.0146 U			
Diphenylamine	0.0586 U			
Fluoranthene	0.0214 U			
Fluorene	0.0135 U			
Hexachlorobenzene	0.0124 U			
Hexachlorobutadiene	0.0113 U			
Hexachlorocyclopentadiene	0.0158 U			
Hexachloroethane	0.0124 U			
Naphthalene	0.00676 U			
Nitrobenzene	0.0169 U			
o-Toluidine	0.0203 U			
Pentachlorobenzene	0.0315 U			
Pentachloronitrobenzene	0.000427 UJ			
Pentachlorophenol	0.173 U			
Phenanthrene	0.0338 U			
Phenol	0.0383 U			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil - mg/kg			
	Sample Results for: AR13SS0010006			
Pyrene	0.0203 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0486176 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000504 U			
1,1,1-Trichloroethane	0.000672 U			
1,1,2,2-Tetrachloroethane	0.000336 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00118 U			
1,1,2-Trichloroethane	0.000504 U			
1,1-Dichloroethane	0.00118 U			
1,1-Dichloroethene	0.00084 U			
1,2,3-Trichlorobenzene	0.00084 U			
1,2,3-Trichloropropane	0.000504 U			
1,2,4-Trichlorobenzene	0.000504 U			
1,2,4-Trimethylbenzene	0.000672 U			
1,2-Dibromo-3-Chloropropane	0.000672 U			
1,2-Dibromoethane	0.000168 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.00101 U			
1,2-Dichlorobenzene	0.000168 U			
1,2-Dichloroethane	0.000336 U			
1,2-Dichloropropane	0.000504 U			
1,3,5-Trimethylbenzene	0.000336 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000336 U			
1,3-Dichloropropane	0.000336 U			
1,4-Dichlorobenzene	0.000168 U			
2,2-Dichloropropane	0.00084 U			
2-Butanone (methyl ethyl ketone)	0.00303 U			
2-Chlorotoluene	0.000504 U			
2-Hexanone	0.00168 UJ			
4-Chlorotoluene	0.000336 U			
4-Isopropyltoluene	0.000336 U			
4-Methyl-2-Pentanone	0.000504 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil - mg/kg			
	Sample Results for: AR13SS0010006			
Acetone	0.00975 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000504 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000672 U			
Bromodichloromethane	0.000672 U			
Bromoform	0.000336 U			
Bromomethane	0.00504 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000672 U			
Chlorobenzene	0.000336 U			
Chloroethane	0.000672 U			
Chloroform	0.00118 U			
Chloromethane	0.00151 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00118 U			
cis-1,3-Dichloropropene	0.000168 U			
Cyclohexane	--			
Dibromochloromethane	0.000168 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000504 U			
Ethylbenzene	0.000504 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000336 U			
m,p-Xylenes	0.00101 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00084 U			
Methylcyclohexane	--			
Methylene Chloride	0.00168 U			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil - mg/kg			
	Sample Results for: AR13SS0010006			
n-Butylbenzene	0.000336 U			
n-Propylbenzene	0.000504 U			
o-Xylene	0.000336 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000336 U			
Styrene	0.000336 U			
tert-Butylbenzene	0.000672 U			
Tetrachloroethene	0.00101 U			
Toluene	0.00084 U			
trans-1,2-Dichloroethene	0.00101 U			
trans-1,3-Dichloropropene	0.000504 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00084 U			
Trichlorofluoromethane	0.00134 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000672 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR13SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR13SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR13SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR13SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR13SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	1.783276626			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR13SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR13SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.004016563			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Tap Water - mg/L				
	Sample Results for: AR13TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	9.26				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	2.99				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	6.75				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000563				
Disinfectants					
Chlorine (as Cl2)	0.08				
Disinfection Byproducts					
Total Trihalomethanes	0.001663				
Field Parameters					
Dissolved Oxygen	822				
Oxidation Reduction Potential	581				
pH	7.28				
Salinity	--				
Specific Conductance	0.67				
Temperature	27.2				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.000155				
Arsenic	0.00193				
Barium	0.0139				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.000154				

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Tap Water - mg/L				
	Sample Results for: AR13TW001				
Chromium	0.000565				
Cobalt	0.0001				
Copper	0.416				
Iron	0.0469				
Lead	0.00527				
Manganese (Diet)	--				
Manganese (Water)	0.00338				
Mercury	0.000015 U				
Nickel	0.0418				
Selenium	0.0002 U				
Silver	0.00012 U				
Thallium	0.00004 U				
Tin	0.0001 U				
Vanadium	0.00163 U				
Zinc	1.57				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	2				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Tap Water - mg/L			
	Sample Results for: AR13TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.000452			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0002 U			
1,2,4,5-Tetrachlorobenzene	0.0002 U			
2,3,4,6-Tetrachlorophenol	0.0003 U			
2,4,5-Trichlorophenol	0.0005 U			
2,4,6-Trichlorophenol	0.0005 U			
2,4-Dichlorophenol	0.0007 U			
2,4-Dimethylphenol	0.001 U			
2,4-Dinitrophenol	0.0003 U			
2,4-Dinitrotoluene	0.001 U			
2,6-Dichlorophenol	0.0008 U			
2,6-Dinitrotoluene	0.0001 U			
2-Chloronaphthalene	0.0002 U			
2-Chlorophenol	0.0009 U			
2-Methylnaphthalene	0.0002 U			
2-Methylphenol (o-Cresol)	0.0007 U			
2-Nitrophenol	0.0009 U			
3&4-Methylphenol	0.0012 U			
3-Methylphenol	--			
3-Nitroaniline	0.001 U			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Tap Water - mg/L			
	Sample Results for: AR13TW001			
4,6-Dinitro-2-Methylphenol	0.0002 U			
4-Bromophenylphenylether	0.0001 U			
4-Chloro-3-Methylphenol	0.0006 U			
4-Chloroaniline	0.001 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.001 U			
4-Nitrophenol	0.0003 U			
Acenaphthene	0.0001 U			
Acenaphthylene	0.0001 U			
Aniline	0.001 U			
Anthracene	0.0001 U			
Atrazine	0.0001 U			
Benzo(g,h,i)perylene	0.0001 U			
Bis(2-ethylhexyl)phthalate	0.0014 U			
Butylbenzylphthalate	0.0001 U			
Carbazole	0.0001 U			
Di-n-butylphthalate	0.0013 U			
Di-n-octylphthalate	0.0002 U			
Dibenzofuran	0.0001 U			
Diethylphthalate	0.0002 U			
Dimethylphthalate	0.0001 U			
Diphenylamine	0.0001 U			
Fluoranthene	0.0001 U			
Fluorene	0.0001 U			
Hexachlorobenzene	0.0001 U			
Hexachlorobutadiene	0.0002 U			
Hexachlorocyclopentadiene	0.001 U			
Hexachloroethane	0.0001 U			
Naphthalene	0.0002 U			
Nitrobenzene	0.0002 U			
o-Toluidine	0.0007 U			
Pentachlorobenzene	0.0002 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.0003 U			
Phenanthrene	0.0001 U			
Phenol	0.001 U			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Tap Water - mg/L			
	Sample Results for: AR13TW001			
Pyrene	0.0001 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Tap Water - mg/L			
	Sample Results for: AR13TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000251 J			
Bromoform	0.000983 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.00009 U			
Chloromethane	0.000279 J			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000429 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR13

Chemical	Tap Water - mg/L			
	Sample Results for: AR13TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil - mg/kg				
	Sample Results for: AR16SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.0346 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000005611				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	83.8				
Turbidity	--				
Inorganics					
Aluminum	35900				
Antimony	0.478				
Arsenic	12.9				
Barium	274				
Beryllium	4.73				
Cadmium (Diet)	0.219				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil - mg/kg				
	Sample Results for: AR16SS0010006				
Chromium	3.83				
Cobalt	4.73				
Copper	24.6				
Iron	18600				
Lead	34.5				
Manganese (Diet)	615				
Manganese (Water)	--				
Mercury	0.226				
Nickel	4.71				
Selenium	0.0905 U				
Silver	0.113 U				
Thallium	1.5				
Tin	2.65				
Vanadium	38.5				
Zinc	68.5				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000494 UJ				
4,4-DDE	0.000484 UJ				
4,4-DDT	0.000649 UJ				
Aldrin	0.000393 UJ				
alpha-BHC	0.000484 UJ				
alpha-Chlordane	0.000393 UJ				
beta-BHC	0.000594 UJ				
Chlordane	--				
delta-BHC	0.000539 UJ				
Dieldrin	0.000548 UJ				
Endosulfan I	0.000494 UJ				
Endosulfan II	0.000393 UJ				
Endosulfan Sulfate	0.000558 UJ				
Endrin	0.000631 UJ				
Endrin Aldehyde	0.000567 UJ				

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil - mg/kg			
	Sample Results for: AR16SS0010006			
gamma-BHC (Lindane)	0.000466 UJ			
gamma-Chlordane	0.00043 UJ			
Heptachlor	0.000558 UJ			
Heptachlor Epoxide	0.00043 UJ			
Methoxychlor	0.000695 UJ			
Toxaphene	0.00548 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.0064 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.0064 UJ			
Aroclor 1232	0.0064 UJ			
Aroclor 1242	0.0064 UJ			
Aroclor 1248	0.0064 UJ			
Aroclor 1254	0.0064 UJ			
Aroclor 1260	0.0064 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0173 U			
1,2,4,5-Tetrachlorobenzene	0.0139 U			
2,3,4,6-Tetrachlorophenol	0.0821 U			
2,4,5-Trichlorophenol	0.142 U			
2,4,6-Trichlorophenol	0.0763 U			
2,4-Dichlorophenol	0.0891 U			
2,4-Dimethylphenol	0.171 U			
2,4-Dinitrophenol	0.0636 U			
2,4-Dinitrotoluene	0.0208 U			
2,6-Dichlorophenol	0.0544 U			
2,6-Dinitrotoluene	0.0173 U			
2-Chloronaphthalene	0.00925 U			
2-Chlorophenol	0.0578 U			
2-Methylnaphthalene	0.0197 U			
2-Methylphenol (o-Cresol)	0.116 U			
2-Nitrophenol	0.0729 U			
3&4-Methylphenol	0.133 U			
3-Methylphenol	--			
3-Nitroaniline	0.0208 U			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil - mg/kg			
	Sample Results for: AR16SS0010006			
4,6-Dinitro-2-Methylphenol	0.0775 U			
4-Bromophenylphenylether	0.0139 U			
4-Chloro-3-Methylphenol	0.102 U			
4-Chloroaniline	0.0266 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0509 U			
4-Nitrophenol	0.136 U			
Acenaphthene	0.0116 U			
Acenaphthylene	0.0104 U			
Aniline	0.0231 U			
Anthracene	0.0139 U			
Atrazine	0.0301 U			
Benzo(g,h,i)perylene	0.0324 U			
Bis(2-ethylhexyl)phthalate	0.121 U			
Butylbenzylphthalate	0.0347 U			
Carbazole	0.0208 U			
Di-n-butylphthalate	0.0497 U			
Di-n-octylphthalate	0.0231 U			
Dibenzofuran	0.0116 U			
Diethylphthalate	0.0197 U			
Dimethylphthalate	0.015 U			
Diphenylamine	0.0601 U			
Fluoranthene	0.022 U			
Fluorene	0.0139 U			
Hexachlorobenzene	0.0127 U			
Hexachlorobutadiene	0.0116 U			
Hexachlorocyclopentadiene	0.0162 U			
Hexachloroethane	0.0127 U			
Naphthalene	0.00694 U			
Nitrobenzene	0.0173 U			
o-Toluidine	0.0208 U			
Pentachlorobenzene	0.0324 U			
Pentachloronitrobenzene	0.000457 UJ			
Pentachlorophenol	0.178 U			
Phenanthrene	0.0347 U			
Phenol	0.0393 U			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil - mg/kg				
	Sample Results for: AR16SS0010006				
Pyrene	0.0208 U				
Total Carcinogenic PAHS (BaP TEQs)	0.049973 U				
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--				
Tph (c08-c40)	--				
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0.000595 U				
1,1,1-Trichloroethane	0.000793 U				
1,1,2,2-Tetrachloroethane	0.000397 U				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00139 U				
1,1,2-Trichloroethane	0.000595 U				
1,1-Dichloroethane	0.00139 U				
1,1-Dichloroethene	0.000991 U				
1,2,3-Trichlorobenzene	0.000991 U				
1,2,3-Trichloropropane	0.000595 U				
1,2,4-Trichlorobenzene	0.000595 U				
1,2,4-Trimethylbenzene	0.000793 U				
1,2-Dibromo-3-Chloropropane	0.000793 U				
1,2-Dibromoethane	0.000198 U				
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.00119 U				
1,2-Dichlorobenzene	0.000198 U				
1,2-Dichloroethane	0.000397 U				
1,2-Dichloropropane	0.000595 U				
1,3,5-Trimethylbenzene	0.000397 U				
1,3-Butadiene	--				
1,3-Dichlorobenzene	0.000397 U				
1,3-Dichloropropane	0.000397 U				
1,4-Dichlorobenzene	0.000198 U				
2,2-Dichloropropane	0.000991 U				
2-Butanone (methyl ethyl ketone)	0.00357 U				
2-Chlorotoluene	0.000595 U				
2-Hexanone	0.00198 UJ				
4-Chlorotoluene	0.000397 U				
4-Isopropyltoluene	0.000397 U				
4-Methyl-2-Pentanone	0.000595 U				
Acetaldehyde	--				

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil - mg/kg			
	Sample Results for: AR16SS0010006			
Acetone	0.0115 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000595 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000793 U			
Bromodichloromethane	0.000793 U			
Bromoform	0.000397 U			
Bromomethane	0.00595 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000793 U			
Chlorobenzene	0.000397 U			
Chloroethane	0.000793 U			
Chloroform	0.00139 U			
Chloromethane	0.00178 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00139 U			
cis-1,3-Dichloropropene	0.000198 U			
Cyclohexane	--			
Dibromochloromethane	0.000198 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000595 U			
Ethylbenzene	0.000595 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000397 U			
m,p-Xylenes	0.00119 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000991 U			
Methylcyclohexane	--			
Methylene Chloride	0.00198 U			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil - mg/kg			
	Sample Results for: AR16SS0010006			
n-Butylbenzene	0.000397 U			
n-Propylbenzene	0.000595 U			
o-Xylene	0.000397 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000397 U			
Styrene	0.000397 U			
tert-Butylbenzene	0.000793 U			
Tetrachloroethene	0.00119 U			
Toluene	0.000991 U			
trans-1,2-Dichloroethene	0.00119 U			
trans-1,3-Dichloropropene	0.000595 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000991 U			
Trichlorofluoromethane	0.00159 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000793 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR16SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR16SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR16SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR16SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR16SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.018022026			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001932723			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR16SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001870534			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR16SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Tap Water - mg/L				
	Sample Results for: AR16TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	9.31				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	3.03				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	6.79				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000038				
Disinfectants					
Chlorine (as Cl2)	0.04				
Disinfection Byproducts					
Total Trihalomethanes	0.0010492				
Field Parameters					
Dissolved Oxygen	8.41				
Oxidation Reduction Potential	573				
pH	7.28				
Salinity	--				
Specific Conductance	0.68				
Temperature	28				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0142				
Antimony	0.00014 U				
Arsenic	0.00499				
Barium	0.0135				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Tap Water - mg/L				
	Sample Results for: AR16TW001				
Chromium	0.000779				
Cobalt	0.000114				
Copper	0.371				
Iron	0.54				
Lead	0.0284				
Manganese (Diet)	--				
Manganese (Water)	0.00892				
Mercury	0.000015 U				
Nickel	0.0402				
Selenium	0.0002 U				
Silver	0.00012 U				
Thallium	0.00004 U				
Tin	0.000483				
Vanadium	0.0024 U				
Zinc	1.25				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	21				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Tap Water - mg/L			
	Sample Results for: AR16TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.000807			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0002 U			
1,2,4,5-Tetrachlorobenzene	0.0002 U			
2,3,4,6-Tetrachlorophenol	0.0003 U			
2,4,5-Trichlorophenol	0.0005 U			
2,4,6-Trichlorophenol	0.0005 U			
2,4-Dichlorophenol	0.0007 U			
2,4-Dimethylphenol	0.001 U			
2,4-Dinitrophenol	0.0003 U			
2,4-Dinitrotoluene	0.001 U			
2,6-Dichlorophenol	0.0008 U			
2,6-Dinitrotoluene	0.0001 U			
2-Chloronaphthalene	0.0002 U			
2-Chlorophenol	0.0009 U			
2-Methylnaphthalene	0.000352 J			
2-Methylphenol (o-Cresol)	0.0007 U			
2-Nitrophenol	0.0009 U			
3&4-Methylphenol	0.0012 U			
3-Methylphenol	--			
3-Nitroaniline	0.001 U			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Tap Water - mg/L			
	Sample Results for: AR16TW001			
4,6-Dinitro-2-Methylphenol	0.0002 U			
4-Bromophenylphenylether	0.0001 U			
4-Chloro-3-Methylphenol	0.0006 U			
4-Chloroaniline	0.001 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.001 U			
4-Nitrophenol	0.0003 U			
Acenaphthene	0.0001 U			
Acenaphthylene	0.0001 U			
Aniline	0.001 U			
Anthracene	0.0001 U			
Atrazine	0.0001 U			
Benzo(g,h,i)perylene	0.0001 U			
Bis(2-ethylhexyl)phthalate	0.0014 U			
Butylbenzylphthalate	0.0001 U			
Carbazole	0.0001 U			
Di-n-butylphthalate	0.0013 U			
Di-n-octylphthalate	0.0002 U			
Dibenzofuran	0.0001 U			
Diethylphthalate	0.0002 U			
Dimethylphthalate	0.0001 U			
Diphenylamine	0.0001 U			
Fluoranthene	0.0001 U			
Fluorene	0.0001 U			
Hexachlorobenzene	0.0001 U			
Hexachlorobutadiene	0.0002 U			
Hexachlorocyclopentadiene	0.001 U			
Hexachloroethane	0.0001 U			
Naphthalene	0.00673 J			
Nitrobenzene	0.0002 U			
o-Toluidine	0.0007 U			
Pentachlorobenzene	0.0002 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.0003 U			
Phenanthrene	0.0001 U			
Phenol	0.001 U			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Tap Water - mg/L			
	Sample Results for: AR16TW001			
Pyrene	0.0001 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.000137 J			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Tap Water - mg/L			
	Sample Results for: AR16TW001			
Acetaldehyde	--			
Acetone	0.00122 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000157 J			
Bromoform	0.00051 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.0000962 J			
Chloromethane	0.000251 J			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000286 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR16

Chemical	Tap Water - mg/L			
	Sample Results for: AR16TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.000176 J			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil - mg/kg				
	Sample Results for: AR21SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.0318 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000062617				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	86.5				
Turbidity	--				
Inorganics					
Aluminum	36600				
Antimony	0.488				
Arsenic	12.9				
Barium	288				
Beryllium	4.56				
Cadmium (Diet)	0.226				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil - mg/kg			
	Sample Results for: AR21SS0010006			
Chromium	9.710000000000001			
Cobalt	4.72			
Copper	31.7			
Iron	18600			
Lead	38.8			
Manganese (Diet)	622			
Manganese (Water)	--			
Mercury	0.19 U			
Nickel	4.44			
Selenium	0.112 U			
Silver	3.2			
Thallium	1.53			
Tin	2.81			
Vanadium	38.9			
Zinc	60.8			
Microorganisms				
Fecal Coliform	--			
Fecal Streptococcus	--			
Heterotrophic Plate Count	--			
Total Coliforms (including Fecal Coliform and E. Coli)	--			
Pesticides				
4,4-DDD	0.000471 UJ			
4,4-DDE	0.000462 UJ			
4,4-DDT	0.00062 UJ			
Aldrin	0.000375 UJ			
alpha-BHC	0.000462 UJ			
alpha-Chlordane	0.000375 UJ			
beta-BHC	0.000567 UJ			
Chlordane	--			
delta-BHC	0.000515 UJ			
Dieldrin	0.000524 UJ			
Endosulfan I	0.000471 UJ			
Endosulfan II	0.000375 UJ			
Endosulfan Sulfate	0.000532 UJ			
Endrin	0.000602 UJ			
Endrin Aldehyde	0.000541 UJ			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil - mg/kg			
	Sample Results for: AR21SS0010006			
gamma-BHC (Lindane)	0.000445 UJ			
gamma-Chlordane	0.00041 UJ			
Heptachlor	0.000532 UJ			
Heptachlor Epoxide	0.00041 UJ			
Methoxychlor	0.000663 UJ			
Toxaphene	0.00524 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00611 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00611 UJ			
Aroclor 1232	0.00611 UJ			
Aroclor 1242	0.00611 UJ			
Aroclor 1248	0.00611 UJ			
Aroclor 1254	0.00611 UJ			
Aroclor 1260	0.00611 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0169 U			
1,2,4,5-Tetrachlorobenzene	0.0136 U			
2,3,4,6-Tetrachlorophenol	0.0802 U			
2,4,5-Trichlorophenol	0.139 U			
2,4,6-Trichlorophenol	0.0745 U			
2,4-Dichlorophenol	0.087 U			
2,4-Dimethylphenol	0.167 U			
2,4-Dinitrophenol	0.0621 U			
2,4-Dinitrotoluene	0.0203 U			
2,6-Dichlorophenol	0.0531 U			
2,6-Dinitrotoluene	0.0169 U			
2-Chloronaphthalene	0.00904 U			
2-Chlorophenol	0.0565 U			
2-Methylnaphthalene	0.0192 U			
2-Methylphenol (o-Cresol)	0.113 U			
2-Nitrophenol	0.0712 U			
3&4-Methylphenol	0.13 U			
3-Methylphenol	--			
3-Nitroaniline	0.0203 U			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil - mg/kg			
	Sample Results for: AR21SS0010006			
4,6-Dinitro-2-Methylphenol	0.0757 U			
4-Bromophenylphenylether	0.0136 U			
4-Chloro-3-Methylphenol	0.0994 U			
4-Chloroaniline	0.026 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0497 U			
4-Nitrophenol	0.133 U			
Acenaphthene	0.0113 U			
Acenaphthylene	0.0102 U			
Aniline	0.0226 U			
Anthracene	0.0136 U			
Atrazine	0.0294 U			
Benzo(g,h,i)perylene	0.0316 U			
Bis(2-ethylhexyl)phthalate	0.119 U			
Butylbenzylphthalate	0.0339 U			
Carbazole	0.0203 U			
Di-n-butylphthalate	0.0486 U			
Di-n-octylphthalate	0.0226 U			
Dibenzofuran	0.0113 U			
Diethylphthalate	0.0192 U			
Dimethylphthalate	0.0147 U			
Diphenylamine	0.0587 U			
Fluoranthene	0.0215 U			
Fluorene	0.0136 U			
Hexachlorobenzene	0.0124 U			
Hexachlorobutadiene	0.0113 U			
Hexachlorocyclopentadiene	0.0158 U			
Hexachloroethane	0.0124 U			
Naphthalene	0.00678 U			
Nitrobenzene	0.0169 U			
o-Toluidine	0.0203 U			
Pentachlorobenzene	0.0316 U			
Pentachloronitrobenzene	0.000436 UJ			
Pentachlorophenol	0.174 U			
Phenanthrene	0.0339 U			
Phenol	0.0384 U			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil - mg/kg			
	Sample Results for: AR21SS0010006			
Pyrene	0.0203 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0487577 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000553 U			
1,1,1-Trichloroethane	0.000737 U			
1,1,2,2-Tetrachloroethane	0.000368 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00129 U			
1,1,2-Trichloroethane	0.000553 U			
1,1-Dichloroethane	0.00129 U			
1,1-Dichloroethene	0.000921 U			
1,2,3-Trichlorobenzene	0.000921 U			
1,2,3-Trichloropropane	0.000553 U			
1,2,4-Trichlorobenzene	0.000553 U			
1,2,4-Trimethylbenzene	0.000737 U			
1,2-Dibromo-3-Chloropropane	0.000737 U			
1,2-Dibromoethane	0.000184 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.00111 U			
1,2-Dichlorobenzene	0.000184 U			
1,2-Dichloroethane	0.000368 U			
1,2-Dichloropropane	0.000553 U			
1,3,5-Trimethylbenzene	0.000368 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000368 U			
1,3-Dichloropropane	0.000368 U			
1,4-Dichlorobenzene	0.000184 U			
2,2-Dichloropropane	0.000921 U			
2-Butanone (methyl ethyl ketone)	0.00332 U			
2-Chlorotoluene	0.000553 U			
2-Hexanone	0.00184 UJ			
4-Chlorotoluene	0.000368 U			
4-Isopropyltoluene	0.000368 U			
4-Methyl-2-Pentanone	0.000553 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil - mg/kg			
	Sample Results for: AR21SS0010006			
Acetone	0.0107 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000553 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000737 U			
Bromodichloromethane	0.000737 U			
Bromoform	0.000368 U			
Bromomethane	0.00553 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000737 U			
Chlorobenzene	0.000368 U			
Chloroethane	0.000737 U			
Chloroform	0.00129 U			
Chloromethane	0.00166 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00129 U			
cis-1,3-Dichloropropene	0.000184 U			
Cyclohexane	--			
Dibromochloromethane	0.000184 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000553 U			
Ethylbenzene	0.000553 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000368 U			
m,p-Xylenes	0.00111 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000921 U			
Methylcyclohexane	--			
Methylene Chloride	0.00184 U			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil - mg/kg			
	Sample Results for: AR21SS0010006			
n-Butylbenzene	0.000368 U			
n-Propylbenzene	0.000553 U			
o-Xylene	0.000368 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000368 U			
Styrene	0.000368 U			
tert-Butylbenzene	0.000737 U			
Tetrachloroethene	0.00111 U			
Toluene	0.00296 J			
trans-1,2-Dichloroethene	0.00111 U			
trans-1,3-Dichloropropene	0.000553 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000921 U			
Trichlorofluoromethane	0.00147 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000737 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR21SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR21SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR21SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR21SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR21SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.004378176			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR21SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR21SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Tap Water - mg/L				
	Sample Results for: AR21TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	9.24				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	2.84				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	8				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000034				
Disinfectants					
Chlorine (as Cl2)	0.07				
Disinfection Byproducts					
Total Trihalomethanes	0.00158				
Field Parameters					
Dissolved Oxygen	8.92				
Oxidation Reduction Potential	590				
pH	7.26				
Salinity	--				
Specific Conductance	0.66				
Temperature	24.6				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.000289				
Arsenic	0.00357				
Barium	0.0148				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.0000455				

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Tap Water - mg/L				
	Sample Results for: AR21TW001				
Chromium	0.000484				
Cobalt	0.00017				
Copper	0.254				
Iron	0.0756				
Lead	0.00485				
Manganese (Diet)	--				
Manganese (Water)	0.00692				
Mercury	0.000015 U				
Nickel	0.345				
Selenium	0.0002 U				
Silver	0.00012 U				
Thallium	0.00004 U				
Tin	0.000185				
Vanadium	0.001 U				
Zinc	0.594				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	210				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Tap Water - mg/L			
	Sample Results for: AR21TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.000937			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0002 U			
1,2,4,5-Tetrachlorobenzene	0.0002 U			
2,3,4,6-Tetrachlorophenol	0.0003 U			
2,4,5-Trichlorophenol	0.0005 U			
2,4,6-Trichlorophenol	0.0005 U			
2,4-Dichlorophenol	0.0007 U			
2,4-Dimethylphenol	0.001 U			
2,4-Dinitrophenol	0.0003 U			
2,4-Dinitrotoluene	0.001 U			
2,6-Dichlorophenol	0.0008 U			
2,6-Dinitrotoluene	0.0001 U			
2-Chloronaphthalene	0.0002 U			
2-Chlorophenol	0.0009 U			
2-Methylnaphthalene	0.0002 U			
2-Methylphenol (o-Cresol)	0.0007 U			
2-Nitrophenol	0.0009 U			
3&4-Methylphenol	0.0012 U			
3-Methylphenol	--			
3-Nitroaniline	0.001 U			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Tap Water - mg/L			
	Sample Results for: AR21TW001			
4,6-Dinitro-2-Methylphenol	0.0002 U			
4-Bromophenylphenylether	0.0001 U			
4-Chloro-3-Methylphenol	0.0006 U			
4-Chloroaniline	0.001 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.001 U			
4-Nitrophenol	0.0003 U			
Acenaphthene	0.0001 U			
Acenaphthylene	0.0001 U			
Aniline	0.001 U			
Anthracene	0.0001 U			
Atrazine	0.0001 U			
Benzo(g,h,i)perylene	0.0001 U			
Bis(2-ethylhexyl)phthalate	0.0014 U			
Butylbenzylphthalate	0.0001 U			
Carbazole	0.0001 U			
Di-n-butylphthalate	0.0013 U			
Di-n-octylphthalate	0.0002 U			
Dibenzofuran	0.0001 U			
Diethylphthalate	0.0002 U			
Dimethylphthalate	0.0001 U			
Diphenylamine	0.0001 U			
Fluoranthene	0.0001 U			
Fluorene	0.0001 U			
Hexachlorobenzene	0.0001 U			
Hexachlorobutadiene	0.0002 U			
Hexachlorocyclopentadiene	0.001 U			
Hexachloroethane	0.0001 U			
Naphthalene	0.0002 U			
Nitrobenzene	0.0002 U			
o-Toluidine	0.0007 U			
Pentachlorobenzene	0.0002 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.0003 U			
Phenanthrene	0.0001 U			
Phenol	0.001 U			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Tap Water - mg/L			
	Sample Results for: AR21TW001			
Pyrene	0.0001 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Tap Water - mg/L			
	Sample Results for: AR21TW001			
Acetaldehyde	--			
Acetone	0.00104 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000223 J			
Bromoform	0.000872 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000106 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000379 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR21

Chemical	Tap Water - mg/L			
	Sample Results for: AR21TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil - mg/kg				
	Sample Results for: AR24SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.0327 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000010463				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	91				
Turbidity	--				
Inorganics					
Aluminum	36600				
Antimony	0.692				
Arsenic	13.2				
Barium	279				
Beryllium	4.96				
Cadmium (Diet)	0.268				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil - mg/kg				
	Sample Results for: AR24SS0010006				
Chromium	5.58				
Cobalt	5.05				
Copper	49.2				
Iron	18300				
Lead	49				
Manganese (Diet)	654				
Manganese (Water)	--				
Mercury	0.189 U				
Nickel	5.89				
Selenium	0.113 U				
Silver	0.135				
Thallium	1.42				
Tin	4.16				
Vanadium	38.7				
Zinc	85.09999999999999				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000478 UJ				
4,4-DDE	0.000469 UJ				
4,4-DDT	0.000628 UJ				
Aldrin	0.000381 UJ				
alpha-BHC	0.000469 UJ				
alpha-Chlordane	0.000381 UJ				
beta-BHC	0.000575 UJ				
Chlordane	--				
delta-BHC	0.000522 UJ				
Dieldrin	0.000531 UJ				
Endosulfan I	0.000478 UJ				
Endosulfan II	0.000381 UJ				
Endosulfan Sulfate	0.00054 UJ				
Endrin	0.000611 UJ				
Endrin Aldehyde	0.000549 UJ				

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil - mg/kg			
	Sample Results for: AR24SS0010006			
gamma-BHC (Lindane)	0.000451 UJ			
gamma-Chlordane	0.000416 UJ			
Heptachlor	0.00054 UJ			
Heptachlor Epoxide	0.000416 UJ			
Methoxychlor	0.000673 UJ			
Toxaphene	0.00531 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00619 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00619 UJ			
Aroclor 1232	0.00619 UJ			
Aroclor 1242	0.00619 UJ			
Aroclor 1248	0.00619 UJ			
Aroclor 1254	0.00619 UJ			
Aroclor 1260	0.00619 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0161 U			
1,2,4,5-Tetrachlorobenzene	0.0129 U			
2,3,4,6-Tetrachlorophenol	0.0761 U			
2,4,5-Trichlorophenol	0.132 U			
2,4,6-Trichlorophenol	0.0708 U			
2,4-Dichlorophenol	0.0826 U			
2,4-Dimethylphenol	0.159 U			
2,4-Dinitrophenol	0.059 U			
2,4-Dinitrotoluene	0.0193 U			
2,6-Dichlorophenol	0.0504 U			
2,6-Dinitrotoluene	0.0161 U			
2-Chloronaphthalene	0.00858 U			
2-Chlorophenol	0.0536 U			
2-Methylnaphthalene	0.0182 U			
2-Methylphenol (o-Cresol)	0.107 U			
2-Nitrophenol	0.0676 U			
3&4-Methylphenol	0.123 U			
3-Methylphenol	--			
3-Nitroaniline	0.0193 U			

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil - mg/kg			
	Sample Results for: AR24SS0010006			
4,6-Dinitro-2-Methylphenol	0.0719 U			
4-Bromophenylphenylether	0.0129 U			
4-Chloro-3-Methylphenol	0.0944 U			
4-Chloroaniline	0.0247 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0472 U			
4-Nitrophenol	0.127 U			
Acenaphthene	0.0107 U			
Acenaphthylene	0.00965 U			
Aniline	0.0214 U			
Anthracene	0.0129 U			
Atrazine	0.0279 U			
Benzo(g,h,i)perylene	0.03 U			
Bis(2-ethylhexyl)phthalate	0.113 U			
Butylbenzylphthalate	0.0322 U			
Carbazole	0.0193 U			
Di-n-butylphthalate	0.0461 U			
Di-n-octylphthalate	0.0214 U			
Dibenzofuran	0.0107 U			
Diethylphthalate	0.0182 U			
Dimethylphthalate	0.0139 U			
Diphenylamine	0.0558 U			
Fluoranthene	0.0204 U			
Fluorene	0.0129 U			
Hexachlorobenzene	0.0118 U			
Hexachlorobutadiene	0.0107 U			
Hexachlorocyclopentadiene	0.015 U			
Hexachloroethane	0.0118 U			
Naphthalene	0.00644 U			
Nitrobenzene	0.0161 U			
o-Toluidine	0.0193 U			
Pentachlorobenzene	0.03 U			
Pentachloronitrobenzene	0.000442 UJ			
Pentachlorophenol	0.165 U			
Phenanthrene	0.0322 U			
Phenol	0.0365 U			

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil - mg/kg			
	Sample Results for: AR24SS0010006			
Pyrene	0.0193 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0462869 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000429 U			
1,1,1-Trichloroethane	0.000572 U			
1,1,2,2-Tetrachloroethane	0.000286 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.001 U			
1,1,2-Trichloroethane	0.000429 U			
1,1-Dichloroethane	0.001 U			
1,1-Dichloroethene	0.000715 U			
1,2,3-Trichlorobenzene	0.000715 U			
1,2,3-Trichloropropane	0.000429 U			
1,2,4-Trichlorobenzene	0.000429 U			
1,2,4-Trimethylbenzene	0.000572 U			
1,2-Dibromo-3-Chloropropane	0.000572 U			
1,2-Dibromoethane	0.000143 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000858 U			
1,2-Dichlorobenzene	0.000143 U			
1,2-Dichloroethane	0.000286 U			
1,2-Dichloropropane	0.000429 U			
1,3,5-Trimethylbenzene	0.000286 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000286 U			
1,3-Dichloropropane	0.000286 U			
1,4-Dichlorobenzene	0.000143 U			
2,2-Dichloropropane	0.000715 U			
2-Butanone (methyl ethyl ketone)	0.00257 U			
2-Chlorotoluene	0.000429 U			
2-Hexanone	0.00143 UJ			
4-Chlorotoluene	0.000286 U			
4-Isopropyltoluene	0.000286 U			
4-Methyl-2-Pentanone	0.000429 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil - mg/kg			
	Sample Results for: AR24SS0010006			
Acetone	0.0083 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000429 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000572 U			
Bromodichloromethane	0.000572 U			
Bromoform	0.000286 U			
Bromomethane	0.00429 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000572 U			
Chlorobenzene	0.000286 U			
Chloroethane	0.000572 U			
Chloroform	0.001 U			
Chloromethane	0.00129 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001 U			
cis-1,3-Dichloropropene	0.000143 U			
Cyclohexane	--			
Dibromochloromethane	0.000143 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000429 U			
Ethylbenzene	0.000429 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000286 U			
m,p-Xylenes	0.000858 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000715 U			
Methylcyclohexane	--			
Methylene Chloride	0.00143 U			

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil - mg/kg			
	Sample Results for: AR24SS0010006			
n-Butylbenzene	0.000286 U			
n-Propylbenzene	0.000429 U			
o-Xylene	0.000286 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000286 U			
Styrene	0.000286 U			
tert-Butylbenzene	0.000572 U			
Tetrachloroethene	0.000858 U			
Toluene	0.000715 U			
trans-1,2-Dichloroethene	0.000858 U			
trans-1,3-Dichloropropene	0.000429 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000715 U			
Trichlorofluoromethane	0.00114 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000572 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR24SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR24SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil Gas - mg/m3				
	Sample Results for: AR24SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR24SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR24SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.031458341			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR24SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Soil Gas - mg/m3			
	Sample Results for: AR24SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Tap Water - mg/L			
	Sample Results for: AR24TW001	Sample Results for: AR24TW002		
Alkane Hydrocarbon				
Octane	--	--		
Pentadecane	--	--		
Tridecane	--	--		
Undecane	--	--		
Anion				
Chloride	7.59	--		
Cyanide	0.004 U	--		
Fluoride	0.2 U	--		
Nitrate (measured as NO3-)	2.62	--		
Nitrite (measured as NO2-)	0.2 U	--		
Phosphate	0.4 U	--		
Sulfate	5.92	--		
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000036	--		
Disinfectants				
Chlorine (as Cl2)	0.02	--		
Disinfection Byproducts				
Total Trihalomethanes	0.001393	--		
Field Parameters				
Dissolved Oxygen	8.01	7.57		
Oxidation Reduction Potential	390	301		
pH	7.63	7.74		
Salinity	--	--		
Specific Conductance	0.6	0.65		
Temperature	28.6	26.02		
Total Dissolved Solids	--	--		
Total Solids	--	--		
Turbidity	--	--		
Inorganics				
Aluminum	0.0022 U	--		
Antimony	0.000176	--		
Arsenic	0.00268	--		
Barium	0.011	--		
Beryllium	0.00003 U	--		
Cadmium (Diet)	--	--		
Cadmium (Water)	0.0000535	--		

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Tap Water - mg/L			
	Sample Results for: AR24TW001	Sample Results for: AR24TW002		
Chromium	0.000412	--		
Cobalt	0.000166	--		
Copper	0.238	--		
Iron	0.0111	--		
Lead	0.00229	--		
Manganese (Diet)	--	--		
Manganese (Water)	0.0181	--		
Mercury	0.000015 U	--		
Nickel	0.532	--		
Selenium	0.0002 U	--		
Silver	0.00012 U	--		
Thallium	0.00004 U	--		
Tin	0.0001 U	--		
Vanadium	0.00249 U	--		
Zinc	0.15	--		
Microorganisms				
Fecal Coliform	1 <	1 <		
Fecal Streptococcus	0	0		
Heterotrophic Plate Count	6350	4020		
Total Coliforms (including Fecal Coliform and E. Coli)	1 <	1 <		
Pesticides				
4,4-DDD	0.000003 U	--		
4,4-DDE	0.000002 U	--		
4,4-DDT	0.000006 U	--		
Aldrin	0.000002 U	--		
alpha-BHC	0.000003 U	--		
alpha-Chlordane	0.000003 U	--		
beta-BHC	0.000002 U	--		
Chlordane	--	--		
delta-BHC	0.000001 U	--		
Dieldrin	0.000003 U	--		
Endosulfan I	0.000003 U	--		
Endosulfan II	0.000002 U	--		
Endosulfan Sulfate	0.000007 U	--		
Endrin	0.000002 U	--		
Endrin Aldehyde	0.000002 U	--		

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Tap Water - mg/L			
	Sample Results for: AR24TW001	Sample Results for: AR24TW002		
gamma-BHC (Lindane)	0.000001 U	--		
gamma-Chlordane	0.000002 U	--		
Heptachlor	0.000004 U	--		
Heptachlor Epoxide	0.000004 U	--		
Methoxychlor	0.000003 U	--		
Toxaphene	0.00001 U	--		
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U	--		
Aroclor 1016/1260	--	--		
Aroclor 1221	0.00002 U	--		
Aroclor 1232	0.00002 U	--		
Aroclor 1242	0.00002 U	--		
Aroclor 1248	0.00002 U	--		
Aroclor 1254	0.00002 U	--		
Aroclor 1260	0.00002 U	--		
Radionuclides				
Uranium	0.000559	--		
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0002 U	--		
1,2,4,5-Tetrachlorobenzene	0.0002 U	--		
2,3,4,6-Tetrachlorophenol	0.0003 U	--		
2,4,5-Trichlorophenol	0.0005 U	--		
2,4,6-Trichlorophenol	0.0005 U	--		
2,4-Dichlorophenol	0.0007 U	--		
2,4-Dimethylphenol	0.001 U	--		
2,4-Dinitrophenol	0.0003 U	--		
2,4-Dinitrotoluene	0.001 U	--		
2,6-Dichlorophenol	0.0008 U	--		
2,6-Dinitrotoluene	0.0001 U	--		
2-Chloronaphthalene	0.0002 U	--		
2-Chlorophenol	0.0009 U	--		
2-Methylnaphthalene	0.0002 U	--		
2-Methylphenol (o-Cresol)	0.0007 U	--		
2-Nitrophenol	0.0009 U	--		
3&4-Methylphenol	0.0012 U	--		
3-Methylphenol	--	--		
3-Nitroaniline	0.001 U	--		

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Tap Water - mg/L			
	Sample Results for: AR24TW001	Sample Results for: AR24TW002		
4,6-Dinitro-2-Methylphenol	0.0002 U	--		
4-Bromophenylphenylether	0.0001 U	--		
4-Chloro-3-Methylphenol	0.0006 U	--		
4-Chloroaniline	0.001 U	--		
4-Methylphenol (p-Cresol)	--	--		
4-Nitroaniline	0.001 U	--		
4-Nitrophenol	0.0003 U	--		
Acenaphthene	0.0001 U	--		
Acenaphthylene	0.0001 U	--		
Aniline	0.0018 J	--		
Anthracene	0.0001 U	--		
Atrazine	0.0001 U	--		
Benzo(g,h,i)perylene	0.0001 U	--		
Bis(2-ethylhexyl)phthalate	0.0014 U	--		
Butylbenzylphthalate	0.0001 U	--		
Carbazole	0.0001 U	--		
Di-n-butylphthalate	0.0013 U	--		
Di-n-octylphthalate	0.0002 U	--		
Dibenzofuran	0.0001 U	--		
Diethylphthalate	0.0002 U	--		
Dimethylphthalate	0.0001 U	--		
Diphenylamine	0.0001 U	--		
Fluoranthene	0.0001 U	--		
Fluorene	0.0001 U	--		
Hexachlorobenzene	0.0001 U	--		
Hexachlorobutadiene	0.0002 U	--		
Hexachlorocyclopentadiene	0.001 U	--		
Hexachloroethane	0.0001 U	--		
Naphthalene	0.0002 U	--		
Nitrobenzene	0.0002 U	--		
o-Toluidine	0.0007 U	--		
Pentachlorobenzene	0.0002 U	--		
Pentachloronitrobenzene	0.000003 U	--		
Pentachlorophenol	0.0003 U	--		
Phenanthrene	0.0001 U	--		
Phenol	0.001 U	--		

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Tap Water - mg/L			
	Sample Results for: AR24TW001	Sample Results for: AR24TW002		
Pyrene	0.0001 U	--		
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U	--		
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--	--		
Tph (c08-c40)	--	--		
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U	--		
1,1,1-Trichloroethane	0.00017 U	--		
1,1,2,2-Tetrachloroethane	0.00005 U	--		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U	--		
1,1,2-Trichloroethane	0.00011 U	--		
1,1-Dichloroethane	0.0001 U	--		
1,1-Dichloroethene	0.00013 U	--		
1,2,3-Trichlorobenzene	0.00012 U	--		
1,2,3-Trichloropropane	0.00013 U	--		
1,2,4-Trichlorobenzene	0.00013 U	--		
1,2,4-Trimethylbenzene	0.00006 U	--		
1,2-Dibromo-3-Chloropropane	0.00025 U	--		
1,2-Dibromoethane	0.00009 U	--		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U	--		
1,2-Dichlorobenzene	0.00007 U	--		
1,2-Dichloroethane	0.00008 U	--		
1,2-Dichloropropane	0.00015 U	--		
1,3,5-Trimethylbenzene	0.00008 U	--		
1,3-Butadiene	--	--		
1,3-Dichlorobenzene	0.00013 U	--		
1,3-Dichloropropane	0.00011 U	--		
1,4-Dichlorobenzene	0.00007 U	--		
2,2-Dichloropropane	0.0001 U	--		
2-Butanone (methyl ethyl ketone)	0.0016 U	--		
2-Chlorotoluene	0.00012 U	--		
2-Hexanone	0.0002 U	--		
4-Chlorotoluene	0.00013 U	--		
4-Isopropyltoluene	0.0001 U	--		
4-Methyl-2-Pentanone	0.0001 U	--		

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Tap Water - mg/L			
	Sample Results for: AR24TW001	Sample Results for: AR24TW002		
Acetaldehyde	--	--		
Acetone	0.00137 J	--		
Acetonitrile	--	--		
Acetophenone	--	--		
Acrolein	0.0004 U	--		
Acrylonitrile	--	--		
Benzene	0.00005 U	--		
Bis(2-Chloroethyl)ether	--	--		
Bis(chloromethyl)ether	--	--		
Bromochloromethane	0.0001 U	--		
Bromodichloromethane	0.00012 U	--		
Bromoform	0.00105	--		
Bromomethane	0.00037 U	--		
Carbon Disulfide	--	--		
Carbon Tetrachloride	0.00008 U	--		
Chlorobenzene	0.00012 U	--		
Chloroethane	0.00018 U	--		
Chloroform	0.000102 J	--		
Chloromethane	0.00021 U	--		
Chloroprene	--	--		
cis-1,2-Dichloroethene	0.00013 U	--		
cis-1,3-Dichloropropene	0.00015 U	--		
Cyclohexane	--	--		
Dibromochloromethane	0.000241 J	--		
Dibromomethane	--	--		
Dichlorodifluoromethane (Freon 12)	0.00012 U	--		
Ethylbenzene	0.00005 U	--		
Formaldehyde	--	--		
Hexane	--	--		
Isobutyl Alcohol	--	--		
Isophorone	--	--		
Isopropylbenzene	0.00006 U	--		
m,p-Xylenes	0.00009 U	--		
Methyl Acetate	--	--		
Methyl tert-Butyl Ether	0.00011 U	--		
Methylcyclohexane	--	--		

Attachment C - Environmental Sampling Results For Location AR24

Chemical	Tap Water - mg/L			
	Sample Results for: AR24TW001	Sample Results for: AR24TW002		
Methylene Chloride	0.00069 U	--		
n-Butylbenzene	0.00005 U	--		
n-Propylbenzene	0.00007 U	--		
o-Xylene	0.00007 U	--		
Pentachloroethane	--	--		
sec-Butylbenzene	0.00004 U	--		
Styrene	0.00008 U	--		
tert-Butylbenzene	0.00019 U	--		
Tetrachloroethene	0.00007 U	--		
Toluene	0.00017 U	--		
trans-1,2-Dichloroethene	0.00015 U	--		
trans-1,3-Dichloropropene	0.00007 U	--		
Trans-1,4-Dichloro-2-Butene	--	--		
Trichloroethene	0.00013 U	--		
Trichlorofluoromethane	0.00019 U	--		
Vinyl Acetate	--	--		
Vinyl Chloride	0.00015 U	--		
Xylenes, Total	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment D
Comparison of Environmental Sampling Results
to
Screening Concentrations

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to allow for double-sided printing.**

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000012054	--	0.000072	0.0000045	0.002	0.03
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	83.90000000000001	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	31000	86900	77000	--	0.4	--
Antimony	0.217	42.8	31	--	0.007	--
Arsenic	10.7	164	22	0.39	0.5	27.4
Barium	209	1813	15000	--	0.01	--
Beryllium	4.19	--	160	1400	0.03	0.003
Cadmium (Diet)	0.182	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.14	579	--	--	--	--
Cobalt	4.01	36.6	--	--	--	--
Copper	25.1	3965	3100	--	0.008	--
Iron	16400	154600	55000	--	0.3	--
Lead	30.7	2052	400	--	0.08	--
Manganese (Diet)	487	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.76	689	1600	--	0.003	--
Selenium	--	1.9	390	--	--	--
Silver	--	8.132	390	--	--	--
Thallium	1.66	69	5.1	--	0.3	--
Tin	2.22	--	47000	--	0.00005	--
Vanadium	44.7	187	550	--	0.08	--
Zinc	47.8	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	0.0507	--	2300	--	0.00002	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	0.0447	--	1700	--	0.00003	--
Total Carcinogenic PAHS (BaP TEQs)	0.029501	--	--	0.015	--	2.0
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.7	29.4
BACKGROUND RISK					1.7	27.4
INCREMENTAL RISK					0.03	2.0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.00828	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.002543782	2.8	0.0041	0.0009	0.6
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.0009	0.6
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.0009	0.6

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	11.5	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	2.43	44.3	--	--	255.2	0.05	--	--	0.010	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	7.24	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000058	0.00000003	--	--	0.000000037	0.0000000005	0.002	--	--	0.002	0.1	--
Disinfectants												
Chlorine (as Cl2)	0.02	4.01	--	--	--	--	0.005	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.002447	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	7.47	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	353	--	--	--	--	--	--	--	--	--	--	--
pH	7.3	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.75	--	--	--	--	--	--	--	--	--	--	--
Temperature	26.9	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	33	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	0.000883	0.006	--	--	0.015	0.1	--	--	0.06	--	--	--
Arsenic	0.00359	0.01	--	--	0.011	0.000045	0.4	--	0.3	79.8	--	--
Barium	0.0123	2	--	--	7.3	0.006	--	--	0.002	--	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000541	0.005	--	--	0.018	--	0.1	--	--	0.03	--	
Chromium	--	0.1	--	--	--	--	--	--	--	--	--	
Cobalt	0.00153	--	--	--	--	--	--	--	--	--	--	
Copper	0.165	--	--	--	1.5	--	--	--	--	0.1	--	
Iron	0.00851	--	--	--	26	--	--	--	--	0.0003	--	
Lead	0.00886	--	--	--	0.02	--	--	--	--	0.4	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.0515	--	--	--	0.88	--	--	--	--	0.06	--	
Mercury	0.000042	0.002	0.00063	--	--	--	0.02	0.07	--	--	--	
Nickel	4.38	--	--	--	0.73	--	--	--	--	6.0	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	1.98	--	--	--	11	--	--	--	--	0.2	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	1980	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.000704	0.03	--	--	0.11	--	0.02	--	--	0.006	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.0000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000144	--	--	--	0.73	0.0011	--	--	--	0.0002	0.1
Bromoform	0.00176	--	--	--	0.73	0.0085	--	--	--	0.002	0.2
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000108	--	0.2	0.00021	0.37	0.0022	--	0.0005	0.5	0.0003	0.05
Chloromethane	0.000215	--	0.19	0.0027	--	0.0052	--	0.001	0.08	--	0.04
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000435	--	--	--	0.73	0.0008	--	--	--	0.0006	0.5
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR03

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--
Toluene	--	1	10	--	2.9	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--
TOTAL RISK							0.07	0.6	7.2	80.9	
BACKGROUND RISK							0.07	0	6.7	79.8	
INCREMENTAL RISK							0.002	0.6	0.6	1.1	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000066897	--	0.000072	0.0000045	0.009	0.1
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	89.09999999999999	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	40100	86900	77000	--	0.5	--
Antimony	0.386	42.8	31	--	0.01	--
Arsenic	12	164	22	0.39	0.5	30.8
Barium	308	1813	15000	--	0.02	--
Beryllium	4.97	--	160	1400	0.03	0.004
Cadmium (Diet)	0.214	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.61	579	--	--	--	--
Cobalt	4.42	36.6	--	--	--	--
Copper	29.3	3965	3100	--	0.009	--
Iron	19500	154600	55000	--	0.4	--
Lead	35.7	2052	400	--	0.09	--
Manganese (Diet)	539	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.83	689	1600	--	0.003	--
Selenium	--	1.9	390	--	--	--
Silver	0.122	8.132	390	--	0.0003	--
Thallium	1.58	69	5.1	--	0.3	--
Tin	2.46	--	47000	--	0.00005	--
Vanadium	43.7	187	550	--	0.08	--
Zinc	54.4	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0036	--	43000	--	0.00000008	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0307	--	61000	--	0.0000005	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.000839	--	5000	--	0.0000002	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.0	30.9
BACKGROUND RISK					2.0	30.8
INCREMENTAL RISK					0.04	0.2

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
			TOTAL RISK	0	0
			BACKGROUND RISK	0	0
			INCREMENTAL RISK	0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	10.4	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.04	44.3	--	--	255.2	0.07	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.1	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000074	0.00000003	--	--	0.000000037	0.0000000005	0.002	--	--	0.002	0.1
Disinfectants											
Chlorine (as Cl2)	0.02	4.01	--	--	--	--	0.005	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.003977	0.0807	--	--	--	--	0.05	--	--	--	--
Field Parameters											
Dissolved Oxygen	7.25	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	224	--	--	--	--	--	--	--	--	--	--
pH	7.68	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.79	--	--	--	--	--	--	--	--	--	--
Temperature	26.12	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	25	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	0.00272	--	--	--	37	--	--	--	--	0.00007	--
Antimony	0.00265	0.006	--	--	0.015	--	0.4	--	--	0.2	--
Arsenic	0.00368	0.01	--	--	0.011	0.000045	0.4	--	--	0.3	81.8
Barium	0.0165	2	--	--	7.3	--	0.008	--	--	0.002	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000139	0.005	--	--	0.018	--	0.03	--	--	0.008	--	
Chromium	0.000235	0.1	--	--	--	--	0.002	--	--	--	--	
Cobalt	0.000236	--	--	--	--	--	--	--	--	--	--	
Copper	0.264	--	--	--	1.5	--	--	--	--	0.2	--	
Iron	0.799	--	--	--	26	--	--	--	--	0.03	--	
Lead	0.0116	--	--	--	0.02	--	--	--	--	0.6	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.0179	--	--	--	0.88	--	--	--	--	0.02	--	
Mercury	0.000043	0.002	0.00063	--	--	--	0.02	0.07	--	--	--	
Nickel	0.13	--	--	--	0.73	--	--	--	--	0.2	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000192	--	--	--	22	--	--	--	--	0.000009	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	0.975	--	--	--	11	--	--	--	--	0.09	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	1660	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	--	0.00028	--	--	--	--	--
4,4-DDE	--	--	--	--	--	--	0.0002	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	--	0.0002	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	--	0.000004	--	--	--	--	--
alpha-BHC	--	--	--	--	--	--	0.000011	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	--	0.000037	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	--	0.00019	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	--	0.0000042	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.000813	0.03	--	--	0.11	--	0.03	--	--	0.007	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	0.00305	--	--	--	0.26	0.012	--	--	--	0.01	0.3	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	0.000106	--	--	--	7.3	--	--	--	--	0.00001	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000222	--	--	--	0.73	0.0011	--	--	--	0.0003	0.2
Bromoform	0.00296	--	--	--	0.73	0.0085	--	--	--	0.004	0.3
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000151	--	0.2	0.00021	0.37	0.0022	--	0.0008	0.7	0.0004	0.07
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000644	--	--	--	0.73	0.0008	--	--	--	0.0009	0.8
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.07	0.7	1.6	83.6		
BACKGROUND RISK							0.07	0	0.8	81.8		
INCREMENTAL RISK							0.0008	0.7	0.8	1.8		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000339	--	0.000072	0.0000045	0.005	0.08
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	80.8	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	36600	86900	77000	--	0.5	--
Antimony	0.524	42.8	31	--	0.02	--
Arsenic	12.4	164	22	0.39	0.6	31.8
Barium	251	1813	15000	--	0.02	--
Beryllium	4.63	--	160	1400	0.03	0.003
Cadmium (Diet)	0.226	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	4.39	579	--	--	--	--
Cobalt	4.73	36.6	--	--	--	--
Copper	32.2	3965	3100	--	0.01	--
Iron	19200	154600	55000	--	0.3	--
Lead	37.1	2052	400	--	0.09	--
Manganese (Diet)	592	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.79	689	1600	--	0.003	--
Selenium	--	1.9	390	--	--	--
Silver	0.12	8.132	390	--	0.0003	--
Thallium	1.51	69	5.1	--	0.3	--
Tin	2.52	--	47000	--	0.00005	--
Vanadium	39.6	187	550	--	0.07	--
Zinc	65.5	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00173	--	5000	--	0.0000003	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.9	31.9
BACKGROUND RISK					1.9	31.8
INCREMENTAL RISK					0.03	0.08

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.01797166	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0	0
BACKGROUND RISK				0	0
INCREMENTAL RISK				0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	43.7	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	0.591	4	--	--	--	0.1	--	--	--	--	--	--
Nitrate (measured as NO3-)	10.5	44.3	--	--	255.2	0.2	--	--	0.04	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	15.7	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000028	0.00000003	--	--	0.000000037	0.0000000005	0.0009	--	--	0.0008	0.05	--
Disinfectants												
Chlorine (as Cl2)	0.01	4.01	--	--	--	--	0.002	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.00302	0.0807	--	--	--	--	0.04	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	9.51	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	368	--	--	--	--	--	--	--	--	--	--	--
pH	7.46	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.88	--	--	--	--	--	--	--	--	--	--	--
Temperature	27.33	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	30	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	0.00295	--	--	--	37	--	--	--	0.00008	--	--	--
Antimony	0.000202	0.006	--	--	0.015	0.03	--	--	0.01	--	--	--
Arsenic	0.00672	0.01	--	--	0.011	0.000045	0.7	--	0.6	149.3	--	--
Barium	0.017	2	--	--	7.3	0.009	--	--	0.002	--	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000126	0.005	--	--	0.018	--	0.03	--	--	0.007	--	
Chromium	0.000587	0.1	--	--	--	--	0.006	--	--	--	--	
Cobalt	0.000244	--	--	--	--	--	--	--	--	--	--	
Copper	0.184	--	--	--	1.5	--	--	--	--	0.1	--	
Iron	0.377	--	--	--	26	--	--	--	--	0.01	--	
Lead	0.011	--	--	--	0.02	--	--	--	--	0.6	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.0138	--	--	--	0.88	--	--	--	--	0.02	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.0825	--	--	--	0.73	--	--	--	--	0.1	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000381	--	--	--	22	--	--	--	--	0.00002	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	4.87	--	--	--	11	--	--	--	--	0.4	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	970	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.000505	0.03	--	--	0.11	--	0.02	--	--	0.005	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000172	--	--	--	0.73	0.0011	--	--	--	0.0002	0.2
Bromoform	0.00221	--	--	--	0.73	0.0085	--	--	--	0.003	0.3
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000112	--	0.2	0.00021	0.37	0.0022	--	0.0006	0.5	0.0003	0.05
Chloromethane	0.000264	--	0.19	0.0027	--	0.0052	--	0.001	0.10	--	0.05
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000526	--	--	--	0.73	0.0008	--	--	--	0.0007	0.7
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.002	0.6	1.9	150.6		
BACKGROUND RISK							0	0	1.2	149.3		
INCREMENTAL RISK							0.002	0.6	0.7	1.2		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000050716	--	0.000072	0.0000045	0.007	0.1
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	80.40000000000001	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	36100	86900	77000	--	0.5	--
Antimony	0.499	42.8	31	--	0.02	--
Arsenic	11.9	164	22	0.39	0.5	30.5
Barium	257	1813	15000	--	0.02	--
Beryllium	4.79	--	160	1400	0.03	0.003
Cadmium (Diet)	0.205	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.5	579	--	--	--	--
Cobalt	4.75	36.6	--	--	--	--
Copper	43.5	3965	3100	--	0.01	--
Iron	18600	154600	55000	--	0.3	--
Lead	41.7	2052	400	--	0.1	--
Manganese (Diet)	590	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	5.84	689	1600	--	0.004	--
Selenium	--	1.9	390	--	--	--
Silver	--	8.132	390	--	--	--
Thallium	--	69	5.1	--	--	--
Tin	2.62	--	47000	--	0.00006	--
Vanadium	45	187	550	--	0.08	--
Zinc	61	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
			TOTAL RISK		1.6	30.6
			BACKGROUND RISK		1.6	30.5
			INCREMENTAL RISK		0.04	0.1

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.003261127	2.8	0.0041	0.001	0.8
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	0.000783907	--	0.012	--	0.07
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.001	0.9
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.001	0.9

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	10.3	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	2.69	44.3	--	--	255.2	0.06	--	--	0.01	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	9.26	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000073	0.00000003	--	--	0.000000037	0.0000000005	0.002	--	--	0.002	0.1	--
Disinfectants												
Chlorine (as Cl2)	0.02	4.01	--	--	--	--	0.005	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.00375	0.0807	--	--	--	--	0.05	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	6.6	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	288	--	--	--	--	--	--	--	--	--	--	--
pH	7.72	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.77	--	--	--	--	--	--	--	--	--	--	--
Temperature	24.7	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	22	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	0.00142	0.006	--	--	0.015	0.2	--	--	0.09	--	--	--
Arsenic	0.00505	0.01	--	--	0.011	0.000045	0.5	--	0.5	112.2	--	--
Barium	0.021	2	--	--	7.3	0.01	--	--	0.003	--	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000215	0.005	--	--	0.018	--	0.04	--	--	0.01	--	
Chromium	--	0.1	--	--	--	--	--	--	--	--	--	
Cobalt	0.00262	--	--	--	--	--	--	--	--	--	--	
Copper	0.0783	--	--	--	1.5	--	--	--	--	0.05	--	
Iron	3.93	--	--	--	26	--	--	--	--	0.2	--	
Lead	0.0107	--	--	--	0.02	--	--	--	--	0.5	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.0534	--	--	--	0.88	--	--	--	--	0.06	--	
Mercury	0.000053	0.002	0.00063	--	--	--	0.03	0.08	--	--	--	
Nickel	6.32	--	--	--	0.73	--	--	--	--	8.7	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	2.34	--	--	--	11	--	--	--	--	0.2	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	2630	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.000971	0.03	--	--	0.11	--	0.03	--	--	0.009	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	0.000103	--	--	--	7.3	--	--	--	--	0.00001	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--
Total Petroleum Hydrocarbon											
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000236	--	--	--	0.73	0.0011	--	--	--	0.0003	0.2
Bromoform	0.00273	--	--	--	0.73	0.0085	--	--	--	0.004	0.3
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000132	--	0.2	0.00021	0.37	0.0022	--	0.0007	0.6	0.0004	0.06
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000652	--	--	--	0.73	0.0008	--	--	--	0.0009	0.8
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.08	0.6	10.3	113.8		
BACKGROUND RISK							0.08	0	9.7	112.2		
INCREMENTAL RISK							0.0007	0.6	0.6	1.6		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000085772	--	0.000072	0.0000045	0.01	0.2
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	84	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	34300	86900	77000	--	0.4	--
Antimony	0.52	42.8	31	--	0.02	--
Arsenic	12.5	164	22	0.39	0.6	32.1
Barium	251	1813	15000	--	0.02	--
Beryllium	4.57	--	160	1400	0.03	0.003
Cadmium (Diet)	0.22	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.33	579	--	--	--	--
Cobalt	4.49	36.6	--	--	--	--
Copper	27.1	3965	3100	--	0.009	--
Iron	18600	154600	55000	--	0.3	--
Lead	32.6	2052	400	--	0.08	--
Manganese (Diet)	606	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.04	689	1600	--	0.003	--
Selenium	--	1.9	390	--	--	--
Silver	0.124	8.132	390	--	0.0003	--
Thallium	1.41	69	5.1	--	0.3	--
Tin	2.54	--	47000	--	0.00005	--
Vanadium	36.7	187	550	--	0.07	--
Zinc	61.3	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
			TOTAL RISK		1.9	32.2
			BACKGROUND RISK		1.8	32.1
			INCREMENTAL RISK		0.04	0.2

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	0.010806023	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	2.743808113	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0	0
BACKGROUND RISK				0	0
INCREMENTAL RISK				0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	9.06	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	2.93	44.3	--	--	255.2	0.07	--	--	0.01	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	6.65	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	0.00000003	--	--	0.000000037	0.0000000005	--	--	--	--	--	--
Disinfectants												
Chlorine (as Cl2)	0.06	4.01	--	--	--	--	0.01	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.002039	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.859999999999	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	552	--	--	--	--	--	--	--	--	--	--	--
pH	7.29	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.67	--	--	--	--	--	--	--	--	--	--	--
Temperature	25.5	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	0.000192	0.006	--	--	0.015	0.03	--	--	0.01	--	--	--
Arsenic	0.00236	0.01	--	--	0.011	0.000045	0.2	--	0.2	52.4	--	--
Barium	0.0121	2	--	--	7.3	0.006	--	--	0.002	--	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.0000404	0.005	--	--	0.018	--	0.008	--	--	0.002	--	
Chromium	0.000464	0.1	--	--	--	--	0.005	--	--	--	--	
Cobalt	0.0000922	--	--	--	--	--	--	--	--	--	--	
Copper	0.258	--	--	--	1.5	--	--	--	--	0.2	--	
Iron	0.078	--	--	--	26	--	--	--	--	0.003	--	
Lead	0.00443	--	--	--	0.02	--	--	--	--	0.2	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.0127	--	--	--	0.88	--	--	--	--	0.01	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.143	--	--	--	0.73	--	--	--	--	0.2	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	0.496	--	--	--	11	--	--	--	--	0.05	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	180	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.000666	0.03	--	--	0.11	--	0.02	--	--	0.006	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000299	--	--	--	0.73	0.0011	--	--	--	0.0004	0.3
Bromoform	0.00112	--	--	--	0.73	0.0085	--	--	--	0.002	0.1
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000126	--	0.2	0.00021	0.37	0.0022	--	0.0006	0.6	0.0003	0.06
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000494	--	--	--	0.73	0.0008	--	--	--	0.0007	0.6
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR10

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--
Toluene	--	1	10	--	2.9	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--
TOTAL RISK							0.0006	0.6	0.9	53.5	
BACKGROUND RISK							0	0	0.5	52.4	
INCREMENTAL RISK							0.0006	0.6	0.4	1.1	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000115502	--	0.000072	0.0000045	0.02	0.3
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	80.8	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	43500	86900	77000	--	0.6	--
Antimony	0.0988	42.8	31	--	0.003	--
Arsenic	14.3	164	22	0.39	0.7	36.7
Barium	309	1813	15000	--	0.02	--
Beryllium	5.61	--	160	1400	0.04	0.004
Cadmium (Diet)	0.252	10.6	70	1800	0.004	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	7.11	579	--	--	--	--
Cobalt	5.25	36.6	--	--	--	--
Copper	41.6	3965	3100	--	0.01	--
Iron	21400	154600	55000	--	0.4	--
Lead	42.8	2052	400	--	0.1	--
Manganese (Diet)	714	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	5.8	689	1600	--	0.004	--
Selenium	--	1.9	390	--	--	--
Silver	0.118	8.132	390	--	0.0003	--
Thallium	1.59	69	5.1	--	0.3	--
Tin	2.31	--	47000	--	0.00005	--
Vanadium	56.2	187	550	--	0.1	--
Zinc	57	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.2	36.9
BACKGROUND RISK					2.2	36.7
INCREMENTAL RISK					0.05	0.3

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.004703823	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
			TOTAL RISK	0	0
			BACKGROUND RISK	0	0
			INCREMENTAL RISK	0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	10.2	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.19	44.3	--	--	255.2	0.07	--	--	0.01	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	9.19	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000039	0.00000003	--	--	0.000000037	0.0000000005	0.001	--	--	0.001	0.08	--
Disinfectants												
Chlorine (as Cl2)	0.01	4.01	--	--	--	--	0.002	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.00376	0.0807	--	--	--	--	0.05	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.15	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	275	--	--	--	--	--	--	--	--	--	--	--
pH	7.69	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.83	--	--	--	--	--	--	--	--	--	--	--
Temperature	27.19	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	42	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	0.00154	0.006	--	--	0.015	0.3	--	--	0.1	--	--	--
Arsenic	0.00404	0.01	--	--	0.011	0.000045	0.4	--	0.4	89.8	--	--
Barium	0.0264	2	--	--	7.3	0.01	--	--	0.004	--	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000489	0.005	--	--	0.018	--	0.10	--	--	0.03	--	
Chromium	0.000222	0.1	--	--	--	--	0.002	--	--	--	--	
Cobalt	0.00426	--	--	--	--	--	--	--	--	--	--	
Copper	0.215	--	--	--	1.5	--	--	--	--	0.1	--	
Iron	1.14	--	--	--	26	--	--	--	--	0.04	--	
Lead	0.0235	--	--	--	0.02	--	--	--	--	1.2	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.189	--	--	--	0.88	--	--	--	--	0.2	--	
Mercury	0.000026	0.002	0.00063	--	--	--	0.01	0.04	--	--	--	
Nickel	8.33	--	--	--	0.73	--	--	--	--	11.4	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	0.000164	--	--	--	0.18	--	--	--	--	0.0009	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000829	--	--	--	22	--	--	--	--	0.00004	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	6.45	--	--	--	11	--	--	--	--	0.6	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	1030	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	--	0.00028	--	--	--	--	--
4,4-DDE	--	--	--	--	--	--	0.0002	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	--	0.0002	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	--	0.000004	--	--	--	--	--
alpha-BHC	--	--	--	--	--	--	0.000011	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	--	0.000037	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	--	0.00019	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	--	0.0000042	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.000908	0.03	--	--	0.11	--	0.03	--	--	0.008	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	--
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000265	--	--	--	0.73	0.0011	--	--	--	0.0004	0.2
Bromoform	0.0028	--	--	--	0.73	0.0085	--	--	--	0.004	0.3
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000125	--	0.2	0.00021	0.37	0.0022	--	0.0006	0.6	0.0003	0.06
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.00057	--	--	--	0.73	0.0008	--	--	--	0.0008	0.7
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.04	0.6	14.1	91.2		
BACKGROUND RISK							0.04	0	12.8	89.8		
INCREMENTAL RISK							0.0006	0.6	1.3	1.4		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000002524	--	0.000072	0.0000045	0.004	0.06
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	86.2	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	24000	86900	77000	--	0.3	--
Antimony	0.364	42.8	31	--	0.01	--
Arsenic	11.5	164	22	0.39	0.5	29.5
Barium	171	1813	15000	--	0.01	--
Beryllium	3.57	--	160	1400	0.02	0.003
Cadmium (Diet)	0.173	10.6	70	1800	0.002	0.00010

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.35	579	--	--	--	--
Cobalt	3.13	36.6	--	--	--	--
Copper	14.4	3965	3100	--	0.005	--
Iron	12900	154600	55000	--	0.2	--
Lead	22.3	2052	400	--	0.06	--
Manganese (Diet)	455	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	2.77	689	1600	--	0.002	--
Selenium	--	1.9	390	--	--	--
Silver	--	8.132	390	--	--	--
Thallium	1.12	69	5.1	--	0.2	--
Tin	1.96	--	47000	--	0.00004	--
Vanadium	29.7	187	550	--	0.05	--
Zinc	50.1	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
				TOTAL RISK	1.5	29.5
				BACKGROUND RISK	1.4	29.5
				INCREMENTAL RISK	0.03	0.06

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	1.783276626	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	0.004016563	--	0.012	--	0.3
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0	0.3
BACKGROUND RISK				0	0
INCREMENTAL RISK				0	0.3

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	9.26	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	2.99	44.3	--	--	255.2	0.07	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	6.75	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000056	0.00000003	--	--	0.000000037	0.0000000005	0.002	--	--	0.002	0.1
Disinfectants											
Chlorine (as Cl2)	0.08	4.01	--	--	--	--	0.02	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.001663	0.0807	--	--	--	--	0.02	--	--	--	--
Field Parameters											
Dissolved Oxygen	822	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	581	--	--	--	--	--	--	--	--	--	--
pH	7.28	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.67	--	--	--	--	--	--	--	--	--	--
Temperature	27.2	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	--	--	--	--	37	--	--	--	--	--	--
Antimony	0.000155	0.006	--	--	0.015	0.03	--	--	0.01	--	--
Arsenic	0.00193	0.01	--	--	0.011	0.000045	0.2	--	0.2	42.9	--
Barium	0.0139	2	--	--	7.3	0.007	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000154	0.005	--	--	0.018	--	0.03	--	--	0.009	--	
Chromium	0.000565	0.1	--	--	--	--	0.006	--	--	--	--	
Cobalt	0.0001	--	--	--	--	--	--	--	--	--	--	
Copper	0.416	--	--	--	1.5	--	--	--	--	0.3	--	
Iron	0.0469	--	--	--	26	--	--	--	--	0.002	--	
Lead	0.00527	--	--	--	0.02	--	--	--	--	0.3	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00338	--	--	--	0.88	--	--	--	--	0.004	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.0418	--	--	--	0.73	--	--	--	--	0.06	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	1.57	--	--	--	11	--	--	--	--	0.1	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	2	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.000452	0.03	--	--	0.11	--	0.02	--	--	0.004	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000251	--	--	--	0.73	0.0011	--	--	--	0.0003	0.2
Bromoform	0.000983	--	--	--	0.73	0.0085	--	--	--	0.001	0.1
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	0.000279	--	0.19	0.0027	--	0.0052	--	0.001	0.1	--	0.05
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000429	--	--	--	0.73	0.0008	--	--	--	0.0006	0.5
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR13

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.001	0.1	1.0	43.9		
BACKGROUND RISK							0	0	0.4	42.9		
INCREMENTAL RISK							0.001	0.1	0.6	1.0		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000005611	--	0.000072	0.0000045	0.008	0.1
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	83.8	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	35900	86900	77000	--	0.5	--
Antimony	0.478	42.8	31	--	0.02	--
Arsenic	12.9	164	22	0.39	0.6	33.1
Barium	274	1813	15000	--	0.02	--
Beryllium	4.73	--	160	1400	0.03	0.003
Cadmium (Diet)	0.219	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.83	579	--	--	--	--
Cobalt	4.73	36.6	--	--	--	--
Copper	24.6	3965	3100	--	0.008	--
Iron	18600	154600	55000	--	0.3	--
Lead	34.5	2052	400	--	0.09	--
Manganese (Diet)	615	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	0.226	2.66	6.7	--	0.03	--
Nickel	4.71	689	1600	--	0.003	--
Selenium	--	1.9	390	--	--	--
Silver	--	8.132	390	--	--	--
Thallium	1.5	69	5.1	--	0.3	--
Tin	2.65	--	47000	--	0.00006	--
Vanadium	38.5	187	550	--	0.07	--
Zinc	68.5	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
				TOTAL RISK	2.0	33.2
				BACKGROUND RISK	1.9	33.1
				INCREMENTAL RISK	0.04	0.1

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.018022026	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	0.001932723	0.073	--	0.03	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	0.001870534	1	--	0.002	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.03	0
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.03	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	9.31	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.03	44.3	--	--	255.2	0.07	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	6.79	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000038	0.00000003	--	--	0.000000037	0.0000000005	0.001	--	--	0.001	0.07
Disinfectants											
Chlorine (as Cl2)	0.04	4.01	--	--	--	--	0.010	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.0010492	0.0807	--	--	--	--	0.01	--	--	--	--
Field Parameters											
Dissolved Oxygen	8.41	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	573	--	--	--	--	--	--	--	--	--	--
pH	7.28	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.68	--	--	--	--	--	--	--	--	--	--
Temperature	28	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	0.0142	--	--	--	37	--	--	--	--	0.0004	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--
Arsenic	0.00499	0.01	--	--	0.011	0.000045	0.5	--	--	0.5	110.9
Barium	0.0135	2	--	--	7.3	--	0.007	--	--	0.002	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	
Chromium	0.000779	0.1	--	--	--	--	0.008	--	--	--	--	
Cobalt	0.000114	--	--	--	--	--	--	--	--	--	--	
Copper	0.371	--	--	--	1.5	--	--	--	--	0.2	--	
Iron	0.54	--	--	--	26	--	--	--	--	0.02	--	
Lead	0.0284	--	--	--	0.02	--	--	--	--	1.4	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00892	--	--	--	0.88	--	--	--	--	0.01	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.0402	--	--	--	0.73	--	--	--	--	0.06	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000483	--	--	--	22	--	--	--	--	0.00002	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	1.25	--	--	--	11	--	--	--	--	0.1	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	21	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.000807	0.03	--	--	0.11	--	0.03	--	--	0.007	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	0.000352	--	--	--	0.15	--	--	--	--	0.002	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	0.00673	--	0.0063	0.00014	0.73	--	--	1.1	48.1	0.009	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--		
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--		
Phenanthrene	--	--	--	--	--	--	--	--	--	--		
Phenol	--	--	--	--	11	--	--	--	--	--		
Pyrene	--	--	--	--	1.1	--	--	--	--	--		
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--		
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	0.000137	--	0.015	--	--	--	--	0.009	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--	
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--	
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--	
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--	
Acetone	0.00122	--	64	--	33	--	--	0.00002	--	0.00004	--	
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--	
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--	
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--	
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--	
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--	
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--	
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--	
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	
Bromodichloromethane	0.000157	--	--	--	0.73	0.0011	--	--	--	0.0002	0.1	
Bromoform	0.00051	--	--	--	0.73	0.0085	--	--	--	0.0007	0.06	
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--	
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--	
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--	
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--	
Chloroethane	--	--	21	--	--	--	--	--	--	--	--	
Chloroform	0.0000962	--	0.2	0.00021	0.37	0.0022	--	0.0005	0.5	0.0003	0.04	
Chloromethane	0.000251	--	0.19	0.0027	--	0.0052	--	0.001	0.09	--	0.05	
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--	
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--	
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--	
Dibromochloromethane	0.000286	--	--	--	0.73	0.0008	--	--	--	0.0004	0.4	
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--	
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--	
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--	
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--	
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--	
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR16

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	0.000176	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							1.1	48.6	2.4	111.6		
BACKGROUND RISK							0	0	0.7	110.9		
INCREMENTAL RISK							1.1	48.6	1.7	0.7		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000062617	--	0.000072	0.0000045	0.009	0.1
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	86.5	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	36600	86900	77000	--	0.5	--
Antimony	0.488	42.8	31	--	0.02	--
Arsenic	12.9	164	22	0.39	0.6	33.1
Barium	288	1813	15000	--	0.02	--
Beryllium	4.56	--	160	1400	0.03	0.003
Cadmium (Diet)	0.226	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	9.710000000000001	579	--	--	--	--
Cobalt	4.72	36.6	--	--	--	--
Copper	31.7	3965	3100	--	0.01	--
Iron	18600	154600	55000	--	0.3	--
Lead	38.8	2052	400	--	0.10	--
Manganese (Diet)	622	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.44	689	1600	--	0.003	--
Selenium	--	1.9	390	--	--	--
Silver	3.2	8.132	390	--	0.008	--
Thallium	1.53	69	5.1	--	0.3	--
Tin	2.81	--	47000	--	0.00006	--
Vanadium	38.9	187	550	--	0.07	--
Zinc	60.8	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00296	--	5000	--	0.0000006	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.0	33.2
BACKGROUND RISK					1.9	33.1
INCREMENTAL RISK					0.04	0.1

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.004378176	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
			TOTAL RISK	0	0
			BACKGROUND RISK	0	0
			INCREMENTAL RISK	0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	9.24	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	2.84	44.3	--	--	255.2	0.06	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	8	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000034	0.00000003	--	--	0.000000037	0.0000000005	0.01	--	--	0.009	0.7
Disinfectants											
Chlorine (as Cl2)	0.07	4.01	--	--	--	--	0.02	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.00158	0.0807	--	--	--	--	0.02	--	--	--	--
Field Parameters											
Dissolved Oxygen	8.92	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	590	--	--	--	--	--	--	--	--	--	--
pH	7.26	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.66	--	--	--	--	--	--	--	--	--	--
Temperature	24.6	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	--	--	--	--	37	--	--	--	--	--	--
Antimony	0.000289	0.006	--	--	0.015	0.05	--	--	0.02	--	--
Arsenic	0.00357	0.01	--	--	0.011	0.000045	0.4	--	0.3	79.3	--
Barium	0.0148	2	--	--	7.3	0.007	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.0000455	0.005	--	--	0.018	--	0.009	--	--	0.003	--	
Chromium	0.000484	0.1	--	--	--	--	0.005	--	--	--	--	
Cobalt	0.00017	--	--	--	--	--	--	--	--	--	--	
Copper	0.254	--	--	--	1.5	--	--	--	--	0.2	--	
Iron	0.0756	--	--	--	26	--	--	--	--	0.003	--	
Lead	0.00485	--	--	--	0.02	--	--	--	--	0.2	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00692	--	--	--	0.88	--	--	--	--	0.008	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.345	--	--	--	0.73	--	--	--	--	0.5	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000185	--	--	--	22	--	--	--	--	0.000008	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	0.594	--	--	--	11	--	--	--	--	0.05	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	210	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.000937	0.03	--	--	0.11	--	0.03	--	--	0.009	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	0.00104	--	64	--	33	--	--	0.00002	--	0.00003	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000223	--	--	--	0.73	0.0011	--	--	--	0.0003	0.2
Bromoform	0.000872	--	--	--	0.73	0.0085	--	--	--	0.001	0.1
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000106	--	0.2	0.00021	0.37	0.0022	--	0.0005	0.5	0.0003	0.05
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000379	--	--	--	0.73	0.0008	--	--	--	0.0005	0.5
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR21

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.0005	0.5	1.3	80.8		
BACKGROUND RISK							0	0	0.9	79.3		
INCREMENTAL RISK							0.0005	0.5	0.4	1.5		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000010463	--	0.000072	0.0000045	0.01	0.2
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	91	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	36600	86900	77000	--	0.5	--
Antimony	0.692	42.8	31	--	0.02	--
Arsenic	13.2	164	22	0.39	0.6	33.8
Barium	279	1813	15000	--	0.02	--
Beryllium	4.96	--	160	1400	0.03	0.004
Cadmium (Diet)	0.268	10.6	70	1800	0.004	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.58	579	--	--	--	--
Cobalt	5.05	36.6	--	--	--	--
Copper	49.2	3965	3100	--	0.02	--
Iron	18300	154600	55000	--	0.3	--
Lead	49	2052	400	--	0.1	--
Manganese (Diet)	654	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	5.89	689	1600	--	0.004	--
Selenium	--	1.9	390	--	--	--
Silver	0.135	8.132	390	--	0.0003	--
Thallium	1.42	69	5.1	--	0.3	--
Tin	4.16	--	47000	--	0.00009	--
Vanadium	38.7	187	550	--	0.07	--
Zinc	85.09999999999999	3211	23000	--	0.004	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.0	34.1
BACKGROUND RISK					1.9	33.8
INCREMENTAL RISK					0.05	0.2

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.031458341	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
			TOTAL RISK	0	0
			BACKGROUND RISK	0	0
			INCREMENTAL RISK	0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	7.59	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	2.62	44.3	--	--	255.2	0.06	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	5.92	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000036	0.00000003	--	--	0.000000037	0.0000000005	0.001	--	--	0.0010	0.07
Disinfectants											
Chlorine (as Cl2)	0.02	4.01	--	--	--	--	0.005	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.001393	0.0807	--	--	--	--	0.02	--	--	--	--
Field Parameters											
Dissolved Oxygen	8.01	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	390	--	--	--	--	--	--	--	--	--	--
pH	7.74	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.65	--	--	--	--	--	--	--	--	--	--
Temperature	28.6	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	2	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	--	--	--	--	37	--	--	--	--	--	--
Antimony	0.000176	0.006	--	--	0.015	0.03	--	--	0.01	--	--
Arsenic	0.00268	0.01	--	--	0.011	0.000045	0.3	--	0.2	59.6	--
Barium	0.011	2	--	--	7.3	0.006	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.0000535	0.005	--	--	0.018	--	0.01	--	--	0.003	--	
Chromium	0.000412	0.1	--	--	--	--	0.004	--	--	--	--	
Cobalt	0.000166	--	--	--	--	--	--	--	--	--	--	
Copper	0.238	--	--	--	1.5	--	--	--	--	0.2	--	
Iron	0.0111	--	--	--	26	--	--	--	--	0.0004	--	
Lead	0.00229	--	--	--	0.02	--	--	--	--	0.1	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.0181	--	--	--	0.88	--	--	--	--	0.02	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.532	--	--	--	0.73	--	--	--	--	0.7	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	0.15	--	--	--	11	--	--	--	--	0.01	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	6350	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.000559	0.03	--	--	0.11	--	0.02	--	--	0.005	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	0.0018	--	--	--	0.26	0.012	--	--	--	0.007	0.2	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	0.00137	--	64	--	33	--	--	0.00002	--	0.00004	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	0.73	0.0011	--	--	--	--	--
Bromoform	0.00105	--	--	--	0.73	0.0085	--	--	--	0.001	0.1
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000102	--	0.2	0.00021	0.37	0.0022	--	0.0005	0.5	0.0003	0.05
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000241	--	--	--	0.73	0.0008	--	--	--	0.0003	0.3
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location AR24

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--
Toluene	--	1	10	--	2.9	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--
TOTAL RISK							0.0005	0.5	1.3	60.2	
BACKGROUND RISK							0	0	1.0	59.6	
INCREMENTAL RISK							0.0005	0.5	0.3	0.7	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment E
Chemical Fact Sheets

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to allow for double-sided printing.**

This fact sheet answers the most frequently asked health questions (FAQs) about arsenic. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to higher than average levels of arsenic occur mostly in the workplace, near hazardous waste sites, or in areas with high natural levels. At high levels, inorganic arsenic can cause death. Exposure to lower levels for a long time can cause a discoloration of the skin and the appearance of small corns or warts. Arsenic has been found in at least 1,149 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is arsenic?

Arsenic is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds.

Inorganic arsenic compounds are mainly used to preserve wood. Copper chromated arsenate (CCA) is used to make "pressure-treated" lumber. CCA is no longer used in the U.S. for residential uses; it is still used in industrial applications. Organic arsenic compounds are used as pesticides, primarily on cotton fields and orchards.

What happens to arsenic when it enters the environment?

- Arsenic occurs naturally in soil and minerals and may enter the air, water, and land from wind-blown dust and may get into water from runoff and leaching.
- Arsenic cannot be destroyed in the environment. It can only change its form.
- Rain and snow remove arsenic dust particles from the air.
- Many common arsenic compounds can dissolve in water. Most of the arsenic in water will ultimately end up in soil or sediment.
- Fish and shellfish can accumulate arsenic; most of this arsenic is in an organic form called arsenobetaine that is much less harmful.

How might I be exposed to arsenic?

- Ingesting small amounts present in your food and water or breathing air containing arsenic.
- Breathing sawdust or burning smoke from wood treated with arsenic.
- Living in areas with unusually high natural levels of arsenic in rock.
- Working in a job that involves arsenic production or use, such as copper or lead smelting, wood treating, or pesticide application.

How can arsenic affect my health?

Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs.

Ingesting very high levels of arsenic can result in death. Exposure to lower levels can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Ingesting or breathing low levels of inorganic arsenic for a long time can cause a darkening of the skin and the appearance of small "corns" or "warts" on the palms, soles, and torso.

Skin contact with inorganic arsenic may cause redness and swelling.

ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>

Almost nothing is known regarding health effects of organic arsenic compounds in humans. Studies in animals show that some simple organic arsenic compounds are less toxic than inorganic forms. Ingestion of methyl and dimethyl compounds can cause diarrhea and damage to the kidneys

How likely is arsenic to cause cancer?

Several studies have shown that ingestion of inorganic arsenic can increase the risk of skin cancer and cancer in the liver, bladder, and lungs. Inhalation of inorganic arsenic can cause increased risk of lung cancer. The Department of Health and Human Services (DHHS) and the EPA have determined that inorganic arsenic is a known human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic arsenic is carcinogenic to humans.

How can arsenic affect children?

There is some evidence that long-term exposure to arsenic in children may result in lower IQ scores. There is also some evidence that exposure to arsenic in the womb and early childhood may increase mortality in young adults.

There is some evidence that inhaled or ingested arsenic can injure pregnant women or their unborn babies, although the studies are not definitive. Studies in animals show that large doses of arsenic that cause illness in pregnant females, can also cause low birth weight, fetal malformations, and even fetal death. Arsenic can cross the placenta and has been found in fetal tissues. Arsenic is found at low levels in breast milk.

How can families reduce the risks of exposure to arsenic?

If you use arsenic-treated wood in home projects, you should wear dust masks, gloves, and protective clothing to decrease exposure to sawdust.

- If you live in an area with high levels of arsenic in water or soil, you should use cleaner sources of water and limit contact with soil.
- If you work in a job that may expose you to arsenic, be aware that you may carry arsenic home on your clothing, skin, hair, or tools. Be sure to shower and change clothes before going home.

Is there a medical test to determine whether I've been exposed to arsenic?

There are tests available to measure arsenic in your blood, urine, hair, and fingernails. The urine test is the most reliable test for arsenic exposure within the last few days. Tests on hair and fingernails can measure exposure to high levels of arsenic over the past 6-12 months. These tests can determine if you have been exposed to above-average levels of arsenic. They cannot predict whether the arsenic levels in your body will affect your health.

Has the federal government made recommendations to protect human health?

The EPA has set limits on the amount of arsenic that industrial sources can release to the environment and has restricted or cancelled many of the uses of arsenic in pesticides. EPA has set a limit of 0.01 parts per million (ppm) for arsenic in drinking water.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit (PEL) of 10 micrograms of arsenic per cubic meter of workplace air (10 µg/m³) for 8 hour shifts and 40 hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Arsenic (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about lead. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to lead can happen from breathing workplace air or dust, eating contaminated foods, or drinking contaminated water. Children can be exposed from eating lead-based paint chips or playing in contaminated soil. Lead can damage the nervous system, kidneys, and reproductive system. Lead has been found in at least 1,272 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is lead?

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing.

Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays. Because of health concerns, lead from paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years. The use of lead as an additive to gasoline was banned in 1996 in the United States.

What happens to lead when it enters the environment?

- Lead itself does not break down, but lead compounds are changed by sunlight, air, and water.
- When lead is released to the air, it may travel long distances before settling to the ground.
- Once lead falls onto soil, it usually sticks to soil particles.
- Movement of lead from soil into groundwater will depend on the type of lead compound and the characteristics of the soil.

How might I be exposed to lead?

- Eating food or drinking water that contains lead. Water pipes in some older homes may contain lead solder. Lead can leach out into the water.

- Spending time in areas where lead-based paints have been used and are deteriorating. Deteriorating lead paint can contribute to lead dust.

- Working in a job where lead is used or engaging in certain hobbies in which lead is used, such as making stained glass.

- Using health-care products or folk remedies that contain lead.

How can lead affect my health?

The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production.

How likely is lead to cause cancer?

We have no conclusive proof that lead causes cancer in humans. Kidney tumors have developed in rats and mice that had been given large doses of some kind of lead compounds. The Department of Health and Human Services

ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>

(DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens and the EPA has determined that lead is a probable human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic lead is probably carcinogenic to humans and that there is insufficient information to determine whether organic lead compounds will cause cancer in humans.

How can lead affect children?

Small children can be exposed by eating lead-based paint chips, chewing on objects painted with lead-based paint, or swallowing house dust or soil that contains lead.

Children are more vulnerable to lead poisoning than adults. A child who swallows large amounts of lead may develop blood anemia, severe stomachache, muscle weakness, and brain damage. If a child swallows smaller amounts of lead, much less severe effects on blood and brain function may occur. Even at much lower levels of exposure, lead can affect a child's mental and physical growth.

Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common if the mother or baby was exposed to high levels of lead. Some of these effects may persist beyond childhood.

How can families reduce the risks of exposure to lead?

- Avoid exposure to sources of lead.
- Do not allow children to chew on mouth surfaces that may have been painted with lead-based paint.
- If you have a water lead problem, run or flush water that has been standing overnight before drinking or cooking with it.
- Some types of paints and pigments that are used as make-up or hair coloring contain lead. Keep these kinds of products away from children
- If your home contains lead-based paint or you live in an area contaminated with lead, wash children's hands and faces

often to remove lead dusts and soil, and regularly clean the house of dust and tracked in soil.

Is there a medical test to determine whether I've been exposed to lead?

A blood test is available to measure the amount of lead in your blood and to estimate the amount of your recent exposure to lead. Blood tests are commonly used to screen children for lead poisoning. Lead in teeth or bones can be measured by X-ray techniques, but these methods are not widely available. Exposure to lead also can be evaluated by measuring erythrocyte protoporphyrin (EP) in blood samples. EP is a part of red blood cells known to increase when the amount of lead in the blood is high. However, the EP level is not sensitive enough to identify children with elevated blood lead levels below about 25 micrograms per deciliter ($\mu\text{g}/\text{dL}$). These tests usually require special analytical equipment that is not available in a doctor's office. However, your doctor can draw blood samples and send them to appropriate laboratories for analysis.

Has the federal government made recommendations to protect human health?

The Centers for Disease Control and Prevention (CDC) recommends that states test children at ages 1 and 2 years. Children should be tested at ages 3–6 years if they have never been tested for lead, if they receive services from public assistance programs for the poor such as Medicaid or the Supplemental Food Program for Women, Infants, and Children, if they live in a building or frequently visit a house built before 1950; if they visit a home (house or apartment) built before 1978 that has been recently remodeled; and/or if they have a brother, sister, or playmate who has had lead poisoning. CDC considers a blood lead level of 10 $\mu\text{g}/\text{dL}$ to be a level of concern for children.

EPA limits lead in drinking water to 15 μg per liter.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for lead (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because these substances may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene happens mostly from breathing air contaminated from the burning of wood, tobacco, or fossil fuels, industrial discharges, or moth repellents. Exposure to large amounts of naphthalene may damage or destroy some of your red blood cells. Naphthalene has caused cancer in animals. Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene have been found in at least 687, 36, and 412, respectively, of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What are naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene?

Naphthalene is a white solid that evaporates easily. Fuels such as petroleum and coal contain naphthalene. It is also called white tar, and tar camphor, and has been used in mothballs and moth flakes. Burning tobacco or wood produces naphthalene. It has a strong, but not unpleasant smell. The major commercial use of naphthalene is in the manufacture of polyvinyl chloride (PVC) plastics. Its major consumer use is in moth repellents and toilet deodorant blocks.

1-Methylnaphthalene and 2-methylnaphthalene are naphthalene-related compounds. 1-Methylnaphthalene is a clear liquid and 2-methylnaphthalene is a solid; both can be smelled in air and in water at very low concentrations.

1-Methylnaphthalene and 2-methylnaphthalene are used to make other chemicals such as dyes and resins. 2-Methylnaphthalene is also used to make vitamin K.

What happens to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene when they enter the environment?

- Naphthalene enters the environment from industrial and domestic sources, and from accidental spills.
- Naphthalene can dissolve in water to a limited degree and may be present in drinking water from wells close to hazardous waste sites and landfills.
- Naphthalene can become weakly attached to soil or pass through soil into underground water.
- In air, moisture and sunlight break it down within 1 day. In water, bacteria break it down or it evaporates into the air.
- Naphthalene does not accumulate in the flesh of animals or fish that you might eat.

1-Methylnaphthalene and 2-methylnaphthalene are expected to act like naphthalene in air, water, or soil because they have similar chemical and physical properties.

How might I be exposed to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene?

- Breathing low levels in outdoor air.
- Breathing air contaminated from industrial discharges or smoke from burning wood, tobacco, or fossil fuels.
- Using or making moth repellents, coal tar products, dyes or inks could expose you to these chemicals in the air.
- Drinking water from contaminated wells.
- Touching fabrics that are treated with moth repellents containing naphthalene.
- Exposure to naphthalene, 1-methylnaphthalene and 2-methylnaphthalene from eating foods or drinking beverages is unlikely.

How can naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene affect my health?

Exposure to large amounts of naphthalene may damage or destroy some of your red blood cells. This could cause you to have too few red blood cells until your body replaces the destroyed cells. This condition is called hemolytic anemia. Some symptoms of hemolytic anemia are fatigue, lack of appetite, restlessness, and pale skin. Exposure to large amounts of naphthalene may also cause nausea, vomiting, diarrhea, blood in the urine, and a yellow color to the skin. Animals sometimes develop cloudiness in their eyes after swallowing high amounts of naphthalene. It is not clear whether this also develops in people. Rats and mice that breathed naphthalene vapors daily for a lifetime developed irritation and inflammation of their nose and lungs. It is unclear if naphthalene

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causes reproductive effects in animals; most evidence says it does not.

There are no studies of humans exposed to 1-methylnaphthalene or 2-methylnaphthalene.

Mice fed food containing 1-methylnaphthalene and 2-methylnaphthalene for most of their lives had part of their lungs filled with an abnormal material.

How likely are naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene to cause cancer?

There is no direct evidence in humans that naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene cause cancer.

However, cancer from naphthalene exposure has been seen in animal studies. Some female mice that breathed naphthalene vapors daily for a lifetime developed lung tumors. Some male and female rats exposed to naphthalene in a similar manner also developed nose tumors.

Based on the results from animal studies, the Department of Health and Human Services (DHHS) concluded that naphthalene is reasonably anticipated to be a human carcinogen. The International Agency for Research on Cancer (IARC) concluded that naphthalene is possibly carcinogenic to humans. The EPA determined that naphthalene is a possible human carcinogen (Group C) and that the data are inadequate to assess the human carcinogenic potential of 2-methylnaphthalene.

How can naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene affect children?

Hospitals have reported many cases of hemolytic anemia in children, including newborns and infants, who either ate naphthalene mothballs or deodorants cakes or who were in close contact with clothing or blankets stored in naphthalene mothballs. Naphthalene can move from a pregnant woman's blood to the unborn baby's blood. Naphthalene has been detected in some samples of breast milk from the general U.S. population, but not at levels that are expected to be of concern.

There is no information on whether naphthalene has affected development in humans. No developmental abnormalities were observed in the offspring from rats, mice, and rabbits fed naphthalene during pregnancy.

We do not have any information on possible health effects of 1-methylnaphthalene or 2-methylnaphthalene on children.

How can families reduce the risks of exposure to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene?

Families can reduce the risks of exposure to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene by avoiding smoking tobacco, generating smoke during cooking, or using

fireplaces or heating appliances in their homes.

If families use naphthalene-containing moth repellents, the material should be enclosed in containers that prevent vapors from escaping, and kept out of the reach from children.

Blankets and clothing stored with naphthalene moth repellents should be aired outdoors to remove naphthalene odors and washed before they are used.

Families should inform themselves of the contents of air deodorizers that are used in their homes and refrain from using deodorizers with naphthalene.

Is there a medical test to determine whether I've been exposed to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene?

Tests are available that measure levels of these chemicals and their breakdown products in samples of urine, feces, blood, maternal milk, or body fat. These tests are not routinely available in a doctor's office because they require special equipment, but samples can be sent to special testing laboratories. These tests cannot determine exactly how much naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene you were exposed to or predict whether harmful effects will occur. If the samples are collected within a day or two of exposure, then the tests can show if you were exposed to a large or small amount of naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene.

Has the federal government made recommendations to protect human health?

The EPA recommends that children not drink water with over 0.5 parts per million (0.5 ppm) naphthalene for more than 10 days or over 0.4 ppm for any longer than 7 years. Adults should not drink water with more than 1 ppm for more than 7 years. For water consumed over a lifetime (70 years), the EPA suggests that it contain no more than 0.1 ppm naphthalene.

The Occupational Safety and Health Administration (OSHA) set a limit of 10 ppm for the level of naphthalene in workplace air during an 8-hour workday, 40-hour workweek. The National Institute for Occupational Safety and Health (NIOSH) considers more than 500 ppm of naphthalene in air to be immediately dangerous to life or health. This is the exposure level of a chemical that is likely to impair a worker's ability to leave a contaminate area and therefore, results in permanent health problems or death.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about nickel. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Nickel is a naturally occurring element. Pure nickel is a hard, silvery-white metal used to make stainless steel and other metal alloys. Skin effects are the most common effects in people who are sensitive to nickel. Workers who breathed very large amounts of nickel compounds developed chronic bronchitis and lung and nasal sinus cancers. Nickel has been found in at least 882 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is nickel?

Nickel is a very abundant natural element. Pure nickel is a hard, silvery-white metal. Nickel can be combined with other metals, such as iron, copper, chromium, and zinc, to form alloys. These alloys are used to make coins, jewelry, and items such as valves and heat exchangers. Most nickel is used to make stainless steel.

Nickel can combine with other elements such as chlorine, sulfur, and oxygen to form nickel compounds. Many nickel compounds dissolve fairly easy in water and have a green color. Nickel compounds are used for nickel plating, to color ceramics, to make some batteries, and as substances known as catalysts that increase the rate of chemical reactions. Nickel is found in all soil and is emitted from volcanoes. Nickel is also found in meteorites and on the ocean floor. Nickel and its compounds have no characteristic odor or taste.

What happens to nickel when it enters the environment?

- Nickel is released into the atmosphere by industries that make or use nickel, nickel alloys, or nickel compounds. It is also released into the atmosphere by oil-burning power plants, coal-burning power plants, and trash incinerators.
- In the air, it attaches to small particles of dust that settle to the ground or are taken out of the air in rain or snow; this usually takes many days.

- Nickel released in industrial waste water ends up in soil or sediment where it strongly attaches to particles containing iron or manganese.
- Nickel does not appear to accumulate in fish or in other animals used as food.

How might I be exposed to nickel?

- By eating food containing nickel, which is the major source of exposure for most people.
- By skin contact with soil, bath or shower water, or metals containing nickel, as well as by handling coins or touching jewelry containing nickel.
- By drinking water that contains small amounts of nickel.
- By breathing air or smoking tobacco containing nickel.
- Higher exposure may occur if you work in industries that process or use nickel.

How can nickel affect my health?

The most common harmful health effect of nickel in humans is an allergic reaction. Approximately 10-20% of the population is sensitive to nickel. People can become sensitive to nickel when jewelry or other things containing it are in direct contact with the skin for a long time. Once a person is sensitized to nickel, further contact with the metal may produce a reaction. The most common reaction is a skin rash at the site of contact. The skin rash may also

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occur at a site away from the site of contact. Less frequently, some people who are sensitive to nickel have asthma attacks following exposure to nickel. Some sensitized people react when they consume food or water containing nickel or breathe dust containing it.

People working in nickel refineries or nickel-processing plants have experienced chronic bronchitis and reduced lung function. These persons breathed amounts of nickel much higher than levels found normally in the environment.

Workers who drank water containing high amounts of nickel had stomach ache and suffered adverse effects to their blood and kidneys.

Damage to the lung and nasal cavity has been observed in rats and mice breathing nickel compounds. Eating or drinking large amounts of nickel has caused lung disease in dogs and rats and has affected the stomach, blood, liver, kidneys, and immune system in rats and mice, as well as their reproduction and development.

How likely is nickel to cause cancer?

Cancers of the lung and nasal sinus have resulted when workers breathed dust containing high levels of nickel compounds while working in nickel refineries or nickel processing plants. The Department of Health and Human Services (DHHS) has determined that nickel metal may reasonably be anticipated to be a carcinogen and that nickel compounds are known human carcinogens. The International Agency for Research on Cancer (IARC) has determined that some nickel compounds are carcinogenic to humans and that metallic nickel may possibly be carcinogenic to humans. The EPA has determined that nickel refinery dust and nickel subsulfide are human carcinogens.

How can nickel affect children?

It is likely that the health effects seen in children exposed to nickel will be similar to those seen in adults. We do not know whether children differ from adults in their susceptibility to nickel. Human studies that examined whether nickel can harm the fetus are inconclusive. Animal studies have found increases in newborn deaths and

decreased newborn weight after ingesting very high amounts of nickel. Nickel can be transferred from the mother to an infant in breast milk and can cross the placenta.

How can families reduce the risks of exposure to nickel?

- Avoiding jewelry containing nickel will eliminate risks of exposure to this source of the metal.
- Exposures of the general population from other sources, such as foods and drinking water, are almost always too low to be of concern.

Is there a medical test to determine whether I've been exposed to nickel?

There are tests available to measure nickel in your blood, feces, and urine. More nickel was measured in the urine of workers who were exposed to nickel compounds that dissolve easily in water than in the urine of workers exposed to nickel compounds that are hard to dissolve. This means that it is easier to tell if you have been exposed to soluble nickel compounds than less-soluble compounds. The nickel measurements do not accurately predict potential health effects from exposure to nickel.

Has the federal government made recommendations to protect human health?

The EPA recommends that drinking water should contain no more than 0.1 milligrams of nickel per liter of water (0.1 mg/L). To protect workers, the Occupational Safety and Health Administration (OSHA) has set a limit of 1 mg of nickel per cubic meter of air (1 mg/m³) for metallic nickel and nickel compounds in workplace air during an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Nickel (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about polycyclic aromatic hydrocarbons (PAHs). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to polycyclic aromatic hydrocarbons usually occurs by breathing air contaminated by wild fires or coal tar, or by eating foods that have been grilled. PAHs have been found in at least 600 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are polycyclic aromatic hydrocarbons?

(Pronounced pŏl'ī-sī'klīk ār'ə-măt'īk hī'drə-kar'bənz)

Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.

Some PAHs are manufactured. These pure PAHs usually exist as colorless, white, or pale yellow-green solids. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides.

What happens to PAHs when they enter the environment?

- PAHs enter the air mostly as releases from volcanoes, forest fires, burning coal, and automobile exhaust.
- PAHs can occur in air attached to dust particles.
- Some PAH particles can readily evaporate into the air from soil or surface waters.
- PAHs can break down by reacting with sunlight and other chemicals in the air, over a period of days to weeks.

- PAHs enter water through discharges from industrial and wastewater treatment plants.
- Most PAHs do not dissolve easily in water. They stick to solid particles and settle to the bottoms of lakes or rivers.
- Microorganisms can break down PAHs in soil or water after a period of weeks to months.
- In soils, PAHs are most likely to stick tightly to particles; certain PAHs move through soil to contaminate underground water.
- PAH contents of plants and animals may be much higher than PAH contents of soil or water in which they live.

How might I be exposed to PAHs?

- Breathing air containing PAHs in the workplace of coking, coal-tar, and asphalt production plants; smoke-houses; and municipal trash incineration facilities.
- Breathing air containing PAHs from cigarette smoke, wood smoke, vehicle exhausts, asphalt roads, or agricultural burn smoke.
- Coming in contact with air, water, or soil near hazardous waste sites.
- Eating grilled or charred meats; contaminated cereals, flour, bread, vegetables, fruits, meats; and processed or pickled foods.
- Drinking contaminated water or cow's milk.

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- ❑ Nursing infants of mothers living near hazardous waste sites may be exposed to PAHs through their mother's milk.

How can PAHs affect my health?

Mice that were fed high levels of one PAH during pregnancy had difficulty reproducing and so did their offspring. These offspring also had higher rates of birth defects and lower body weights. It is not known whether these effects occur in people.

Animal studies have also shown that PAHs can cause harmful effects on the skin, body fluids, and ability to fight disease after both short- and long-term exposure. But these effects have not been seen in people.

How likely are PAHs to cause cancer?

The Department of Health and Human Services (DHHS) has determined that some PAHs may reasonably be expected to be carcinogens.

Some people who have breathed or touched mixtures of PAHs and other chemicals for long periods of time have developed cancer. Some PAHs have caused cancer in laboratory animals when they breathed air containing them (lung cancer), ingested them in food (stomach cancer), or had them applied to their skin (skin cancer).

Is there a medical test to show whether I've been exposed to PAHs?

In the body, PAHs are changed into chemicals that can attach to substances within the body. There are special tests that can detect PAHs attached to these substances in body tissues or blood. However, these tests cannot tell whether any

health effects will occur or find out the extent or source of your exposure to the PAHs. The tests aren't usually available in your doctor's office because special equipment is needed to conduct them.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) has set a limit of 0.2 milligrams of PAHs per cubic meter of air (0.2 mg/m^3). The OSHA Permissible Exposure Limit (PEL) for mineral oil mist that contains PAHs is 5 mg/m^3 averaged over an 8-hour exposure period.

The National Institute for Occupational Safety and Health (NIOSH) recommends that the average workplace air levels for coal tar products not exceed 0.1 mg/m^3 for a 10-hour workday, within a 40-hour workweek. There are other limits for workplace exposure for things that contain PAHs, such as coal, coal tar, and mineral oil.

Glossary

Carcinogen: A substance that can cause cancer.

Ingest: Take food or drink into your body.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for polycyclic aromatic hydrocarbons. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

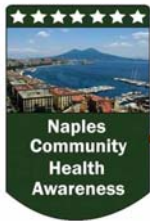
Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



ATTACHMENT E-2

PHASE I SCREENING RISK EVALUATION FOR PARCO EVA RESIDENCES

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to allow for double-sided printing.**



NAPLES Public Health Evaluation



U.S. Navy, Naples Housing Office Premise ID: Parco Eva

Dear Parco Eva Resident:

SUBJECT: Phase I Screening Risk Evaluation for Parco Eva Residences

The Navy Public Health Evaluation Team has completed a Screening Risk Evaluation (SRE) of soil, soil gas, and tap water samples that were collected at Parco Eva residences and common areas from 07/04/2008 to 07/14/2008 (See Figure 1). The purpose of the SRE is to evaluate the potential human health risks to Navy personnel and their families residing in the Naples area as a result of public health concerns that could be related to improper refuse disposal (including open burning) and hazardous waste disposal practices. This memo summarizes the results of the investigation that was performed at Parco Eva residences and common areas. These sampling results were compared to U.S. Environmental Protection Agency (USEPA) health standards and of the twelve locations sampled in the Parco, all twelve have been assessed to be Acceptable. Ambient air samples were also collected at Parco Eva as part of a year-long air study and the results will be evaluated after all of the data have been collected and analyzed.

SCREENING RISK EVALUATION RESULTS

The environmental sampling results for soil, soil gas, and tap water were compared to risk-based regional screening levels (RSLs) and drinking water standards (maximum contaminant levels [MCLs]) to evaluate potential risks to human health. These levels are considered by the USEPA to be protective of human health. Concentrations of chemicals in soil, soil gas, and tap water that exceed these levels may be of concern. Please see Attachment A for further discussion of the SRE approach.

These sampling results are being used as the basis for making recommendations for your residence. They will also be used as part of the overall effort in evaluating potential risks in the Naples area. The two potential outcomes of the SRE are that risks at your residence were: 1) Acceptable or 2) Unacceptable. Please see Attachment B for further discussion of these risk categories. This determination is based on a number of factors and assumes that an individual lives at the residence for 30-years, which is typically used by the USEPA to evaluate residential locations. Your actual risk may be significantly less than the risks presented in this memo. For example, if you live at this location for only three years and do not drink the tap water, then your risks will be significantly less than those presented in this memo.

Finally, risks presented in this SRE are based on a single sampling event. A single sample only provides a "snapshot" of concentrations that are present in soil, soil gas, and tap water. One sample may or may not be representative of the soil, soil gas, and tap water concentrations present each location. Please see Attachment C for the sampling results for all Parco Eva locations.

SUBJECT: Phase I Screening Risk Evaluation for Parco Eva Residences

Typically, in SRE reports, total risks are determined by calculating the potential risk for all of the various ways one might be exposed to contaminants, which are referred to as exposure pathways such as ingestion, inhalation, dermal contact, et cetera. For Naples, Navy leadership has implemented a Bottled Water Advisory and is requiring landlords to provide a water service from Navy-approved sources to eliminate the tap water ingestion exposure pathway. Therefore, we are calculating the risk two ways, assuming exposure via the ingestion pathway, and assuming no exposure via the ingestion pathway. Both of these risk determinations are described below and a table presenting the comparison of the environmental sampling results collected at Parco Eva and applicable screening concentrations is presented in Attachment D.

Risks Calculated for Individual Parco Eva Residences

Risks Calculated Assuming that Tap Water IS Used for Drinking, Cooking, Brushing Teeth and Making Ice

If the tap water at Parco Eva is used for drinking, cooking, brushing teeth, and making ice (in addition to other household uses), then based on USEPA RSLs and MCLs, the risks at nine out of ten residences are Acceptable and one is Unacceptable (i.e., EV11) because the total cancer risk exceedance factor (summed based on exposure to soil, soil gas, and tap water) was greater than 10. Of the nearly 220 chemicals that were tested in soil and tap water and the approximately 40 that were tested for in soil gas, two were detected at levels of potential concern¹.

Risks Calculated Assuming that Tap Water IS NOT Used for Drinking, Cooking, Brushing Teeth and Making Ice

The Navy has determined that the tap water in Naples should not be used for drinking, cooking, brushing teeth, or making ice. Therefore, if the tap water at Parco Eva is not used for drinking, cooking, brushing teeth, and making ice (i.e., tap water is only used for other household uses such as showering or washing clothes), then based on USEPA RSLs and MCLs, the risks at all ten residences are Acceptable. Of the nearly 220 chemicals that were tested in soil and tap water and approximately 40 that were tested for in soil gas, one was detected at a level of potential concern¹.

Summary of Chemical-Specific Results

In soil gas, tetrachloroethene exceeded its RSL at locations EV04 and EV11. In tap water, total dioxin/furans exceeded its RSL at locations EV09 and EV12. Please see Table 1 for a summary of Parco Eva residence risks by location.

- 1) Tetrachloroethene is a solvent commonly used to dry clean clothes and the inhalation RSL exceedance cannot be mitigated by using bottled water.
- 2) The total dioxin/furans ingestion RSL exceedances are mitigated by the use of bottled water. Dioxins/Furans are a group of chemicals that are called chlorinated dibenzo-p-

¹ This excludes naturally-occurring chemicals, such as arsenic.

SUBJECT: Phase I Screening Risk Evaluation for Parco Eva Residences

dioxins and dibenzo-p-furans. These chemicals can be produced during incomplete burning of wood or materials such as garbage.

For more information on these chemicals, please see Attachment E.

Risks Calculated for Parco Eva Common Areas

Two soil samples (locations EV01 and EV02) were collected from a common area located on the east-side of the parco (see Figure 1). These samples were also compared to USEPA RSLs to evaluate potential risks to human health and the risks at both locations have been assessed to be Acceptable. Please see Table 1 for a summary of Parco Eva residence risks by location.

None of the nearly 220 chemicals that were tested in soil were detected at levels of potential concern in the common areas. However, the concentrations of naturally-occurring arsenic in soil were above its RSL.

It should be noted that the concentrations of naturally-occurring arsenic in soil and tap water were above RSLs at all Parco Eva residences and the concentration of naturally-occurring nickel in tap water at location EV07 was above its RSL.

- 1) Arsenic in soil and tap water is often associated with volcanic activity. This is similar to areas in the United States (e.g., Puget Sound, Washington).
- 2) Nickel is a very abundant natural element that can be combined with other metals, such as iron, copper, chromium, and zinc, to form alloys, most commonly stainless steel. These alloys are also used to make coins, jewelry, and items such as valves and heat exchangers.

USEPA risk assessors also consider background concentrations of naturally-occurring metals (identified as Inorganics in Attachment D), such as arsenic and nickel, when evaluating risks. The concentrations of these naturally-occurring substances found at your residence were not included in risk-management decisions. The concentrations of metals in soil at your residence were similar to background concentrations found in the Naples area. The concentrations of arsenic and nickel in tap water were below the MCL for all Parco Eva residences. For more information on arsenic and nickel, please see Attachment E.

The risk-management decision (i.e., Acceptable or Unacceptable) presented in this memo is based on the Incremental Risk (i.e., the risks not including natural background). See the footnotes in Attachment D for more information.

SUBJECT: Phase I Screening Risk Evaluation for Parco Eva Residences

Actions that the Navy is Taking Based on the Sampling Results

Based on the results of the environmental sampling performed at Parco Eva, the following actions will be implemented:

- a) Bottled water will continue to be provided by the Navy until such time as the Navy's lease for this property is modified to require the landlord to provide containerized water.
- b) The bottled water advisory issued in 2008 is still in place.
- c) The Navy will ensure that any water holding tanks and associated plumbing are regularly cleaned and disinfected.
- d) Italian authorities have been and will continue to be notified of the results of the environmental sampling.
- e) The Navy is collecting additional soil gas samples to confirm the Phase I sampling results.

Actions that You Can Take to Reduce Exposure to Chemicals

- a) In accordance with the Bottled Water Advisory, use only bottled water for drinking, cooking, and brushing your teeth, and making ice.

Navy leadership is committed to your health and well-being. The U.S. and Italian governments have both made this study a top priority and we will keep you informed every step of the way. We appreciate your patience with this deliberate and complex process.

We encourage you to ask questions, attend Town Hall Meetings, check the website (<https://www.cnmc.navy.mil/Naples/Programs/HealthAwareness>), and use your chain of command for assistance in getting the answers you deserve. We have established an Environmental Health Information Office as a resource to help with your health related questions or concerns, which is located on the ground floor of Naval Hospital Naples, Room 1096, DSN 629-6071. CDR Tim Halenkamp, who runs this office, is also the Director of Occupational and Environmental Medicine and can be reached at DSN 314-626-6807 or Commercial 39-081-568-6807.

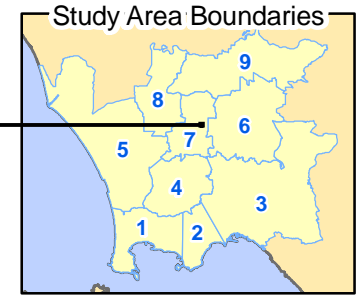
Attachments: (A) Overview of the Phase I Screening Risk Evaluation Approach

(B) Risk Management Framework

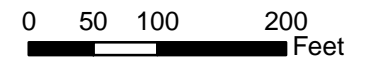
(C) Environmental Sampling Results

(D) Comparison of Environmental Sampling Results to Screening Concentrations

(E) Chemical Fact Sheets



- Legend**
- Study Area Boundary (1-9)
 - Sample Locations**
 - Soil Gas
 - Soil
 - Tap Water
 - Air



**Parco Eva Sample Locations
Phase I Screening Risk Evaluation
Naples, Italy**



DWN: KR	PROJECT:
DATE: May 2009	FIGURE NO.: 1

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Table 1: Summary of Parco Eva Residence Risks by Location

Site ID	Water Source	Soil RSL CNECF	Soil RSL CCEF	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+Inh. ⁽¹⁾ RSL CNECF	Tap Water Ing.+Inh. ⁽¹⁾ RSL CCEF	Tap Water Inh. Only ⁽²⁾ RSL CNECF	Tap Water Inh. Only ⁽²⁾ RSL CCEF	Includes Soil, Soil Gas, and Tap Water				Exceed Fecal or Total Coliform MCL?	Exceed MCL for any Chemical?	Ing.+Inh. Acceptable or Unacceptable	Inh. Only Acceptable or Unacceptable
										Total CNECF Ing.+Inh. ⁽³⁾	Total CCEF Ing.+Inh. ⁽³⁾	Total CNECF Inh. Only ⁽⁴⁾	Total CCEF Inh. Only ⁽⁴⁾				
EV01	--	0.03	0.05	--	--	--	--	--	--	0.03	0.05	0.03	0.05	--	--	Acceptable	Acceptable
EV02	--	0.04	0.09	--	--	--	--	--	--	0.04	0.09	0.04	0.09	--	--	Acceptable	Acceptable
EV03	Public	0.03	0.04	0	0	0.4	1.4	0	0	0.44	1.39	0.03	0.04	No	No	Acceptable	Acceptable
EV04	Public	0.03	0.04	0.009	6.3	0.4	1.1	0.00003	0	0.44	7.41	0.04	6.32	No	No	Acceptable	Acceptable
EV05	Public	0.03	0.1	0	0	0.8	1.2	0	0	0.80	1.34	0.03	0.12	No	No	Acceptable	Acceptable
EV06	Public	0.04	0.1	0	0	0.6	0.7	0	0	0.69	0.83	0.04	0.10	No	No	Acceptable	Acceptable
EV07	Public	0.04	0.02	0	0	0.7	0.5	0	0	0.70	0.54	0.04	0.02	No	No	Acceptable	Acceptable
EV08	Public	0.04	0.06	0.003	0	0.2	1.6	0	0	0.21	1.61	0.04	0.06	No	No	Acceptable	Acceptable
EV09	Public	0.04	0.03	0	0	0.2	4.5	0	0	0.20	4.58	0.04	0.03	No	No	Acceptable	Acceptable
EV10	Public	0.04	0.06	0	0	0.9	0.7	0	0	0.98	0.79	0.04	0.06	No	No	Acceptable	Acceptable
EV11	Public	0.04	0.04	0.01	9.9	0.1	0.8	0.0	0.0	0.16	10.82	0.05	9.98	No	No	Unacceptable	Acceptable
EV12	Public	0.03	0.01	0	0	0.3	3.6	0	0	0.31	3.66	0.03	0.01	No	No	Acceptable	Acceptable

Note:
 CCEF = Cumulative Cancer Exceedance Factor, CNECF = Cumulative Noncancer Exceedance Factor, Inh. = Inhalation, Ing. = Ingestion, RSL = USEPA Regional risk-based screening level, MCL = USEPA Maximum Contaminant Limit
 0.0 = Value is less than 0.01.

-- = Samples were not collected for that medium.

Residences that meet the unacceptable criteria for Ing.+Inh. or Inh. Only are shaded and bold.

¹Ing.+Inh. exposure scenario for residences assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.

²Inh. Only exposure scenario for residences assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.

³Ing.+Inh. exposure scenario for residences (Total Cumulative Exceedance Factor-Based on Soil, Soil Gas, and Tap Water) assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.

⁴Inh. Only exposure scenario for residences (Total Cumulative Exceedance Factor-Based on Soil, Soil Gas, and Tap Water) assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.

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Attachment A

Overview of the Phase I Screening Risk Evaluation Approach

Comparison of Environmental Sampling Results to Risk-Based Screening Concentrations

To determine whether or not the sampling results for soil, soil gas, and tap water are potentially of concern to human health, the sampling results were compared to United States Environmental Protection Agency (USEPA) risk-based regional screening levels (RSLs). The RSLs incorporate many conservative assumptions about exposure to be protective of human health.

Concentrations for each chemical were compared to:

1. USEPA RSLs based on 30-year residential exposure
2. USEPA Maximum Contaminant Levels (MCLs) for Drinking Water

The USEPA RSLs are calculated based on carcinogenic (i.e., cancer) risks and noncarcinogenic (i.e., noncancer) health effects. Cancer risk is an estimate of how exposure to a chemical may increase the normal or expected rate of developing cancer in a population of people. The USEPA generally evaluates cancer risk¹ as follows:

- **Acceptable Risk** – A cancer risk of 1×10^{-6} (i.e., one person out of 1,000,000 will develop cancer) or less is considered safe (i.e., acceptable). Note: The USEPA generally also considers the range between one in 10,000 (1×10^{-4}) and one in 1,000,000 (1×10^{-6}) people as a safe (i.e., acceptable) range, and actions to reduce the risk may or may not be required based on various site-specific factors. The USEPA typically considers additional actions to reduce cancer risks that are close to or greater than one in 10,000 (1×10^{-4}) people.
- **Unacceptable Risk** – USEPA considers an increase of “more than” one additional case of cancer (or greater) in 10,000 (1×10^{-4}) people to be of concern (i.e., unacceptable).

Noncancer health effects are expressed by a number known as the “hazard quotient” or “HQ.” The HQ compares the amount of a chemical that people may have been exposed to over a specified time period with the amount that is considered to have no effect (i.e., safe). If people are exposed to an amount greater than that considered safe for a particular chemical, then the ratio will be greater than one. Because people can be

¹ For the purposes of the Phase I SRE, the Navy has decided to use only two categories to categorize risks (i.e., “Acceptable” or “Unacceptable”). See Appendix B for the definition of *Acceptable* and *Unacceptable* risks).

exposed to more than one chemical at a time, the HQs for different chemicals are added together to give an overall “Hazard Index” or “HI,” unless data is available to indicate that they should not be added together. USEPA policy considers chemical concentrations resulting in an HI above one to be of concern for developing potential noncancer health effects. Professional judgment must be used to evaluate the potential noncancer health effects related to the concentration of these chemicals to determine if actions to reduce the risk are needed.

Comparison of Environmental Sampling Results to Maximum Contaminant Levels (MCLs)

MCLs are maximum permissible levels of a contaminant in public water supplies. For private water supplies, MCLs are useful for determining potability. MCLs are protective of public health during a lifetime (70 years) for an individual who drinks two liters of water per day.

Attachment B

Risk Management Criteria

This Screening Risk Evaluation (SRE) characterizes the potential health risks associated with living at your residence for 30 years. This is generally a conservative assumption because typical tour lengths range from three to six years. The risk evaluation results were placed into one of two categories: 1) Acceptable Risks or 2) Unacceptable Risks. Based on the results of the SRE, the appropriate course of action will be taken to ensure the safety of U.S. Navy military and civilian personnel and their families. The criteria for each of the risk-management categories are defined below.

**United States Navy
Naples, Italy Phase I Screening Risk Evaluation
Risk Management Categories**

Criteria/ Actions	Acceptable Risks	Unacceptable Risks
Risk Criteria – for Residences Using Tap Water for Drinking, Cooking, Brushing Teeth, and Making Ice⁶	<ul style="list-style-type: none"> • Total NCEF less than or equal to 1; and • Total CEF less than or equal to 10; and • Concentration less than or equal to USEPA MCL (tap water). Applies to all chemicals. 	<ul style="list-style-type: none"> • Total NCEF greater than 1; or • Total CEF greater than 10; or • Concentration greater than the USEPA MCL (tap water). Applies to all chemicals.
Risk Criteria – for Residences <u>NOT</u> Using Tap Water for Drinking, Cooking, Brushing Teeth, and Making Ice⁷	<ul style="list-style-type: none"> • Total NCEF less than or equal to 1; and • Total CEF less than or equal to 10; and • Concentration less than or equal to USEPA MCL (tap water). Applies only to Fecal Coliform and Total Coliforms (including Fecal Coliform and E. Coli). 	<ul style="list-style-type: none"> • Total NCEF greater than 1; or • Total CEF greater than 10; or • Concentration greater than the USEPA MCL (tap water). Applies only to Fecal Coliform and Total Coliforms (including Fecal Coliform and E. Coli).

**United States Navy
Naples, Italy Phase I Screening Risk Evaluation
Risk Management Categories**

Criteria/ Actions	Acceptable Risks	Unacceptable Risks
	<p>Notes:</p> <ol style="list-style-type: none"> 1. Noncancer exceedance factors (NCEFs) were calculated by dividing the maximum detected concentrations by noncancer-based U.S. Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs). 2. Cancer exceedance factors (CEFs) were calculated by dividing the maximum detected concentrations by cancer-based USEPA RSLs. 3. The individual NCEFs and CEFs were summed to provide the total NCEF and total CEF. 4. An NCEF of 1 corresponds to a Hazard Index of 1. 5. A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million). A CEF of 10 corresponds to a cancer risk of 1×10^{-5} (one in a one hundred thousand). 6. The tap water RSLs used to evaluate residences that <u>USE</u> tap water for drinking, cooking, brushing teeth, and making ice were based on ingestion and inhalation of household uses (e.g., showering) of tap water. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate. 7. The tap water RSLs used to evaluate residences that <u>DO NOT</u> use tap water for drinking, cooking, brushing teeth, and making ice were based on inhalation of household uses (e.g., showering) of tap water only. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate. 	

Attachment C
Environmental Sampling Results

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Attachment C - Environmental Sampling Results For Location EV01

Chemical	Soil - mg/kg				
	Sample Results for: EV01SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.161 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000215				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	75.40000000000001				
Turbidity	--				
Inorganics					
Aluminum	37200				
Antimony	0.485				
Arsenic	11.8				
Barium	265				
Beryllium	4.85				
Cadmium (Diet)	0.24				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV01

Chemical	Soil - mg/kg				
	Sample Results for: EV01SS0010006				
Chromium	3.97				
Cobalt	5.01				
Copper	23.6				
Iron	18000				
Lead	34				
Manganese (Diet)	561				
Manganese (Water)	--				
Mercury	0.1 U				
Nickel	4.96				
Selenium	0.108				
Silver	0.0975 U				
Thallium	1.63				
Tin	2.38				
Vanadium	37.9				
Zinc	63.6				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000462 U				
4,4-DDE	0.000454 U				
4,4-DDT	0.000608 U				
Aldrin	0.000368 U				
alpha-BHC	0.000454 U				
alpha-Chlordane	0.000368 U				
beta-BHC	0.000557 U				
Chlordane	--				
delta-BHC	0.000505 U				
Dieldrin	0.000514 U				
Endosulfan I	0.000462 U				
Endosulfan II	0.000368 U				
Endosulfan Sulfate	0.000522 U				
Endrin	0.000591 U				
Endrin Aldehyde	0.000531 U				

Attachment C - Environmental Sampling Results For Location EV01

Chemical	Soil - mg/kg			
	Sample Results for: EV01SS0010006			
gamma-BHC (Lindane)	0.000437 U			
gamma-Chlordane	0.000402 U			
Heptachlor	0.000522 U			
Heptachlor Epoxide	0.000402 U			
Methoxychlor	0.000651 U			
Toxaphene	0.00681 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00794 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00794 U			
Aroclor 1232	0.00794 U			
Aroclor 1242	0.00794 U			
Aroclor 1248	0.00794 U			
Aroclor 1254	0.00794 U			
Aroclor 1260	0.00794 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0197 U			
1,2,4,5-Tetrachlorobenzene	0.0158 U			
2,3,4,6-Tetrachlorophenol	0.0932 U			
2,4,5-Trichlorophenol	0.161 U			
2,4,6-Trichlorophenol	0.0866 U			
2,4-Dichlorophenol	0.101 U			
2,4-Dimethylphenol	0.194 U			
2,4-Dinitrophenol	0.0722 U			
2,4-Dinitrotoluene	0.0236 U			
2,6-Dichlorophenol	0.0617 U			
2,6-Dinitrotoluene	0.0197 U			
2-Chloronaphthalene	0.0105 U			
2-Chlorophenol	0.0656 U			
2-Methylnaphthalene	0.0223 U			
2-Methylphenol (o-Cresol)	0.131 U			
2-Nitrophenol	0.0827 U			
3&4-Methylphenol	0.151 U			
3-Methylphenol	--			
3-Nitroaniline	0.0236 U			

Attachment C - Environmental Sampling Results For Location EV01

Chemical	Soil - mg/kg			
	Sample Results for: EV01SS0010006			
4,6-Dinitro-2-Methylphenol	0.0879 U			
4-Bromophenylphenylether	0.0158 U			
4-Chloro-3-Methylphenol	0.115 U			
4-Chloroaniline	0.0302 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0578 U			
4-Nitrophenol	0.155 U			
Acenaphthene	0.0131 U			
Acenaphthylene	0.0118 U			
Aniline	0.0262 U			
Anthracene	0.0158 U			
Atrazine	0.0341 U			
Benzo(g,h,i)perylene	0.0368 U			
Bis(2-ethylhexyl)phthalate	0.138 U			
Butylbenzylphthalate	0.0394 U			
Carbazole	0.0236 U			
Di-n-butylphthalate	0.0564 U			
Di-n-octylphthalate	0.0262 U			
Dibenzofuran	0.0131 U			
Diethylphthalate	0.0223 U			
Dimethylphthalate	0.0171 U			
Diphenylamine	0.0682 U			
Fluoranthene	0.0249 U			
Fluorene	0.0158 U			
Hexachlorobenzene	0.0144 U			
Hexachlorobutadiene	0.0131 U			
Hexachlorocyclopentadiene	0.0184 U			
Hexachloroethane	0.0144 U			
Naphthalene	0.00788 U			
Nitrobenzene	0.0197 U			
o-Toluidine	0.0236 U			
Pentachlorobenzene	0.0368 U			
Pentachloronitrobenzene	0.000428 U			
Pentachlorophenol	0.202 U			
Phenanthrene	0.0394 U			
Phenol	0.0446 U			

Attachment C - Environmental Sampling Results For Location EV01

Chemical	Soil - mg/kg			
	Sample Results for: EV01SS0010006			
Pyrene	0.0236 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0566531 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000365 U			
1,1,1-Trichloroethane	0.000487 U			
1,1,2,2-Tetrachloroethane	0.000244 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000853 U			
1,1,2-Trichloroethane	0.000365 U			
1,1-Dichloroethane	0.000853 U			
1,1-Dichloroethene	0.000609 U			
1,2,3-Trichlorobenzene	0.000609 U			
1,2,3-Trichloropropane	0.000365 U			
1,2,4-Trichlorobenzene	0.000365 U			
1,2,4-Trimethylbenzene	0.000487 U			
1,2-Dibromo-3-Chloropropane	0.000487 U			
1,2-Dibromoethane	0.000122 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000731 U			
1,2-Dichlorobenzene	0.000122 U			
1,2-Dichloroethane	0.000244 U			
1,2-Dichloropropane	0.000365 U			
1,3,5-Trimethylbenzene	0.000244 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000244 U			
1,3-Dichloropropane	0.000244 U			
1,4-Dichlorobenzene	0.000122 U			
2,2-Dichloropropane	0.000609 U			
2-Butanone (methyl ethyl ketone)	0.00219 U			
2-Chlorotoluene	0.000365 U			
2-Hexanone	0.00122 U			
4-Chlorotoluene	0.000244 U			
4-Isopropyltoluene	0.000244 U			
4-Methyl-2-Pentanone	0.000365 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV01

Chemical	Soil - mg/kg			
	Sample Results for: EV01SS0010006			
Acetone	0.104			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.00621 U			
Acrylonitrile	--			
Benzene	0.000365 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000487 U			
Bromodichloromethane	0.000487 U			
Bromoform	0.000244 U			
Bromomethane	0.00365 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000487 U			
Chlorobenzene	0.000244 U			
Chloroethane	0.000487 U			
Chloroform	0.000853 U			
Chloromethane	0.0011 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000853 U			
cis-1,3-Dichloropropene	0.000122 U			
Cyclohexane	--			
Dibromochloromethane	0.000122 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000365 U			
Ethylbenzene	0.000365 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000244 U			
m,p-Xylenes	0.000731 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000609 U			
Methylcyclohexane	--			
Methylene Chloride	0.00122 U			

Attachment C - Environmental Sampling Results For Location EV01

Chemical	Soil - mg/kg			
	Sample Results for: EV01SS0010006			
n-Butylbenzene	0.000244 U			
n-Propylbenzene	0.000365 U			
o-Xylene	0.000244 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000244 U			
Styrene	0.000244 U			
tert-Butylbenzene	0.000487 U			
Tetrachloroethene	0.000731 U			
Toluene	0.000609 U			
trans-1,2-Dichloroethene	0.000731 U			
trans-1,3-Dichloropropene	0.000365 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000609 U			
Trichlorofluoromethane	0.000975 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000487 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV02

Chemical	Soil - mg/kg				
	Sample Results for: EV02SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.151 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000003746				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	82.09999999999999				
Turbidity	--				
Inorganics					
Aluminum	41400				
Antimony	0.195				
Arsenic	12.9				
Barium	293				
Beryllium	5.22				
Cadmium (Diet)	0.282				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV02

Chemical	Soil - mg/kg				
	Sample Results for: EV02SS0010006				
Chromium	5.8				
Cobalt	6.09				
Copper	36.6				
Iron	19200				
Lead	44.3				
Manganese (Diet)	651				
Manganese (Water)	--				
Mercury	0.103 U				
Nickel	7.55				
Selenium	0.21				
Silver	0.141				
Thallium	2.37				
Tin	2.67				
Vanadium	44.3				
Zinc	66.7				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000458 U				
4,4-DDE	0.000449 U				
4,4-DDT	0.000602 U				
Aldrin	0.000364 U				
alpha-BHC	0.000449 U				
alpha-Chlordane	0.000364 U				
beta-BHC	0.000551 U				
Chlordane	--				
delta-BHC	0.0005 U				
Dieldrin	0.000508 U				
Endosulfan I	0.000458 U				
Endosulfan II	0.000364 U				
Endosulfan Sulfate	0.000517 U				
Endrin	0.000585 U				
Endrin Aldehyde	0.000525 U				

Attachment C - Environmental Sampling Results For Location EV02

Chemical	Soil - mg/kg			
	Sample Results for: EV02SS0010006			
gamma-BHC (Lindane)	0.000432 U			
gamma-Chlordane	0.000398 U			
Heptachlor	0.000517 U			
Heptachlor Epoxide	0.000398 U			
Methoxychlor	0.000644 U			
Toxaphene	0.00619 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00723 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00723 U			
Aroclor 1232	0.00723 U			
Aroclor 1242	0.00723 U			
Aroclor 1248	0.00723 U			
Aroclor 1254	0.00723 U			
Aroclor 1260	0.00723 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0175 U			
1,2,4,5-Tetrachlorobenzene	0.014 U			
2,3,4,6-Tetrachlorophenol	0.083 U			
2,4,5-Trichlorophenol	0.144 U			
2,4,6-Trichlorophenol	0.0772 U			
2,4-Dichlorophenol	0.09 U			
2,4-Dimethylphenol	0.173 U			
2,4-Dinitrophenol	0.0643 U			
2,4-Dinitrotoluene	0.021 U			
2,6-Dichlorophenol	0.0549 U			
2,6-Dinitrotoluene	0.0175 U			
2-Chloronaphthalene	0.00935 U			
2-Chlorophenol	0.0584 U			
2-Methylnaphthalene	0.0199 U			
2-Methylphenol (o-Cresol)	0.117 U			
2-Nitrophenol	0.0736 U			
3&4-Methylphenol	0.134 U			
3-Methylphenol	--			
3-Nitroaniline	0.021 U			

Attachment C - Environmental Sampling Results For Location EV02

Chemical	Soil - mg/kg			
	Sample Results for: EV02SS0010006			
4,6-Dinitro-2-Methylphenol	0.0783 U			
4-Bromophenylphenylether	0.014 U			
4-Chloro-3-Methylphenol	0.103 U			
4-Chloroaniline	0.0269 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0514 U			
4-Nitrophenol	0.138 U			
Acenaphthene	0.0117 U			
Acenaphthylene	0.0105 U			
Aniline	0.0234 U			
Anthracene	0.014 U			
Atrazine	0.0304 U			
Benzo(g,h,i)perylene	0.0327 U			
Bis(2-ethylhexyl)phthalate	0.123 U			
Butylbenzylphthalate	0.0351 U			
Carbazole	0.021 U			
Di-n-butylphthalate	0.0503 U			
Di-n-octylphthalate	0.0234 U			
Dibenzofuran	0.0117 U			
Diethylphthalate	0.0199 U			
Dimethylphthalate	0.0152 U			
Diphenylamine	0.0608 U			
Fluoranthene	0.0222 U			
Fluorene	0.014 U			
Hexachlorobenzene	0.0129 U			
Hexachlorobutadiene	0.0117 U			
Hexachlorocyclopentadiene	0.0164 U			
Hexachloroethane	0.0129 U			
Naphthalene	0.00701 U			
Nitrobenzene	0.0175 U			
o-Toluidine	0.021 U			
Pentachlorobenzene	0.0327 U			
Pentachloronitrobenzene	0.000424 U			
Pentachlorophenol	0.18 U			
Phenanthrene	0.0351 U			
Phenol	0.0397 U			

Attachment C - Environmental Sampling Results For Location EV02

Chemical	Soil - mg/kg			
	Sample Results for: EV02SS0010006			
Pyrene	0.021 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0504752 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000456 U			
1,1,1-Trichloroethane	0.000608 U			
1,1,2,2-Tetrachloroethane	0.000304 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00106 U			
1,1,2-Trichloroethane	0.000456 U			
1,1-Dichloroethane	0.00106 U			
1,1-Dichloroethene	0.000759 U			
1,2,3-Trichlorobenzene	0.000759 U			
1,2,3-Trichloropropane	0.000456 U			
1,2,4-Trichlorobenzene	0.000456 U			
1,2,4-Trimethylbenzene	0.000608 U			
1,2-Dibromo-3-Chloropropane	0.000608 U			
1,2-Dibromoethane	0.000152 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000911 U			
1,2-Dichlorobenzene	0.000152 U			
1,2-Dichloroethane	0.000304 U			
1,2-Dichloropropane	0.000456 U			
1,3,5-Trimethylbenzene	0.000304 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000304 U			
1,3-Dichloropropane	0.000304 U			
1,4-Dichlorobenzene	0.000152 U			
2,2-Dichloropropane	0.000759 U			
2-Butanone (methyl ethyl ketone)	0.00273 U			
2-Chlorotoluene	0.000456 U			
2-Hexanone	0.00152 U			
4-Chlorotoluene	0.000304 U			
4-Isopropyltoluene	0.000304 U			
4-Methyl-2-Pentanone	0.000456 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV02

Chemical	Soil - mg/kg			
	Sample Results for: EV02SS0010006			
Acetone	0.00881 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.00775 U			
Acrylonitrile	--			
Benzene	0.000456 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000608 U			
Bromodichloromethane	0.000608 U			
Bromoform	0.000304 U			
Bromomethane	0.00456 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000608 U			
Chlorobenzene	0.000304 U			
Chloroethane	0.000608 U			
Chloroform	0.00106 U			
Chloromethane	0.00137 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00106 U			
cis-1,3-Dichloropropene	0.000152 U			
Cyclohexane	--			
Dibromochloromethane	0.000152 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000456 U			
Ethylbenzene	0.000456 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000304 U			
m,p-Xylenes	0.000911 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000759 U			
Methylcyclohexane	--			
Methylene Chloride	0.00152 U			

Attachment C - Environmental Sampling Results For Location EV02

Chemical	Soil - mg/kg			
	Sample Results for: EV02SS0010006			
n-Butylbenzene	0.000304 U			
n-Propylbenzene	0.000456 U			
o-Xylene	0.000304 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000304 U			
Styrene	0.000304 U			
tert-Butylbenzene	0.000608 U			
Tetrachloroethene	0.000911 U			
Toluene	0.000759 U			
trans-1,2-Dichloroethene	0.000911 U			
trans-1,3-Dichloropropene	0.000456 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000759 U			
Trichlorofluoromethane	0.00122 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000608 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil - mg/kg				
	Sample Results for: EV03SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.139 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000018067				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	87.7				
Turbidity	--				
Inorganics					
Aluminum	39200				
Antimony	0.417				
Arsenic	12.2				
Barium	314				
Beryllium	4.79				
Cadmium (Diet)	0.22				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil - mg/kg				
	Sample Results for: EV03SS0010006				
Chromium	3.88				
Cobalt	4.98				
Copper	16.8				
Iron	18900				
Lead	28.6				
Manganese (Diet)	519				
Manganese (Water)	--				
Mercury	0.102 U				
Nickel	4.3				
Selenium	0.537				
Silver	0.0931 U				
Thallium	3.75				
Tin	2.46				
Vanadium	40.6				
Zinc	50.8				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.00048 U				
4,4-DDE	0.000472 U				
4,4-DDT	0.000632 U				
Aldrin	0.000383 U				
alpha-BHC	0.000472 U				
alpha-Chlordane	0.000383 U				
beta-BHC	0.000578 U				
Chlordane	--				
delta-BHC	0.000525 U				
Dieldrin	0.000534 U				
Endosulfan I	0.00048 U				
Endosulfan II	0.000383 U				
Endosulfan Sulfate	0.000543 U				
Endrin	0.000614 U				
Endrin Aldehyde	0.000552 U				

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil - mg/kg			
	Sample Results for: EV03SS0010006			
gamma-BHC (Lindane)	0.000454 U			
gamma-Chlordane	0.000418 U			
Heptachlor	0.000543 U			
Heptachlor Epoxide	0.000418 U			
Methoxychlor	0.000676 U			
Toxaphene	0.00609 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.0071 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.0071 U			
Aroclor 1232	0.0071 U			
Aroclor 1242	0.0071 U			
Aroclor 1248	0.0071 U			
Aroclor 1254	0.0071 U			
Aroclor 1260	0.0071 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0165 U			
1,2,4,5-Tetrachlorobenzene	0.0132 U			
2,3,4,6-Tetrachlorophenol	0.078 U			
2,4,5-Trichlorophenol	0.135 U			
2,4,6-Trichlorophenol	0.0725 U			
2,4-Dichlorophenol	0.0846 U			
2,4-Dimethylphenol	0.163 U			
2,4-Dinitrophenol	0.0604 U			
2,4-Dinitrotoluene	0.0198 U			
2,6-Dichlorophenol	0.0516 U			
2,6-Dinitrotoluene	0.0165 U			
2-Chloronaphthalene	0.00879 U			
2-Chlorophenol	0.0549 U			
2-Methylnaphthalene	0.0187 U			
2-Methylphenol (o-Cresol)	0.11 U			
2-Nitrophenol	0.0692 U			
3&4-Methylphenol	0.126 U			
3-Methylphenol	--			
3-Nitroaniline	0.0198 U			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil - mg/kg			
	Sample Results for: EV03SS0010006			
4,6-Dinitro-2-Methylphenol	0.0736 U			
4-Bromophenylphenylether	0.0132 U			
4-Chloro-3-Methylphenol	0.0967 U			
4-Chloroaniline	0.0253 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0483 U			
4-Nitrophenol	0.13 U			
Acenaphthene	0.011 U			
Acenaphthylene	0.00989 U			
Aniline	0.022 U			
Anthracene	0.0132 U			
Atrazine	0.0286 U			
Benzo(g,h,i)perylene	0.0308 U			
Bis(2-ethylhexyl)phthalate	0.115 U			
Butylbenzylphthalate	0.033 U			
Carbazole	0.0198 U			
Di-n-butylphthalate	0.0472 U			
Di-n-octylphthalate	0.022 U			
Dibenzofuran	0.011 U			
Diethylphthalate	0.0187 U			
Dimethylphthalate	0.0143 U			
Diphenylamine	0.0571 U			
Fluoranthene	0.0209 U			
Fluorene	0.0132 U			
Hexachlorobenzene	0.0121 U			
Hexachlorobutadiene	0.011 U			
Hexachlorocyclopentadiene	0.0154 U			
Hexachloroethane	0.0121 U			
Naphthalene	0.00659 U			
Nitrobenzene	0.0165 U			
o-Toluidine	0.0198 U			
Pentachlorobenzene	0.0308 U			
Pentachloronitrobenzene	0.000445 U			
Pentachlorophenol	0.169 U			
Phenanthrene	0.033 U			
Phenol	0.0373 U			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil - mg/kg			
	Sample Results for: EV03SS0010006			
Pyrene	0.0198 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0475023 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000333 U			
1,1,1-Trichloroethane	0.000444 U			
1,1,2,2-Tetrachloroethane	0.000222 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000777 U			
1,1,2-Trichloroethane	0.000333 U			
1,1-Dichloroethane	0.000777 U			
1,1-Dichloroethene	0.000555 U			
1,2,3-Trichlorobenzene	0.000555 U			
1,2,3-Trichloropropane	0.000333 U			
1,2,4-Trichlorobenzene	0.000333 U			
1,2,4-Trimethylbenzene	0.000444 U			
1,2-Dibromo-3-Chloropropane	0.000444 U			
1,2-Dibromoethane	0.000111 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000666 U			
1,2-Dichlorobenzene	0.000111 U			
1,2-Dichloroethane	0.000222 U			
1,2-Dichloropropane	0.000333 U			
1,3,5-Trimethylbenzene	0.000222 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000222 U			
1,3-Dichloropropane	0.000222 U			
1,4-Dichlorobenzene	0.000111 U			
2,2-Dichloropropane	0.000555 U			
2-Butanone (methyl ethyl ketone)	0.002 U			
2-Chlorotoluene	0.000333 U			
2-Hexanone	0.00111 U			
4-Chlorotoluene	0.000222 U			
4-Isopropyltoluene	0.000222 U			
4-Methyl-2-Pentanone	0.000333 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil - mg/kg			
	Sample Results for: EV03SS0010006			
Acetone	0.0109 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.00566 U			
Acrylonitrile	--			
Benzene	0.000333 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000444 U			
Bromodichloromethane	0.000444 U			
Bromoform	0.000222 U			
Bromomethane	0.00333 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000444 U			
Chlorobenzene	0.000222 U			
Chloroethane	0.000444 U			
Chloroform	0.000777 U			
Chloromethane	0.000998 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000777 U			
cis-1,3-Dichloropropene	0.000111 U			
Cyclohexane	--			
Dibromochloromethane	0.000111 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000333 U			
Ethylbenzene	0.000333 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000222 U			
m,p-Xylenes	0.000666 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000555 U			
Methylcyclohexane	--			
Methylene Chloride	0.00111 U			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil - mg/kg			
	Sample Results for: EV03SS0010006			
n-Butylbenzene	0.000222 U			
n-Propylbenzene	0.000333 U			
o-Xylene	0.000222 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000222 U			
Styrene	0.000222 U			
tert-Butylbenzene	0.000444 U			
Tetrachloroethene	0.000666 U			
Toluene	0.00149 J			
trans-1,2-Dichloroethene	0.000666 U			
trans-1,3-Dichloropropene	0.000333 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000555 U			
Trichlorofluoromethane	0.000888 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000444 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV03SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV03SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV03SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV03SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV03SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.0161025			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV03SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV03SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Tap Water - mg/L				
	Sample Results for: EV03TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	31.4				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	7.8				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	10.8				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000134				
Disinfectants					
Chlorine (as Cl2)	0.02				
Disinfection Byproducts					
Total Trihalomethanes	0.00279				
Field Parameters					
Dissolved Oxygen	7.27				
Oxidation Reduction Potential	587				
pH	7.32				
Salinity	--				
Specific Conductance	0.97				
Temperature	29				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00016				
Arsenic	0.00336				
Barium	0.0174				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Tap Water - mg/L				
	Sample Results for: EV03TW001				
Chromium	0.000632				
Cobalt	0.000179				
Copper	0.442				
Iron	0.0198				
Lead	0.00124				
Manganese (Diet)	--				
Manganese (Water)	0.00652				
Mercury	0.000025				
Nickel	0.0246				
Selenium	0.000371				
Silver	0.00012 U				
Thallium	0.000275 U				
Tin	0.000129				
Vanadium	0.00425				
Zinc	0.23				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	48				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Tap Water - mg/L			
	Sample Results for: EV03TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.00163			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000191 U			
1,2,4,5-Tetrachlorobenzene	0.000191 U			
2,3,4,6-Tetrachlorophenol	0.000286 U			
2,4,5-Trichlorophenol	0.000476 U			
2,4,6-Trichlorophenol	0.000476 U			
2,4-Dichlorophenol	0.000667 U			
2,4-Dimethylphenol	0.000953 U			
2,4-Dinitrophenol	0.000286 U			
2,4-Dinitrotoluene	0.000953 U			
2,6-Dichlorophenol	0.000762 U			
2,6-Dinitrotoluene	0.0000953 U			
2-Chloronaphthalene	0.000191 U			
2-Chlorophenol	0.000858 U			
2-Methylnaphthalene	0.000191 U			
2-Methylphenol (o-Cresol)	0.000667 U			
2-Nitrophenol	0.000858 U			
3&4-Methylphenol	0.00114 U			
3-Methylphenol	--			
3-Nitroaniline	0.000953 U			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Tap Water - mg/L			
	Sample Results for: EV03TW001			
4,6-Dinitro-2-Methylphenol	0.000191 U			
4-Bromophenylphenylether	0.0000953 U			
4-Chloro-3-Methylphenol	0.000572 U			
4-Chloroaniline	0.000953 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.000953 U			
4-Nitrophenol	0.000286 U			
Acenaphthene	0.0000953 U			
Acenaphthylene	0.0000953 U			
Aniline	0.000953 U			
Anthracene	0.0000953 U			
Atrazine	0.0000953 U			
Benzo(g,h,i)perylene	0.0000953 U			
Bis(2-ethylhexyl)phthalate	0.00133 U			
Butylbenzylphthalate	0.0000953 U			
Carbazole	0.0000953 U			
Di-n-butylphthalate	0.00124 U			
Di-n-octylphthalate	0.000191 U			
Dibenzofuran	0.0000953 U			
Diethylphthalate	0.000191 U			
Dimethylphthalate	0.0000953 U			
Diphenylamine	0.0000953 U			
Fluoranthene	0.0000953 U			
Fluorene	0.0000953 U			
Hexachlorobenzene	0.0000953 U			
Hexachlorobutadiene	0.000191 U			
Hexachlorocyclopentadiene	0.000953 U			
Hexachloroethane	0.0000953 U			
Naphthalene	0.000191 U			
Nitrobenzene	0.000191 U			
o-Toluidine	0.000667 U			
Pentachlorobenzene	0.000191 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.000286 U			
Phenanthrene	0.0000953 U			
Phenol	0.000953 U			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Tap Water - mg/L			
	Sample Results for: EV03TW001			
Pyrene	0.0000953 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00011436 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Tap Water - mg/L			
	Sample Results for: EV03TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000282 J			
Bromoform	0.00203			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.00009 U			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000478 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV03

Chemical	Tap Water - mg/L			
	Sample Results for: EV03TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil - mg/kg				
	Sample Results for: EV04SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.145 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000001744				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	85.3				
Turbidity	--				
Inorganics					
Aluminum	37700				
Antimony	0.41				
Arsenic	14				
Barium	263				
Beryllium	5				
Cadmium (Diet)	0.23				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil - mg/kg				
	Sample Results for: EV04SS0010006				
Chromium	3.4				
Cobalt	4.9				
Copper	19				
Iron	18200				
Lead	30				
Manganese (Diet)	475				
Manganese (Water)	--				
Mercury	0.103 U				
Nickel	4.8				
Selenium	0.19				
Silver	0.1 U				
Thallium	2				
Tin	2.3				
Vanadium	42				
Zinc	51				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000488 U				
4,4-DDE	0.000479 U				
4,4-DDT	0.000642 U				
Aldrin	0.000389 U				
alpha-BHC	0.000479 U				
alpha-Chlordane	0.000389 U				
beta-BHC	0.000588 U				
Chlordane	--				
delta-BHC	0.000533 U				
Dieldrin	0.000542 U				
Endosulfan I	0.000488 U				
Endosulfan II	0.000389 U				
Endosulfan Sulfate	0.000552 U				
Endrin	0.000624 U				
Endrin Aldehyde	0.000561 U				

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil - mg/kg			
	Sample Results for: EV04SS0010006			
gamma-BHC (Lindane)	0.000461 U			
gamma-Chlordane	0.000425 U			
Heptachlor	0.000552 U			
Heptachlor Epoxide	0.000425 U			
Methoxychlor	0.000687 U			
Toxaphene	0.00636 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00742 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00742 U			
Aroclor 1232	0.00742 U			
Aroclor 1242	0.00742 U			
Aroclor 1248	0.00742 U			
Aroclor 1254	0.00742 U			
Aroclor 1260	0.00742 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0169 U			
1,2,4,5-Tetrachlorobenzene	0.0136 U			
2,3,4,6-Tetrachlorophenol	0.0802 U			
2,4,5-Trichlorophenol	0.139 U			
2,4,6-Trichlorophenol	0.0745 U			
2,4-Dichlorophenol	0.087 U			
2,4-Dimethylphenol	0.167 U			
2,4-Dinitrophenol	0.0621 U			
2,4-Dinitrotoluene	0.0203 U			
2,6-Dichlorophenol	0.0531 U			
2,6-Dinitrotoluene	0.0169 U			
2-Chloronaphthalene	0.00904 U			
2-Chlorophenol	0.0565 U			
2-Methylnaphthalene	0.0192 U			
2-Methylphenol (o-Cresol)	0.113 U			
2-Nitrophenol	0.0712 U			
3&4-Methylphenol	0.13 U			
3-Methylphenol	--			
3-Nitroaniline	0.0203 U			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil - mg/kg			
	Sample Results for: EV04SS0010006			
4,6-Dinitro-2-Methylphenol	0.0757 U			
4-Bromophenylphenylether	0.0136 U			
4-Chloro-3-Methylphenol	0.0994 U			
4-Chloroaniline	0.026 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0497 U			
4-Nitrophenol	0.133 U			
Acenaphthene	0.0113 U			
Acenaphthylene	0.0102 U			
Aniline	0.0226 U			
Anthracene	0.0136 U			
Atrazine	0.0294 U			
Benzo(g,h,i)perylene	0.0316 U			
Bis(2-ethylhexyl)phthalate	0.119 U			
Butylbenzylphthalate	0.0339 U			
Carbazole	0.0203 U			
Di-n-butylphthalate	0.0486 U			
Di-n-octylphthalate	0.0226 U			
Dibenzofuran	0.0113 U			
Diethylphthalate	0.0192 U			
Dimethylphthalate	0.0147 U			
Diphenylamine	0.0587 U			
Fluoranthene	0.0215 U			
Fluorene	0.0136 U			
Hexachlorobenzene	0.0124 U			
Hexachlorobutadiene	0.0113 U			
Hexachlorocyclopentadiene	0.0158 U			
Hexachloroethane	0.0124 U			
Naphthalene	0.00733 J			
Nitrobenzene	0.0169 U			
o-Toluidine	0.0203 U			
Pentachlorobenzene	0.0316 U			
Pentachloronitrobenzene	0.000452 U			
Pentachlorophenol	0.174 U			
Phenanthrene	0.0339 U			
Phenol	0.0384 U			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil - mg/kg			
	Sample Results for: EV04SS0010006			
Pyrene	0.0203 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0487577 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000337 U			
1,1,1-Trichloroethane	0.00045 U			
1,1,2,2-Tetrachloroethane	0.000225 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000787 U			
1,1,2-Trichloroethane	0.000337 U			
1,1-Dichloroethane	0.000787 U			
1,1-Dichloroethene	0.000562 U			
1,2,3-Trichlorobenzene	0.000562 U			
1,2,3-Trichloropropane	0.000337 U			
1,2,4-Trichlorobenzene	0.000337 U			
1,2,4-Trimethylbenzene	0.00045 U			
1,2-Dibromo-3-Chloropropane	0.00045 U			
1,2-Dibromoethane	0.000112 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000675 U			
1,2-Dichlorobenzene	0.000112 U			
1,2-Dichloroethane	0.000225 U			
1,2-Dichloropropane	0.000337 U			
1,3,5-Trimethylbenzene	0.000225 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000225 U			
1,3-Dichloropropane	0.000225 U			
1,4-Dichlorobenzene	0.000112 U			
2,2-Dichloropropane	0.000562 U			
2-Butanone (methyl ethyl ketone)	0.00359 J			
2-Chlorotoluene	0.000337 U			
2-Hexanone	0.00112 U			
4-Chlorotoluene	0.000225 U			
4-Isopropyltoluene	0.000225 U			
4-Methyl-2-Pentanone	0.000337 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil - mg/kg			
	Sample Results for: EV04SS0010006			
Acetone	0.0366			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.00574 U			
Acrylonitrile	--			
Benzene	0.000337 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.00045 U			
Bromodichloromethane	0.00045 U			
Bromoform	0.000225 U			
Bromomethane	0.00337 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00045 U			
Chlorobenzene	0.000225 U			
Chloroethane	0.00045 U			
Chloroform	0.000787 U			
Chloromethane	0.00101 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000787 U			
cis-1,3-Dichloropropene	0.000112 U			
Cyclohexane	--			
Dibromochloromethane	0.000112 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000337 U			
Ethylbenzene	0.000337 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000225 U			
m,p-Xylenes	0.000675 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000562 U			
Methylcyclohexane	--			
Methylene Chloride	0.00112 U			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil - mg/kg				
	Sample Results for: EV04SS0010006				
n-Butylbenzene	0.000225 U				
n-Propylbenzene	0.000337 U				
o-Xylene	0.000225 U				
Pentachloroethane	--				
sec-Butylbenzene	0.000225 U				
Styrene	0.000225 U				
tert-Butylbenzene	0.00045 U				
Tetrachloroethene	0.000675 U				
Toluene	0.00261 J				
trans-1,2-Dichloroethene	0.000675 U				
trans-1,3-Dichloropropene	0.000337 U				
Trans-1,4-Dichloro-2-Butene	--				
Trichloroethene	0.000562 U				
Trichlorofluoromethane	0.0009 U				
Vinyl Acetate	--				
Vinyl Chloride	0.00045 U				
Xylenes, Total	--				

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV04SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV04SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV04SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV04SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV04SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.002531063			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV04SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV04SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.025723238			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Tap Water - mg/L				
	Sample Results for: EV04TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	31.6				
Cyanide	0.004 U				
Fluoride	0.3				
Nitrate (measured as NO3-)	7.76				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	12.3				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000000026				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	0.002709				
Field Parameters					
Dissolved Oxygen	6.89				
Oxidation Reduction Potential	581				
pH	7.3				
Salinity	--				
Specific Conductance	0.96				
Temperature	29.5				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0068				
Antimony	0.000389				
Arsenic	0.0033				
Barium	0.0182				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.0000848				

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Tap Water - mg/L				
	Sample Results for: EV04TW001				
Chromium	0.000531				
Cobalt	0.000134				
Copper	0.241				
Iron	0.00972				
Lead	0.00383				
Manganese (Diet)	--				
Manganese (Water)	0.00257				
Mercury	0.000035				
Nickel	0.0362				
Selenium	0.0003				
Silver	0.00012 U				
Thallium	0.000137 U				
Tin	0.000161				
Vanadium	0.003				
Zinc	0.574				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	23				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Tap Water - mg/L			
	Sample Results for: EV04TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.00136			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000191 U			
1,2,4,5-Tetrachlorobenzene	0.000191 U			
2,3,4,6-Tetrachlorophenol	0.000286 U			
2,4,5-Trichlorophenol	0.000477 U			
2,4,6-Trichlorophenol	0.000477 U			
2,4-Dichlorophenol	0.000668 U			
2,4-Dimethylphenol	0.000955 U			
2,4-Dinitrophenol	0.000286 U			
2,4-Dinitrotoluene	0.000955 U			
2,6-Dichlorophenol	0.000764 U			
2,6-Dinitrotoluene	0.000955 U			
2-Chloronaphthalene	0.000191 U			
2-Chlorophenol	0.000859 U			
2-Methylnaphthalene	0.000191 U			
2-Methylphenol (o-Cresol)	0.000668 U			
2-Nitrophenol	0.000859 U			
3&4-Methylphenol	0.00115 U			
3-Methylphenol	--			
3-Nitroaniline	0.000955 U			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Tap Water - mg/L			
	Sample Results for: EV04TW001			
4,6-Dinitro-2-Methylphenol	0.000191 U			
4-Bromophenylphenylether	0.0000955 U			
4-Chloro-3-Methylphenol	0.000573 U			
4-Chloroaniline	0.000955 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.000955 U			
4-Nitrophenol	0.000286 U			
Acenaphthene	0.0000955 U			
Acenaphthylene	0.0000955 U			
Aniline	0.000955 U			
Anthracene	0.0000955 U			
Atrazine	0.0000955 U			
Benzo(g,h,i)perylene	0.0000955 U			
Bis(2-ethylhexyl)phthalate	0.00134 U			
Butylbenzylphthalate	0.0000955 U			
Carbazole	0.0000955 U			
Di-n-butylphthalate	0.00124 U			
Di-n-octylphthalate	0.000191 U			
Dibenzofuran	0.0000955 U			
Diethylphthalate	0.000191 U			
Dimethylphthalate	0.0000955 U			
Diphenylamine	0.0000955 U			
Fluoranthene	0.0000955 U			
Fluorene	0.0000955 U			
Hexachlorobenzene	0.0000955 U			
Hexachlorobutadiene	0.000191 U			
Hexachlorocyclopentadiene	0.000955 U			
Hexachloroethane	0.0000955 U			
Naphthalene	0.000191 U			
Nitrobenzene	0.000191 U			
o-Toluidine	0.000668 U			
Pentachlorobenzene	0.000191 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.000286 U			
Phenanthrene	0.0000955 U			
Phenol	0.000955 U			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Tap Water - mg/L			
	Sample Results for: EV04TW001			
Pyrene	0.0000955 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0001146 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Tap Water - mg/L			
	Sample Results for: EV04TW001			
Acetaldehyde	--			
Acetone	0.00167 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000292 J			
Bromoform	0.00194			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.00009 U			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000477 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV04

Chemical	Tap Water - mg/L			
	Sample Results for: EV04TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil - mg/kg				
	Sample Results for: EV05SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.142 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000052075				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	85.5				
Turbidity	--				
Inorganics					
Aluminum	34200				
Antimony	0.417				
Arsenic	11.7				
Barium	300				
Beryllium	4.19				
Cadmium (Diet)	0.197				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil - mg/kg				
	Sample Results for: EV05SS0010006				
Chromium	3.71				
Cobalt	4.81				
Copper	14.9				
Iron	19400				
Lead	26.1				
Manganese (Diet)	462				
Manganese (Water)	--				
Mercury	0.0917 U				
Nickel	4.28				
Selenium	0.12				
Silver	0.098 U				
Thallium	1.34				
Tin	2.17				
Vanadium	39.1				
Zinc	56.4				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000487 U				
4,4-DDE	0.000478 U				
4,4-DDT	0.000641 U				
Aldrin	0.000388 U				
alpha-BHC	0.000478 U				
alpha-Chlordane	0.000388 U				
beta-BHC	0.000587 U				
Chlordane	--				
delta-BHC	0.000532 U				
Dieldrin	0.000542 U				
Endosulfan I	0.000487 U				
Endosulfan II	0.000388 U				
Endosulfan Sulfate	0.000551 U				
Endrin	0.000623 U				
Endrin Aldehyde	0.00056 U				

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil - mg/kg			
	Sample Results for: EV05SS0010006			
gamma-BHC (Lindane)	0.00046 U			
gamma-Chlordane	0.000424 U			
Heptachlor	0.000551 U			
Heptachlor Epoxide	0.000424 U			
Methoxychlor	0.000686 U			
Toxaphene	0.00633 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00739 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00739 U			
Aroclor 1232	0.00739 U			
Aroclor 1242	0.00739 U			
Aroclor 1248	0.00739 U			
Aroclor 1254	0.00739 U			
Aroclor 1260	0.00739 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0168 U			
1,2,4,5-Tetrachlorobenzene	0.0135 U			
2,3,4,6-Tetrachlorophenol	0.0797 U			
2,4,5-Trichlorophenol	0.138 U			
2,4,6-Trichlorophenol	0.0741 U			
2,4-Dichlorophenol	0.0864 U			
2,4-Dimethylphenol	0.166 U			
2,4-Dinitrophenol	0.0617 U			
2,4-Dinitrotoluene	0.0202 U			
2,6-Dichlorophenol	0.0527 U			
2,6-Dinitrotoluene	0.0168 U			
2-Chloronaphthalene	0.00898 U			
2-Chlorophenol	0.0561 U			
2-Methylnaphthalene	0.0191 U			
2-Methylphenol (o-Cresol)	0.112 U			
2-Nitrophenol	0.0707 U			
3&4-Methylphenol	0.129 U			
3-Methylphenol	--			
3-Nitroaniline	0.0202 U			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil - mg/kg			
	Sample Results for: EV05SS0010006			
4,6-Dinitro-2-Methylphenol	0.0752 U			
4-Bromophenylphenylether	0.0135 U			
4-Chloro-3-Methylphenol	0.0987 U			
4-Chloroaniline	0.0258 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0494 U			
4-Nitrophenol	0.132 U			
Acenaphthene	0.0112 U			
Acenaphthylene	0.0101 U			
Aniline	0.0224 U			
Anthracene	0.0135 U			
Atrazine	0.0292 U			
Benzo(g,h,i)perylene	0.0314 U			
Bis(2-ethylhexyl)phthalate	0.118 U			
Butylbenzylphthalate	0.0337 U			
Carbazole	0.0202 U			
Di-n-butylphthalate	0.0482 U			
Di-n-octylphthalate	0.0224 U			
Dibenzofuran	0.0112 U			
Diethylphthalate	0.0191 U			
Dimethylphthalate	0.0146 U			
Diphenylamine	0.0583 U			
Fluoranthene	0.0213 U			
Fluorene	0.0135 U			
Hexachlorobenzene	0.0123 U			
Hexachlorobutadiene	0.0112 U			
Hexachlorocyclopentadiene	0.0157 U			
Hexachloroethane	0.0123 U			
Naphthalene	0.00673 U			
Nitrobenzene	0.0168 U			
o-Toluidine	0.0202 U			
Pentachlorobenzene	0.0314 U			
Pentachloronitrobenzene	0.000451 U			
Pentachlorophenol	0.173 U			
Phenanthrene	0.0337 U			
Phenol	0.0381 U			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil - mg/kg			
	Sample Results for: EV05SS0010006			
Pyrene	0.0202 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0484966 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000365 U			
1,1,1-Trichloroethane	0.000486 U			
1,1,2,2-Tetrachloroethane	0.000243 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000851 U			
1,1,2-Trichloroethane	0.000365 U			
1,1-Dichloroethane	0.000851 U			
1,1-Dichloroethene	0.000608 U			
1,2,3-Trichlorobenzene	0.000608 U			
1,2,3-Trichloropropane	0.000365 U			
1,2,4-Trichlorobenzene	0.000365 U			
1,2,4-Trimethylbenzene	0.000486 U			
1,2-Dibromo-3-Chloropropane	0.000486 U			
1,2-Dibromoethane	0.000122 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000729 U			
1,2-Dichlorobenzene	0.000122 U			
1,2-Dichloroethane	0.000243 U			
1,2-Dichloropropane	0.000365 U			
1,3,5-Trimethylbenzene	0.000243 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000243 U			
1,3-Dichloropropane	0.000243 U			
1,4-Dichlorobenzene	0.000122 U			
2,2-Dichloropropane	0.000608 U			
2-Butanone (methyl ethyl ketone)	0.00219 U			
2-Chlorotoluene	0.000365 U			
2-Hexanone	0.00122 U			
4-Chlorotoluene	0.000243 U			
4-Isopropyltoluene	0.000243 U			
4-Methyl-2-Pentanone	0.000365 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil - mg/kg			
	Sample Results for: EV05SS0010006			
Acetone	0.0477			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0062 U			
Acrylonitrile	--			
Benzene	0.000365 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000486 U			
Bromodichloromethane	0.000486 U			
Bromoform	0.000243 U			
Bromomethane	0.00365 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000486 U			
Chlorobenzene	0.000243 U			
Chloroethane	0.000486 U			
Chloroform	0.000851 U			
Chloromethane	0.00109 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000851 U			
cis-1,3-Dichloropropene	0.000122 U			
Cyclohexane	--			
Dibromochloromethane	0.000122 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000365 U			
Ethylbenzene	0.000365 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000243 U			
m,p-Xylenes	0.000729 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000608 U			
Methylcyclohexane	--			
Methylene Chloride	0.00122 U			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil - mg/kg			
	Sample Results for: EV05SS0010006			
n-Butylbenzene	0.000243 U			
n-Propylbenzene	0.000365 U			
o-Xylene	0.000243 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000243 U			
Styrene	0.000243 U			
tert-Butylbenzene	0.000486 U			
Tetrachloroethene	0.000729 U			
Toluene	0.00113 J			
trans-1,2-Dichloroethene	0.000729 U			
trans-1,3-Dichloropropene	0.000365 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000608 U			
Trichlorofluoromethane	0.000972 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000486 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV05SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001110309				
Tridecane	0.001041796				
Undecane	0.00104369				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV05SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV05SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV05SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV05SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.152321281			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV05SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV05SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Tap Water - mg/L				
	Sample Results for: EV05TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	28.1				
Cyanide	0.004 U				
Fluoride	0.209				
Nitrate (measured as NO3-)	7.26				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	10.2				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000053				
Disinfectants					
Chlorine (as Cl2)	0.1				
Disinfection Byproducts					
Total Trihalomethanes	0.00302				
Field Parameters					
Dissolved Oxygen	8.050000000000001				
Oxidation Reduction Potential	624				
pH	7.19				
Salinity	--				
Specific Conductance	0.94				
Temperature	25.8				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00205				
Arsenic	0.00365				
Barium	0.0147				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.000174				

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Tap Water - mg/L				
	Sample Results for: EV05TW001				
Chromium	0.000914				
Cobalt	0.000387				
Copper	0.132				
Iron	0.0121				
Lead	0.0126				
Manganese (Diet)	--				
Manganese (Water)	0.0308				
Mercury	0.00004				
Nickel	0.361				
Selenium	0.00035				
Silver	0.00012 U				
Thallium	0.000712 U				
Tin	0.000199				
Vanadium	0.00351				
Zinc	0.917				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	28				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Tap Water - mg/L			
	Sample Results for: EV05TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.00151			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000212 U			
1,2,4,5-Tetrachlorobenzene	0.000212 U			
2,3,4,6-Tetrachlorophenol	0.000317 U			
2,4,5-Trichlorophenol	0.000529 U			
2,4,6-Trichlorophenol	0.000529 U			
2,4-Dichlorophenol	0.00074 U			
2,4-Dimethylphenol	0.00106 U			
2,4-Dinitrophenol	0.000317 U			
2,4-Dinitrotoluene	0.00106 U			
2,6-Dichlorophenol	0.000846 U			
2,6-Dinitrotoluene	0.000106 U			
2-Chloronaphthalene	0.000212 U			
2-Chlorophenol	0.000952 U			
2-Methylnaphthalene	0.000212 U			
2-Methylphenol (o-Cresol)	0.00074 U			
2-Nitrophenol	0.000952 U			
3&4-Methylphenol	0.00127 U			
3-Methylphenol	--			
3-Nitroaniline	0.00106 U			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Tap Water - mg/L			
	Sample Results for: EV05TW001			
4,6-Dinitro-2-Methylphenol	0.000212 U			
4-Bromophenylphenylether	0.000106 U			
4-Chloro-3-Methylphenol	0.000635 U			
4-Chloroaniline	0.00106 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.00106 U			
4-Nitrophenol	0.000317 U			
Acenaphthene	0.000106 U			
Acenaphthylene	0.000106 U			
Aniline	0.00106 U			
Anthracene	0.000106 U			
Atrazine	0.000106 U			
Benzo(g,h,i)perylene	0.000106 U			
Bis(2-ethylhexyl)phthalate	0.00148 U			
Butylbenzylphthalate	0.000106 U			
Carbazole	0.000106 U			
Di-n-butylphthalate	0.00138 U			
Di-n-octylphthalate	0.000212 U			
Dibenzofuran	0.000106 U			
Diethylphthalate	0.000212 U			
Dimethylphthalate	0.000106 U			
Diphenylamine	0.000106 U			
Fluoranthene	0.000106 U			
Fluorene	0.000106 U			
Hexachlorobenzene	0.000106 U			
Hexachlorobutadiene	0.000212 U			
Hexachlorocyclopentadiene	0.00106 U			
Hexachloroethane	0.000106 U			
Naphthalene	0.000212 U			
Nitrobenzene	0.000212 U			
o-Toluidine	0.00074 U			
Pentachlorobenzene	0.000212 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.000317 U			
Phenanthrene	0.000106 U			
Phenol	0.00106 U			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Tap Water - mg/L			
	Sample Results for: EV05TW001			
Pyrene	0.000106 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0001272 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Tap Water - mg/L			
	Sample Results for: EV05TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000249 J			
Bromoform	0.00227			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.00009 U			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000501			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV05

Chemical	Tap Water - mg/L			
	Sample Results for: EV05TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil - mg/kg				
	Sample Results for: EV06SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.142 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000044934				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	86.5				
Turbidity	--				
Inorganics					
Aluminum	43100				
Antimony	0.59				
Arsenic	15				
Barium	303				
Beryllium	5.6				
Cadmium (Diet)	0.28				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil - mg/kg				
	Sample Results for: EV06SS0010006				
Chromium	4.9				
Cobalt	6.1				
Copper	32				
Iron	20700				
Lead	40				
Manganese (Diet)	644				
Manganese (Water)	--				
Mercury	0.103 U				
Nickel	6.9				
Selenium	0.14				
Silver	0.12				
Thallium	1.6				
Tin	2.8				
Vanadium	43				
Zinc	88				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000481 U				
4,4-DDE	0.000472 U				
4,4-DDT	0.000633 U				
Aldrin	0.000383 U				
alpha-BHC	0.000472 U				
alpha-Chlordane	0.000383 U				
beta-BHC	0.000579 U				
Chlordane	--				
delta-BHC	0.000526 U				
Dieldrin	0.000535 U				
Endosulfan I	0.000481 U				
Endosulfan II	0.000383 U				
Endosulfan Sulfate	0.000544 U				
Endrin	0.000615 U				
Endrin Aldehyde	0.000553 U				

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil - mg/kg			
	Sample Results for: EV06SS0010006			
gamma-BHC (Lindane)	0.000455 U			
gamma-Chlordane	0.000419 U			
Heptachlor	0.000544 U			
Heptachlor Epoxide	0.000419 U			
Methoxychlor	0.000677 U			
Toxaphene	0.00618 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00721 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00721 U			
Aroclor 1232	0.00721 U			
Aroclor 1242	0.00721 U			
Aroclor 1248	0.00721 U			
Aroclor 1254	0.00721 U			
Aroclor 1260	0.00721 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0167 U			
1,2,4,5-Tetrachlorobenzene	0.0134 U			
2,3,4,6-Tetrachlorophenol	0.0792 U			
2,4,5-Trichlorophenol	0.137 U			
2,4,6-Trichlorophenol	0.0737 U			
2,4-Dichlorophenol	0.0859 U			
2,4-Dimethylphenol	0.165 U			
2,4-Dinitrophenol	0.0614 U			
2,4-Dinitrotoluene	0.0201 U			
2,6-Dichlorophenol	0.0525 U			
2,6-Dinitrotoluene	0.0167 U			
2-Chloronaphthalene	0.00893 U			
2-Chlorophenol	0.0558 U			
2-Methylnaphthalene	0.019 U			
2-Methylphenol (o-Cresol)	0.112 U			
2-Nitrophenol	0.0703 U			
3&4-Methylphenol	0.128 U			
3-Methylphenol	--			
3-Nitroaniline	0.0201 U			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil - mg/kg			
	Sample Results for: EV06SS0010006			
4,6-Dinitro-2-Methylphenol	0.0748 U			
4-Bromophenylphenylether	0.0134 U			
4-Chloro-3-Methylphenol	0.0982 U			
4-Chloroaniline	0.0257 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0491 U			
4-Nitrophenol	0.132 U			
Acenaphthene	0.0112 U			
Acenaphthylene	0.01 U			
Aniline	0.0223 U			
Anthracene	0.0134 U			
Atrazine	0.029 U			
Benzo(g,h,i)perylene	0.0312 U			
Bis(2-ethylhexyl)phthalate	0.117 U			
Butylbenzylphthalate	0.0335 U			
Carbazole	0.0201 U			
Di-n-butylphthalate	0.048 U			
Di-n-octylphthalate	0.0223 U			
Dibenzofuran	0.0112 U			
Diethylphthalate	0.019 U			
Dimethylphthalate	0.0145 U			
Diphenylamine	0.058 U			
Fluoranthene	0.0212 U			
Fluorene	0.0134 U			
Hexachlorobenzene	0.0123 U			
Hexachlorobutadiene	0.0112 U			
Hexachlorocyclopentadiene	0.0156 U			
Hexachloroethane	0.0123 U			
Naphthalene	0.0067 U			
Nitrobenzene	0.0167 U			
o-Toluidine	0.0201 U			
Pentachlorobenzene	0.0312 U			
Pentachloronitrobenzene	0.000446 U			
Pentachlorophenol	0.172 U			
Phenanthrene	0.0335 U			
Phenol	0.0379 U			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil - mg/kg			
	Sample Results for: EV06SS0010006			
Pyrene	0.0201 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0482455 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000412 U			
1,1,1-Trichloroethane	0.000549 U			
1,1,2,2-Tetrachloroethane	0.000275 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000961 U			
1,1,2-Trichloroethane	0.000412 U			
1,1-Dichloroethane	0.000961 U			
1,1-Dichloroethene	0.000686 U			
1,2,3-Trichlorobenzene	0.000686 U			
1,2,3-Trichloropropane	0.000412 U			
1,2,4-Trichlorobenzene	0.000412 U			
1,2,4-Trimethylbenzene	0.000549 U			
1,2-Dibromo-3-Chloropropane	0.000549 U			
1,2-Dibromoethane	0.000137 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000824 U			
1,2-Dichlorobenzene	0.000137 U			
1,2-Dichloroethane	0.000275 U			
1,2-Dichloropropane	0.000412 U			
1,3,5-Trimethylbenzene	0.000275 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000275 U			
1,3-Dichloropropane	0.000275 U			
1,4-Dichlorobenzene	0.000137 U			
2,2-Dichloropropane	0.000686 U			
2-Butanone (methyl ethyl ketone)	0.00398 J			
2-Chlorotoluene	0.000412 U			
2-Hexanone	0.00137 U			
4-Chlorotoluene	0.000275 U			
4-Isopropyltoluene	0.000275 U			
4-Methyl-2-Pentanone	0.000412 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil - mg/kg			
	Sample Results for: EV06SS0010006			
Acetone	0.103			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.007 U			
Acrylonitrile	--			
Benzene	0.000412 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000549 U			
Bromodichloromethane	0.000549 U			
Bromoform	0.000275 U			
Bromomethane	0.00412 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000549 U			
Chlorobenzene	0.000275 U			
Chloroethane	0.000549 U			
Chloroform	0.000961 U			
Chloromethane	0.00124 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000961 U			
cis-1,3-Dichloropropene	0.000137 U			
Cyclohexane	--			
Dibromochloromethane	0.000137 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000412 U			
Ethylbenzene	0.000412 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000275 U			
m,p-Xylenes	0.000824 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000686 U			
Methylcyclohexane	--			
Methylene Chloride	0.00137 U			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil - mg/kg			
	Sample Results for: EV06SS0010006			
n-Butylbenzene	0.000275 U			
n-Propylbenzene	0.000412 U			
o-Xylene	0.000275 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000275 U			
Styrene	0.000275 U			
tert-Butylbenzene	0.000549 U			
Tetrachloroethene	0.000824 U			
Toluene	0.00313 J			
trans-1,2-Dichloroethene	0.000824 U			
trans-1,3-Dichloropropene	0.000412 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000686 U			
Trichlorofluoromethane	0.0011 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000549 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV06SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001045199				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV06SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV06SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV06SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV06SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.173359719			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV06SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV06SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Tap Water - mg/L				
	Sample Results for: EV06TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	27.1				
Cyanide	0.004 U				
Fluoride	0.227				
Nitrate (measured as NO3-)	7.15				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	10				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000096				
Disinfectants					
Chlorine (as Cl2)	0.12				
Disinfection Byproducts					
Total Trihalomethanes	0.002534				
Field Parameters					
Dissolved Oxygen	8.15				
Oxidation Reduction Potential	571				
pH	6.75				
Salinity	--				
Specific Conductance	1				
Temperature	24.04				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	3				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00188				
Arsenic	0.00351				
Barium	0.0179				
Beryllium	0.0000322 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.000214				

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Tap Water - mg/L				
	Sample Results for: EV06TW001				
Chromium	0.000538				
Cobalt	0.000434				
Copper	0.229				
Iron	0.0358				
Lead	0.00895				
Manganese (Diet)	--				
Manganese (Water)	0.0215				
Mercury	0.00005				
Nickel	0.106				
Selenium	0.000358				
Silver	0.000288				
Thallium	0.00044 U				
Tin	0.000179				
Vanadium	0.0022				
Zinc	1.23				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	86				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Tap Water - mg/L			
	Sample Results for: EV06TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.00167			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000218 U			
1,2,4,5-Tetrachlorobenzene	0.000218 U			
2,3,4,6-Tetrachlorophenol	0.000327 U			
2,4,5-Trichlorophenol	0.000544 U			
2,4,6-Trichlorophenol	0.000544 U			
2,4-Dichlorophenol	0.000762 U			
2,4-Dimethylphenol	0.00109 U			
2,4-Dinitrophenol	0.000327 U			
2,4-Dinitrotoluene	0.00109 U			
2,6-Dichlorophenol	0.000871 U			
2,6-Dinitrotoluene	0.000109 U			
2-Chloronaphthalene	0.000218 U			
2-Chlorophenol	0.00098 U			
2-Methylnaphthalene	0.000218 U			
2-Methylphenol (o-Cresol)	0.000762 U			
2-Nitrophenol	0.00098 U			
3&4-Methylphenol	0.00131 U			
3-Methylphenol	--			
3-Nitroaniline	0.00109 U			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Tap Water - mg/L			
	Sample Results for: EV06TW001			
4,6-Dinitro-2-Methylphenol	0.000218 U			
4-Bromophenylphenylether	0.000109 U			
4-Chloro-3-Methylphenol	0.000653 U			
4-Chloroaniline	0.00109 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.00109 U			
4-Nitrophenol	0.000327 U			
Acenaphthene	0.000109 U			
Acenaphthylene	0.000109 U			
Aniline	0.00109 U			
Anthracene	0.000109 U			
Atrazine	0.000109 U			
Benzo(g,h,i)perylene	0.000109 U			
Bis(2-ethylhexyl)phthalate	0.00152 U			
Butylbenzylphthalate	0.000109 U			
Carbazole	0.000109 U			
Di-n-butylphthalate	0.00142 U			
Di-n-octylphthalate	0.000218 U			
Dibenzofuran	0.000109 U			
Diethylphthalate	0.000218 U			
Dimethylphthalate	0.000109 U			
Diphenylamine	0.000109 U			
Fluoranthene	0.000109 U			
Fluorene	0.000109 U			
Hexachlorobenzene	0.000109 U			
Hexachlorobutadiene	0.000218 U			
Hexachlorocyclopentadiene	0.00109 U			
Hexachloroethane	0.000109 U			
Naphthalene	0.000218 U			
Nitrobenzene	0.000218 U			
o-Toluidine	0.000762 U			
Pentachlorobenzene	0.000218 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.000327 U			
Phenanthrene	0.000109 U			
Phenol	0.00109 U			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Tap Water - mg/L			
	Sample Results for: EV06TW001			
Pyrene	0.000109 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0001308 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Tap Water - mg/L			
	Sample Results for: EV06TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.00012 U			
Bromoform	0.00232			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.00009 U			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000214 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV06

Chemical	Tap Water - mg/L			
	Sample Results for: EV06TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil - mg/kg				
	Sample Results for: EV07SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.164 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000008509				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	75.09999999999999				
Turbidity	--				
Inorganics					
Aluminum	40500				
Antimony	0.439				
Arsenic	16.6				
Barium	292				
Beryllium	5.79				
Cadmium (Diet)	0.139				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil - mg/kg				
	Sample Results for: EV07SS0010006				
Chromium	3.57				
Cobalt	4.98				
Copper	18.3				
Iron	18000				
Lead	35.1				
Manganese (Diet)	542				
Manganese (Water)	--				
Mercury	0.1 U				
Nickel	4.73				
Selenium	0.116				
Silver	0.128				
Thallium	1.61 U				
Tin	2.41				
Vanadium	39.8				
Zinc	52				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000463 U				
4,4-DDE	0.000455 U				
4,4-DDT	0.000609 U				
Aldrin	0.000369 U				
alpha-BHC	0.000455 U				
alpha-Chlordane	0.000369 U				
beta-BHC	0.000557 U				
Chlordane	--				
delta-BHC	0.000506 U				
Dieldrin	0.000515 U				
Endosulfan I	0.000463 U				
Endosulfan II	0.000369 U				
Endosulfan Sulfate	0.000523 U				
Endrin	0.000592 U				
Endrin Aldehyde	0.000532 U				

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil - mg/kg			
	Sample Results for: EV07SS0010006			
gamma-BHC (Lindane)	0.000437 U			
gamma-Chlordane	0.000403 U			
Heptachlor	0.000523 U			
Heptachlor Epoxide	0.000403 U			
Methoxychlor	0.000652 U			
Toxaphene	0.00685 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00804 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00804 U			
Aroclor 1232	0.00804 U			
Aroclor 1242	0.00804 U			
Aroclor 1248	0.00804 U			
Aroclor 1254	0.00804 U			
Aroclor 1260	0.00804 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0198 U			
1,2,4,5-Tetrachlorobenzene	0.0159 U			
2,3,4,6-Tetrachlorophenol	0.0938 U			
2,4,5-Trichlorophenol	0.163 U			
2,4,6-Trichlorophenol	0.0872 U			
2,4-Dichlorophenol	0.102 U			
2,4-Dimethylphenol	0.196 U			
2,4-Dinitrophenol	0.0727 U			
2,4-Dinitrotoluene	0.0238 U			
2,6-Dichlorophenol	0.0621 U			
2,6-Dinitrotoluene	0.0198 U			
2-Chloronaphthalene	0.0106 U			
2-Chlorophenol	0.0661 U			
2-Methylnaphthalene	0.0225 U			
2-Methylphenol (o-Cresol)	0.132 U			
2-Nitrophenol	0.0833 U			
3&4-Methylphenol	0.152 U			
3-Methylphenol	--			
3-Nitroaniline	0.0238 U			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil - mg/kg			
	Sample Results for: EV07SS0010006			
4,6-Dinitro-2-Methylphenol	0.0885 U			
4-Bromophenylphenylether	0.0159 U			
4-Chloro-3-Methylphenol	0.116 U			
4-Chloroaniline	0.0304 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0581 U			
4-Nitrophenol	0.156 U			
Acenaphthene	0.0132 U			
Acenaphthylene	0.0119 U			
Aniline	0.0264 U			
Anthracene	0.0159 U			
Atrazine	0.0344 U			
Benzo(g,h,i)perylene	0.037 U			
Bis(2-ethylhexyl)phthalate	0.139 U			
Butylbenzylphthalate	0.0396 U			
Carbazole	0.0238 U			
Di-n-butylphthalate	0.0568 U			
Di-n-octylphthalate	0.0264 U			
Dibenzofuran	0.0132 U			
Diethylphthalate	0.0225 U			
Dimethylphthalate	0.0172 U			
Diphenylamine	0.0687 U			
Fluoranthene	0.0251 U			
Fluorene	0.0159 U			
Hexachlorobenzene	0.0145 U			
Hexachlorobutadiene	0.0132 U			
Hexachlorocyclopentadiene	0.0185 U			
Hexachloroethane	0.0145 U			
Naphthalene	0.00793 U			
Nitrobenzene	0.0198 U			
o-Toluidine	0.0238 U			
Pentachlorobenzene	0.037 U			
Pentachloronitrobenzene	0.000429 U			
Pentachlorophenol	0.204 U			
Phenanthrene	0.0396 U			
Phenol	0.0449 U			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil - mg/kg			
	Sample Results for: EV07SS0010006			
Pyrene	0.0238 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0571152 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000381 U			
1,1,1-Trichloroethane	0.000508 U			
1,1,2,2-Tetrachloroethane	0.000254 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00337 J			
1,1,2-Trichloroethane	0.000381 U			
1,1-Dichloroethane	0.00089 U			
1,1-Dichloroethene	0.000635 U			
1,2,3-Trichlorobenzene	0.000635 U			
1,2,3-Trichloropropane	0.000381 U			
1,2,4-Trichlorobenzene	0.000381 U			
1,2,4-Trimethylbenzene	0.000508 U			
1,2-Dibromo-3-Chloropropane	0.000508 U			
1,2-Dibromoethane	0.000127 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000763 U			
1,2-Dichlorobenzene	0.000127 U			
1,2-Dichloroethane	0.000254 U			
1,2-Dichloropropane	0.000381 U			
1,3,5-Trimethylbenzene	0.000254 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000254 U			
1,3-Dichloropropane	0.000254 U			
1,4-Dichlorobenzene	0.000127 U			
2,2-Dichloropropane	0.000635 U			
2-Butanone (methyl ethyl ketone)	0.00229 U			
2-Chlorotoluene	0.000381 U			
2-Hexanone	0.00127 U			
4-Chlorotoluene	0.000254 U			
4-Isopropyltoluene	0.000254 U			
4-Methyl-2-Pentanone	0.000381 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil - mg/kg			
	Sample Results for: EV07SS0010006			
Acetone	0.00737 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.00648 U			
Acrylonitrile	--			
Benzene	0.000381 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000508 U			
Bromodichloromethane	0.000508 U			
Bromoform	0.000254 U			
Bromomethane	0.00381 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000508 U			
Chlorobenzene	0.000254 U			
Chloroethane	0.000508 U			
Chloroform	0.00089 U			
Chloromethane	0.00114 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00089 U			
cis-1,3-Dichloropropene	0.000127 U			
Cyclohexane	--			
Dibromochloromethane	0.000127 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000381 U			
Ethylbenzene	0.000381 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000254 U			
m,p-Xylenes	0.000763 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000635 U			
Methylcyclohexane	--			
Methylene Chloride	0.00127 U			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil - mg/kg			
	Sample Results for: EV07SS0010006			
n-Butylbenzene	0.000254 U			
n-Propylbenzene	0.000381 U			
o-Xylene	0.000254 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000254 U			
Styrene	0.000254 U			
tert-Butylbenzene	0.000508 U			
Tetrachloroethene	0.000763 U			
Toluene	0.000635 U			
trans-1,2-Dichloroethene	0.000763 U			
trans-1,3-Dichloropropene	0.000381 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000635 U			
Trichlorofluoromethane	0.00102 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000508 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV07SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV07SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV07SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV07SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV07SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.017241631			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV07SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV07SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Tap Water - mg/L				
	Sample Results for: EV07TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	30.9				
Cyanide	0.004 U				
Fluoride	0.288				
Nitrate (measured as NO3-)	8.17				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	11.5				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000192243 U				
Disinfectants					
Chlorine (as Cl2)	0.12				
Disinfection Byproducts					
Total Trihalomethanes	0.001986				
Field Parameters					
Dissolved Oxygen	8.779999999999999				
Oxidation Reduction Potential	551				
pH	7.13				
Salinity	--				
Specific Conductance	1				
Temperature	22.86				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	1				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00283				
Arsenic	0.0036				
Barium	0.022				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00105				

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Tap Water - mg/L				
	Sample Results for: EV07TW001				
Chromium	0.000492				
Cobalt	0.000494				
Copper	0.17				
Iron	0.0143				
Lead	0.01				
Manganese (Diet)	--				
Manganese (Water)	0.0197				
Mercury	0.000084				
Nickel	0.851				
Selenium	0.0002 U				
Silver	0.000617				
Thallium	0.000592 U				
Tin	0.000145				
Vanadium	0.00216				
Zinc	2.77				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	142				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Tap Water - mg/L			
	Sample Results for: EV07TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.00128			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000208 U			
1,2,4,5-Tetrachlorobenzene	0.000208 U			
2,3,4,6-Tetrachlorophenol	0.000312 U			
2,4,5-Trichlorophenol	0.00052 U			
2,4,6-Trichlorophenol	0.00052 U			
2,4-Dichlorophenol	0.000728 U			
2,4-Dimethylphenol	0.00104 U			
2,4-Dinitrophenol	0.000312 U			
2,4-Dinitrotoluene	0.00104 U			
2,6-Dichlorophenol	0.000831 U			
2,6-Dinitrotoluene	0.000104 U			
2-Chloronaphthalene	0.000208 U			
2-Chlorophenol	0.000935 U			
2-Methylnaphthalene	0.000208 U			
2-Methylphenol (o-Cresol)	0.000728 U			
2-Nitrophenol	0.000935 U			
3&4-Methylphenol	0.00125 U			
3-Methylphenol	--			
3-Nitroaniline	0.00104 U			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Tap Water - mg/L			
	Sample Results for: EV07TW001			
4,6-Dinitro-2-Methylphenol	0.000208 U			
4-Bromophenylphenylether	0.000104 U			
4-Chloro-3-Methylphenol	0.000624 U			
4-Chloroaniline	0.00104 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.00104 U			
4-Nitrophenol	0.000312 U			
Acenaphthene	0.000104 U			
Acenaphthylene	0.000104 U			
Aniline	0.00104 U			
Anthracene	0.000104 U			
Atrazine	0.000104 U			
Benzo(g,h,i)perylene	0.000104 U			
Bis(2-ethylhexyl)phthalate	0.00146 U			
Butylbenzylphthalate	0.000104 U			
Carbazole	0.000104 U			
Di-n-butylphthalate	0.00135 U			
Di-n-octylphthalate	0.000208 U			
Dibenzofuran	0.000104 U			
Diethylphthalate	0.000208 U			
Dimethylphthalate	0.000104 U			
Diphenylamine	0.000104 U			
Fluoranthene	0.000104 U			
Fluorene	0.000104 U			
Hexachlorobenzene	0.000104 U			
Hexachlorobutadiene	0.000208 U			
Hexachlorocyclopentadiene	0.00104 U			
Hexachloroethane	0.000104 U			
Naphthalene	0.000208 U			
Nitrobenzene	0.000208 U			
o-Toluidine	0.000728 U			
Pentachlorobenzene	0.000208 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.000312 U			
Phenanthrene	0.000104 U			
Phenol	0.00104 U			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Tap Water - mg/L			
	Sample Results for: EV07TW001			
Pyrene	0.000104 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0001248 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Tap Water - mg/L			
	Sample Results for: EV07TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.00012 U			
Bromoform	0.00174			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.00009 U			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000246 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV07

Chemical	Tap Water - mg/L			
	Sample Results for: EV07TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil - mg/kg				
	Sample Results for: EV08SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.136 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000023383				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	88.3				
Turbidity	--				
Inorganics					
Aluminum	48300				
Antimony	0.522				
Arsenic	14.7				
Barium	354				
Beryllium	6				
Cadmium (Diet)	0.335				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil - mg/kg				
	Sample Results for: EV08SS0010006				
Chromium	5.8				
Cobalt	6.22				
Copper	32.7				
Iron	22800				
Lead	40.2				
Manganese (Diet)	680				
Manganese (Water)	--				
Mercury	0.105 U				
Nickel	6.26				
Selenium	0.105				
Silver	0.197				
Thallium	1.67				
Tin	2.84				
Vanadium	49.5				
Zinc	61.1				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000462 U				
4,4-DDE	0.000454 U				
4,4-DDT	0.000608 U				
Aldrin	0.000368 U				
alpha-BHC	0.000454 U				
alpha-Chlordane	0.000368 U				
beta-BHC	0.000557 U				
Chlordane	--				
delta-BHC	0.000505 U				
Dieldrin	0.000514 U				
Endosulfan I	0.000462 U				
Endosulfan II	0.000368 U				
Endosulfan Sulfate	0.000522 U				
Endrin	0.000591 UJ				
Endrin Aldehyde	0.000531 U				

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil - mg/kg			
	Sample Results for: EV08SS0010006			
gamma-BHC (Lindane)	0.000437 U			
gamma-Chlordane	0.000402 U			
Heptachlor	0.000522 U			
Heptachlor Epoxide	0.000402 U			
Methoxychlor	0.000651 U			
Toxaphene	0.00582 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00679 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00679 UJ			
Aroclor 1232	0.00679 UJ			
Aroclor 1242	0.00679 UJ			
Aroclor 1248	0.00679 UJ			
Aroclor 1254	0.00679 UJ			
Aroclor 1260	0.00679 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0149 U			
1,2,4,5-Tetrachlorobenzene	0.0119 U			
2,3,4,6-Tetrachlorophenol	0.0705 U			
2,4,5-Trichlorophenol	0.122 U			
2,4,6-Trichlorophenol	0.0656 U			
2,4-Dichlorophenol	0.0765 U			
2,4-Dimethylphenol	0.147 U			
2,4-Dinitrophenol	0.0546 UJ			
2,4-Dinitrotoluene	0.0179 U			
2,6-Dichlorophenol	0.0467 U			
2,6-Dinitrotoluene	0.0149 U			
2-Chloronaphthalene	0.00795 U			
2-Chlorophenol	0.0497 U			
2-Methylnaphthalene	0.0169 U			
2-Methylphenol (o-Cresol)	0.0994 U			
2-Nitrophenol	0.0626 U			
3&4-Methylphenol	0.114 U			
3-Methylphenol	--			
3-Nitroaniline	0.0179 U			

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil - mg/kg			
	Sample Results for: EV08SS0010006			
4,6-Dinitro-2-Methylphenol	0.0666 U			
4-Bromophenylphenylether	0.0119 U			
4-Chloro-3-Methylphenol	0.0874 U			
4-Chloroaniline	0.0229 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0437 U			
4-Nitrophenol	0.117 U			
Acenaphthene	0.00994 U			
Acenaphthylene	0.00894 U			
Aniline	0.0199 U			
Anthracene	0.0119 U			
Atrazine	0.0258 U			
Benzo(g,h,i)perylene	0.0278 U			
Bis(2-ethylhexyl)phthalate	0.104 U			
Butylbenzylphthalate	0.0298 U			
Carbazole	0.0179 U			
Di-n-butylphthalate	0.0427 U			
Di-n-octylphthalate	0.0199 U			
Dibenzofuran	0.00994 U			
Diethylphthalate	0.0169 U			
Dimethylphthalate	0.0129 U			
Diphenylamine	0.0517 U			
Fluoranthene	0.0189 U			
Fluorene	0.0119 U			
Hexachlorobenzene	0.0109 U			
Hexachlorobutadiene	0.00994 U			
Hexachlorocyclopentadiene	0.0139 U			
Hexachloroethane	0.0109 U			
Naphthalene	0.00596 U			
Nitrobenzene	0.0149 U			
o-Toluidine	0.0179 U			
Pentachlorobenzene	0.0278 U			
Pentachloronitrobenzene	0.000428 U			
Pentachlorophenol	0.153 U			
Phenanthrene	0.0298 U			
Phenol	0.0338 U			

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil - mg/kg				
	Sample Results for: EV08SS0010006				
Pyrene	0.0179 U				
Total Carcinogenic PAHS (BaP TEQs)	0.0429419 U				
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--				
Tph (c08-c40)	--				
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0.000451 U				
1,1,1-Trichloroethane	0.000601 U				
1,1,2,2-Tetrachloroethane	0.0003 U				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00105 U				
1,1,2-Trichloroethane	0.000451 U				
1,1-Dichloroethane	0.00105 U				
1,1-Dichloroethene	0.000751 U				
1,2,3-Trichlorobenzene	0.000751 U				
1,2,3-Trichloropropane	--				
1,2,4-Trichlorobenzene	0.000451 U				
1,2,4-Trimethylbenzene	0.00195 J				
1,2-Dibromo-3-Chloropropane	0.000601 U				
1,2-Dibromoethane	0.00015 U				
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000902 U				
1,2-Dichlorobenzene	0.00015 U				
1,2-Dichloroethane	0.0018 J				
1,2-Dichloropropane	0.000451 U				
1,3,5-Trimethylbenzene	0.00248 J				
1,3-Butadiene	--				
1,3-Dichlorobenzene	0.0017 J				
1,3-Dichloropropane	0.0019 J				
1,4-Dichlorobenzene	0.00187 J				
2,2-Dichloropropane	0.000751 U				
2-Butanone (methyl ethyl ketone)	0.0027 U				
2-Chlorotoluene	0.000451 U				
2-Hexanone	0.0015 U				
4-Chlorotoluene	0.0003 U				
4-Isopropyltoluene	0.00179 J				
4-Methyl-2-Pentanone	0.000451 U				
Acetaldehyde	--				

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil - mg/kg			
	Sample Results for: EV08SS0010006			
Acetone	0.0177 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000451 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000601 U			
Bromodichloromethane	0.000601 U			
Bromoform	0.0003 U			
Bromomethane	0.00451 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000601 U			
Chlorobenzene	0.00124 J			
Chloroethane	0.000601 U			
Chloroform	0.00105 U			
Chloromethane	0.00135 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00105 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.00015 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000451 U			
Ethylbenzene	0.00348 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.0033 J			
m,p-Xylenes	0.0057 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000751 U			
Methylcyclohexane	--			
Methylene Chloride	0.0015 U			

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil - mg/kg			
	Sample Results for: EV08SS0010006			
n-Butylbenzene	0.0016 J			
n-Propylbenzene	0.00244 J			
o-Xylene	0.00247 J			
Pentachloroethane	--			
sec-Butylbenzene	0.00209 J			
Styrene	0.00307 J			
tert-Butylbenzene	0.00238 J			
Tetrachloroethene	0.000902 U			
Toluene	0.009 J			
trans-1,2-Dichloroethene	0.000902 U			
trans-1,3-Dichloropropene	0.000451 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000751 U			
Trichlorofluoromethane	0.0012 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000601 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV08SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.009494737				
Tridecane	0.010528647				
Undecane	0.004056842				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV08SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV08SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV08SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV08SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.728533036			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV08SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.002648698			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV08SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Tap Water - mg/L			
	Sample Results for: EV08TW001	Sample Results for: EV08TW001-D		
Alkane Hydrocarbon				
Octane	--	--		
Pentadecane	--	--		
Tridecane	--	--		
Undecane	--	--		
Anion				
Chloride	31.6	32.4		
Cyanide	0.004 U	0.004 U		
Fluoride	0.274	0.281		
Nitrate (measured as NO3-)	7.95	8.050000000000001		
Nitrite (measured as NO2-)	0.2 U	0.2 U		
Phosphate	0.4 U	0.4 U		
Sulfate	10.4	10.2		
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000045281	0.000000001036		
Disinfectants				
Chlorine (as Cl2)	0.1	--		
Disinfection Byproducts				
Total Trihalomethanes	0.002012	0.00266		
Field Parameters				
Dissolved Oxygen	8.15	--		
Oxidation Reduction Potential	596	--		
pH	7.1	--		
Salinity	--	--		
Specific Conductance	1	--		
Temperature	23.44	--		
Total Dissolved Solids	--	--		
Total Solids	--	--		
Turbidity	1	--		
Inorganics				
Aluminum	0.0022 U	0.0022 U		
Antimony	0.00014 U	0.00014 U		
Arsenic	0.00374	0.00399		
Barium	0.0155	0.0166		
Beryllium	0.00003 U	0.000033 U		
Cadmium (Diet)	--	--		
Cadmium (Water)	0.00004 U	0.00004 U		

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Tap Water - mg/L			
	Sample Results for: EV08TW001	Sample Results for: EV08TW001-D		
Chromium	0.000962	0.000883		
Cobalt	0.000107	0.0000881		
Copper	0.0477 J	0.0143 J		
Iron	0.0047 U	0.00912		
Lead	0.00143	0.000418		
Manganese (Diet)	--	--		
Manganese (Water)	0.000297	0.0001 U		
Mercury	0.000015 U	0.000015 U		
Nickel	0.00175	0.000989		
Selenium	0.000329	0.000363		
Silver	0.00012 U	0.00012 U		
Thallium	0.000078 U	0.000018 U		
Tin	0.0001 U	0.0001 U		
Vanadium	0.00254	0.00303		
Zinc	0.204	0.0588		
Microorganisms				
Fecal Coliform	1 <	1 <		
Fecal Streptococcus	0	0		
Heterotrophic Plate Count	2	1		
Total Coliforms (including Fecal Coliform and E. Coli)	1 <	1 <		
Pesticides				
4,4-DDD	0.000003 U	0.000003 U		
4,4-DDE	0.000002 UJ	0.000002 UJ		
4,4-DDT	0.000006 U	0.000006 U		
Aldrin	0.000002 UJ	0.000002 UJ		
alpha-BHC	0.000003 UJ	0.000003 UJ		
alpha-Chlordane	0.000003 UJ	0.000003 UJ		
beta-BHC	0.000002 UJ	0.000002 UJ		
Chlordane	--	--		
delta-BHC	0.000001 U	0.000001 U		
Dieldrin	0.000003 UJ	0.000003 UJ		
Endosulfan I	0.000003 UJ	0.000003 UJ		
Endosulfan II	0.000002 UJ	0.000002 UJ		
Endosulfan Sulfate	0.000007 UJ	0.000007 UJ		
Endrin	0.000002 UJ	0.000002 UJ		
Endrin Aldehyde	0.000002 UJ	0.000002 UJ		

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Tap Water - mg/L			
	Sample Results for: EV08TW001	Sample Results for: EV08TW001-D		
gamma-BHC (Lindane)	0.000001 U	0.000001 U		
gamma-Chlordane	0.000002 UJ	0.000002 UJ		
Heptachlor	0.000004 UJ	0.000004 UJ		
Heptachlor Epoxide	0.000004 UJ	0.000004 UJ		
Methoxychlor	0.000003 UJ	0.000003 UJ		
Toxaphene	0.00001 U	0.00001 U		
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ	0.00002 UJ		
Aroclor 1016/1260	--	--		
Aroclor 1221	0.00002 UJ	0.00002 UJ		
Aroclor 1232	0.00002 UJ	0.00002 UJ		
Aroclor 1242	0.00002 UJ	0.00002 UJ		
Aroclor 1248	0.00002 UJ	0.00002 UJ		
Aroclor 1254	0.00002 UJ	0.00002 UJ		
Aroclor 1260	0.00002 UJ	0.00002 UJ		
Radionuclides				
Uranium	0.00149	0.00138		
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000206 UJ	0.000241 UJ		
1,2,4,5-Tetrachlorobenzene	0.000206 U	0.000241 U		
2,3,4,6-Tetrachlorophenol	--	--		
2,4,5-Trichlorophenol	--	--		
2,4,6-Trichlorophenol	--	--		
2,4-Dichlorophenol	--	--		
2,4-Dimethylphenol	--	--		
2,4-Dinitrophenol	--	--		
2,4-Dinitrotoluene	--	-- U		
2,6-Dichlorophenol	--	--		
2,6-Dinitrotoluene	0.000103 U	0.00012 U		
2-Chloronaphthalene	0.000206 U	0.000241 U		
2-Chlorophenol	--	--		
2-Methylnaphthalene	0.000206 U	0.000241 U		
2-Methylphenol (o-Cresol)	--	--		
2-Nitrophenol	--	--		
3&4-Methylphenol	--	--		
3-Methylphenol	--	--		
3-Nitroaniline	0.00103 U	0.0012 U		

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Tap Water - mg/L			
	Sample Results for: EV08TW001	Sample Results for: EV08TW001-D		
4,6-Dinitro-2-Methylphenol	--	--		
4-Bromophenylphenylether	0.000103 U	0.00012 U		
4-Chloro-3-Methylphenol	--	--		
4-Chloroaniline	0.00103 U	0.0012 U		
4-Methylphenol (p-Cresol)	--	--		
4-Nitroaniline	0.00103 U	0.0012 U		
4-Nitrophenol	--	--		
Acenaphthene	0.000103 U	0.00012 U		
Acenaphthylene	0.000103 U	0.00012 U		
Aniline	0.00103 U	0.0012 U		
Anthracene	0.000103 U	0.00012 U		
Atrazine	0.000103 U	0.00012 U		
Benzo(g,h,i)perylene	0.000103 U	0.00012 U		
Bis(2-ethylhexyl)phthalate	0.00144 U	0.00168 U		
Butylbenzylphthalate	0.000103 U	0.00012 U		
Carbazole	0.000103 U	0.00012 U		
Di-n-butylphthalate	0.00134 U	0.00156 U		
Di-n-octylphthalate	0.000206 UJ	0.000241 UJ		
Dibenzofuran	0.000103 U	0.00012 U		
Diethylphthalate	0.000206 U	0.000241 U		
Dimethylphthalate	0.000103 U	0.00012 U		
Diphenylamine	0.000103 U	0.00012 U		
Fluoranthene	0.000103 U	0.00012 U		
Fluorene	0.000103 U	0.00012 U		
Hexachlorobenzene	0.000103 U	0.00012 U		
Hexachlorobutadiene	0.000206 U	0.000241 U		
Hexachlorocyclopentadiene	0.00103 U	0.0012 U		
Hexachloroethane	0.000103 U	0.00012 U		
Naphthalene	0.000206 U	0.000241 U		
Nitrobenzene	0.000206 U	0.000241 U		
o-Toluidine	0.000722 U	0.000842 U		
Pentachlorobenzene	0.000206 U	0.000241 U		
Pentachloronitrobenzene	0.000003 UJ	0.000003 UJ		
Pentachlorophenol	--	--		
Phenanthrene	0.000103 U	0.00012 U		
Phenol	--	--		

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Tap Water - mg/L			
	Sample Results for: EV08TW001	Sample Results for: EV08TW001-D		
Pyrene	0.000103 U	0.00012 U		
Total Carcinogenic PAHS (BaP TEQs)	0.0001236 U	0.000144 U		
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--	--		
Tph (c08-c40)	--	--		
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U	0.00011 U		
1,1,1-Trichloroethane	0.00017 U	0.00017 U		
1,1,2,2-Tetrachloroethane	0.00005 U	0.00005 U		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U	0.0002 U		
1,1,2-Trichloroethane	0.00011 U	0.00011 U		
1,1-Dichloroethane	0.0001 U	0.0001 U		
1,1-Dichloroethene	0.00013 U	0.00013 U		
1,2,3-Trichlorobenzene	0.00012 U	0.00012 U		
1,2,3-Trichloropropane	0.00013 U	0.00013 U		
1,2,4-Trichlorobenzene	0.00013 U	0.00013 U		
1,2,4-Trimethylbenzene	0.00006 U	0.00006 U		
1,2-Dibromo-3-Chloropropane	0.00025 U	0.00025 U		
1,2-Dibromoethane	0.00009 U	0.00009 U		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--		
1,2-Dichlorobenzene	0.00007 U	0.00007 U		
1,2-Dichloroethane	0.00008 U	0.00008 U		
1,2-Dichloropropane	0.00015 U	0.00015 U		
1,3,5-Trimethylbenzene	0.00008 U	0.00008 U		
1,3-Butadiene	--	--		
1,3-Dichlorobenzene	0.00013 U	0.00013 U		
1,3-Dichloropropane	0.00011 U	0.00011 U		
1,4-Dichlorobenzene	0.00007 U	0.00007 U		
2,2-Dichloropropane	0.0001 U	0.0001 U		
2-Butanone (methyl ethyl ketone)	0.0016 U	0.0016 U		
2-Chlorotoluene	0.00012 U	0.00012 U		
2-Hexanone	0.0002 U	0.0002 U		
4-Chlorotoluene	0.00013 U	0.00013 U		
4-Isopropyltoluene	0.0001 U	0.0001 U		
4-Methyl-2-Pentanone	0.0001 U	0.0001 U		

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Tap Water - mg/L			
	Sample Results for: EV08TW001	Sample Results for: EV08TW001-D		
Acetaldehyde	--	--		
Acetone	0.001 U	0.001 U		
Acetonitrile	--	--		
Acetophenone	--	--		
Acrolein	--	--		
Acrylonitrile	--	--		
Benzene	0.00005 U	0.00005 U		
Bis(2-Chloroethyl)ether	--	--		
Bis(chloromethyl)ether	--	--		
Bromochloromethane	0.0001 U	0.0001 U		
Bromodichloromethane	0.00012 U	0.00012 U		
Bromoform	0.00169	0.00238		
Bromomethane	0.00037 U	0.00037 U		
Carbon Disulfide	--	--		
Carbon Tetrachloride	0.00008 U	0.00008 U		
Chlorobenzene	0.00012 U	0.00012 U		
Chloroethane	0.00018 U	0.00018 U		
Chloroform	0.00009 U	0.00009 U		
Chloromethane	0.00021 U	0.00021 U		
Chloroprene	--	--		
cis-1,2-Dichloroethene	0.00013 U	0.00013 U		
cis-1,3-Dichloropropene	0.00015 U	0.00015 U		
Cyclohexane	--	--		
Dibromochloromethane	0.000322 J	0.00028 J		
Dibromomethane	--	--		
Dichlorodifluoromethane (Freon 12)	0.00012 U	0.00012 U		
Ethylbenzene	0.00005 U	0.00005 U		
Formaldehyde	--	--		
Hexane	--	--		
Isobutyl Alcohol	--	--		
Isophorone	--	--		
Isopropylbenzene	0.00006 U	0.00006 U		
m,p-Xylenes	0.00009 U	0.00009 U		
Methyl Acetate	--	--		
Methyl tert-Butyl Ether	0.00011 U	0.00011 U		
Methylcyclohexane	--	--		

Attachment C - Environmental Sampling Results For Location EV08

Chemical	Tap Water - mg/L			
	Sample Results for: EV08TW001	Sample Results for: EV08TW001-D		
Methylene Chloride	0.00069 U	0.00069 U		
n-Butylbenzene	0.00005 U	0.00005 U		
n-Propylbenzene	0.00007 U	0.00007 U		
o-Xylene	0.00007 U	0.00007 U		
Pentachloroethane	--	--		
sec-Butylbenzene	0.00004 U	0.00004 U		
Styrene	0.00008 U	0.00008 U		
tert-Butylbenzene	0.00019 U	0.00019 U		
Tetrachloroethene	0.00007 U	0.00007 U		
Toluene	0.00017 U	0.00017 U		
trans-1,2-Dichloroethene	0.00015 U	0.00015 U		
trans-1,3-Dichloropropene	0.00007 U	0.00007 U		
Trans-1,4-Dichloro-2-Butene	--	--		
Trichloroethene	0.00013 U	0.00013 U		
Trichlorofluoromethane	0.00019 U	0.00019 U		
Vinyl Acetate	--	--		
Vinyl Chloride	0.00015 U	0.00015 U		
Xylenes, Total	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil - mg/kg				
	Sample Results for: EV09SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.158 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000008082				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	78.40000000000001				
Turbidity	--				
Inorganics					
Aluminum	42400				
Antimony	0.49				
Arsenic	13				
Barium	305				
Beryllium	5.8				
Cadmium (Diet)	0.3				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil - mg/kg				
	Sample Results for: EV09SS0010006				
Chromium	4.9				
Cobalt	5.7				
Copper	25				
Iron	19400				
Lead	40				
Manganese (Diet)	596				
Manganese (Water)	--				
Mercury	0.0962 U				
Nickel	6.7				
Selenium	0.11				
Silver	0.14				
Thallium	1.6 U				
Tin	2.7				
Vanadium	45				
Zinc	60				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000475 U				
4,4-DDE	0.000467 U				
4,4-DDT	0.000625 U				
Aldrin	0.000379 U				
alpha-BHC	0.000467 U				
alpha-Chlordane	0.000379 U				
beta-BHC	0.000572 U				
Chlordane	--				
delta-BHC	0.000519 U				
Dieldrin	0.000528 U				
Endosulfan I	0.000475 U				
Endosulfan II	0.000379 U				
Endosulfan Sulfate	0.000537 U				
Endrin	0.000607 UJ				
Endrin Aldehyde	0.000546 U				

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil - mg/kg			
	Sample Results for: EV09SS0010006			
gamma-BHC (Lindane)	0.000449 U			
gamma-Chlordane	0.000414 U			
Heptachlor	0.000537 U			
Heptachlor Epoxide	0.000414 U			
Methoxychlor	0.000669 U			
Toxaphene	0.00674 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00786 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00786 UJ			
Aroclor 1232	0.00786 UJ			
Aroclor 1242	0.00786 UJ			
Aroclor 1248	0.00786 UJ			
Aroclor 1254	0.00786 UJ			
Aroclor 1260	0.00786 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0188 U			
1,2,4,5-Tetrachlorobenzene	0.015 U			
2,3,4,6-Tetrachlorophenol	0.089 U			
2,4,5-Trichlorophenol	0.154 U			
2,4,6-Trichlorophenol	0.0827 U			
2,4-Dichlorophenol	0.0965 U			
2,4-Dimethylphenol	0.185 U			
2,4-Dinitrophenol	0.0689 UJ			
2,4-Dinitrotoluene	0.0226 U			
2,6-Dichlorophenol	0.0589 U			
2,6-Dinitrotoluene	0.0188 U			
2-Chloronaphthalene	0.01 U			
2-Chlorophenol	0.0626 U			
2-Methylnaphthalene	0.0213 U			
2-Methylphenol (o-Cresol)	0.125 U			
2-Nitrophenol	0.0789 U			
3&4-Methylphenol	0.144 U			
3-Methylphenol	--			
3-Nitroaniline	0.0226 U			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil - mg/kg			
	Sample Results for: EV09SS0010006			
4,6-Dinitro-2-Methylphenol	0.084 U			
4-Bromophenylphenylether	0.015 U			
4-Chloro-3-Methylphenol	0.11 U			
4-Chloroaniline	0.0288 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0551 U			
4-Nitrophenol	0.148 U			
Acenaphthene	0.0125 U			
Acenaphthylene	0.0113 U			
Aniline	0.0251 U			
Anthracene	0.015 U			
Atrazine	0.0326 U			
Benzo(g,h,i)perylene	0.0351 U			
Bis(2-ethylhexyl)phthalate	0.132 U			
Butylbenzylphthalate	0.0376 U			
Carbazole	0.0226 U			
Di-n-butylphthalate	0.0539 U			
Di-n-octylphthalate	0.0251 U			
Dibenzofuran	0.0125 U			
Diethylphthalate	0.0213 U			
Dimethylphthalate	0.0163 U			
Diphenylamine	0.0652 U			
Fluoranthene	0.0238 U			
Fluorene	0.015 U			
Hexachlorobenzene	0.0138 U			
Hexachlorobutadiene	0.0125 U			
Hexachlorocyclopentadiene	0.0175 U			
Hexachloroethane	0.0138 U			
Naphthalene	0.00752 U			
Nitrobenzene	0.0188 U			
o-Toluidine	0.0226 U			
Pentachlorobenzene	0.0351 U			
Pentachloronitrobenzene	0.00044 U			
Pentachlorophenol	0.193 U			
Phenanthrene	0.0376 U			
Phenol	0.0426 U			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil - mg/kg			
	Sample Results for: EV09SS0010006			
Pyrene	0.0226 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0541623 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000386 U			
1,1,1-Trichloroethane	0.000514 U			
1,1,2,2-Tetrachloroethane	0.000257 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.008 J			
1,1,2-Trichloroethane	0.000386 U			
1,1-Dichloroethane	0.0009 U			
1,1-Dichloroethene	0.000643 U			
1,2,3-Trichlorobenzene	0.000643 U			
1,2,3-Trichloropropane	0.000386 U			
1,2,4-Trichlorobenzene	0.000386 U			
1,2,4-Trimethylbenzene	0.00111 J			
1,2-Dibromo-3-Chloropropane	0.000514 U			
1,2-Dibromoethane	0.000129 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000771 U			
1,2-Dichlorobenzene	0.000129 U			
1,2-Dichloroethane	0.000257 U			
1,2-Dichloropropane	0.000386 U			
1,3,5-Trimethylbenzene	0.000257 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000257 U			
1,3-Dichloropropane	0.000257 U			
1,4-Dichlorobenzene	0.000129 U			
2,2-Dichloropropane	0.000643 U			
2-Butanone (methyl ethyl ketone)	0.00231 U			
2-Chlorotoluene	0.000386 U			
2-Hexanone	0.00129 U			
4-Chlorotoluene	0.000257 U			
4-Isopropyltoluene	0.000884 J			
4-Methyl-2-Pentanone	0.000386 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil - mg/kg			
	Sample Results for: EV09SS0010006			
Acetone	0.00746 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000386 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000514 U			
Bromodichloromethane	0.000514 U			
Bromoform	0.000257 U			
Bromomethane	0.00386 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000514 U			
Chlorobenzene	0.000257 U			
Chloroethane	0.000514 U			
Chloroform	0.0009 U			
Chloromethane	0.00116 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.0009 U			
cis-1,3-Dichloropropene	0.000129 U			
Cyclohexane	--			
Dibromochloromethane	0.000129 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000386 U			
Ethylbenzene	0.000907 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00105 J			
m,p-Xylenes	0.00134 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000643 U			
Methylcyclohexane	--			
Methylene Chloride	0.00129 U			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil - mg/kg			
	Sample Results for: EV09SS0010006			
n-Butylbenzene	0.000772 J			
n-Propylbenzene	0.000852 J			
o-Xylene	0.000883 J			
Pentachloroethane	--			
sec-Butylbenzene	0.000914 J			
Styrene	0.000708 J			
tert-Butylbenzene	0.00116 J			
Tetrachloroethene	0.00277 J			
Toluene	0.00142 J			
trans-1,2-Dichloroethene	0.000771 U			
trans-1,3-Dichloropropene	0.000386 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000643 U			
Trichlorofluoromethane	0.00103 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000514 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

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J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV09SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV09SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV09SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV09SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV09SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.002215574 U			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV09SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV09SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

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J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Tap Water - mg/L				
	Sample Results for: EV09TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	31.3				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	8				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	10.4				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000021145				
Disinfectants					
Chlorine (as Cl2)	0.1				
Disinfection Byproducts					
Total Trihalomethanes	0.002143				
Field Parameters					
Dissolved Oxygen	7.88				
Oxidation Reduction Potential	574				
pH	6.83				
Salinity	--				
Specific Conductance	0.099				
Temperature	22.32				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00014 U				
Arsenic	0.00406				
Barium	0.0164				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Tap Water - mg/L				
	Sample Results for: EV09TW001				
Chromium	0.000954				
Cobalt	0.0000958				
Copper	0.0358				
Iron	0.0047 U				
Lead	0.000702				
Manganese (Diet)	--				
Manganese (Water)	0.000342				
Mercury	0.000015 U				
Nickel	0.00116				
Selenium	0.000283				
Silver	0.00012 U				
Thallium	0.00004 U				
Tin	0.0001 U				
Vanadium	0.00261				
Zinc	0.0627				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	4				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 UJ				
4,4-DDT	0.000006 U				
Aldrin	0.000002 UJ				
alpha-BHC	0.000003 UJ				
alpha-Chlordane	0.000003 UJ				
beta-BHC	0.000002 UJ				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 UJ				
Endosulfan I	0.000003 UJ				
Endosulfan II	0.000002 UJ				
Endosulfan Sulfate	0.000007 UJ				
Endrin	0.000002 UJ				
Endrin Aldehyde	0.000002 UJ				

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Tap Water - mg/L			
	Sample Results for: EV09TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 UJ			
Heptachlor	0.000004 UJ			
Heptachlor Epoxide	0.000004 UJ			
Methoxychlor	0.000003 UJ			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 UJ			
Aroclor 1232	0.00002 UJ			
Aroclor 1242	0.00002 UJ			
Aroclor 1248	0.00002 UJ			
Aroclor 1254	0.00002 UJ			
Aroclor 1260	0.00002 UJ			
Radionuclides				
Uranium	0.00147			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000216 U			
1,2,4,5-Tetrachlorobenzene	0.000216 U			
2,3,4,6-Tetrachlorophenol	--			
2,4,5-Trichlorophenol	--			
2,4,6-Trichlorophenol	--			
2,4-Dichlorophenol	--			
2,4-Dimethylphenol	--			
2,4-Dinitrophenol	--			
2,4-Dinitrotoluene	0.00108 U			
2,6-Dichlorophenol	--			
2,6-Dinitrotoluene	0.000108 U			
2-Chloronaphthalene	0.000216 U			
2-Chlorophenol	--			
2-Methylnaphthalene	0.000216 U			
2-Methylphenol (o-Cresol)	--			
2-Nitrophenol	--			
3&4-Methylphenol	--			
3-Methylphenol	--			
3-Nitroaniline	0.00108 U			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Tap Water - mg/L			
	Sample Results for: EV09TW001			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	0.000108 U			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	0.00108 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.00108 U			
4-Nitrophenol	--			
Acenaphthene	0.000108 U			
Acenaphthylene	0.000108 U			
Aniline	0.00108 U			
Anthracene	0.000108 U			
Atrazine	0.000108 U			
Benzo(g,h,i)perylene	0.000108 U			
Bis(2-ethylhexyl)phthalate	0.00152 U			
Butylbenzylphthalate	0.000108 U			
Carbazole	0.000108 U			
Di-n-butylphthalate	0.00141 U			
Di-n-octylphthalate	0.000216 UJ			
Dibenzofuran	0.000108 U			
Diethylphthalate	0.000216 U			
Dimethylphthalate	0.000108 U			
Diphenylamine	0.000108 U			
Fluoranthene	0.000108 U			
Fluorene	0.000108 U			
Hexachlorobenzene	0.000108 U			
Hexachlorobutadiene	0.000216 U			
Hexachlorocyclopentadiene	0.00108 U			
Hexachloroethane	0.000108 U			
Naphthalene	0.000216 U			
Nitrobenzene	0.000216 U			
o-Toluidine	0.000758 U			
Pentachlorobenzene	0.000216 U			
Pentachloronitrobenzene	0.000003 UJ			
Pentachlorophenol	--			
Phenanthrene	0.000108 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Tap Water - mg/L			
	Sample Results for: EV09TW001			
Pyrene	0.000108 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0001296 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 UJ			
1,1,1-Trichloroethane	0.00017 UJ			
1,1,2,2-Tetrachloroethane	0.00005 UJ			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 UJ			
1,1,2-Trichloroethane	0.00011 UJ			
1,1-Dichloroethane	0.0001 UJ			
1,1-Dichloroethene	0.00013 UJ			
1,2,3-Trichlorobenzene	0.00012 UJ			
1,2,3-Trichloropropane	0.00013 UJ			
1,2,4-Trichlorobenzene	0.00013 UJ			
1,2,4-Trimethylbenzene	0.00006 UJ			
1,2-Dibromo-3-Chloropropane	0.00025 UJ			
1,2-Dibromoethane	0.00009 UJ			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.00007 UJ			
1,2-Dichloroethane	0.00008 UJ			
1,2-Dichloropropane	0.00015 UJ			
1,3,5-Trimethylbenzene	0.00008 UJ			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 UJ			
1,3-Dichloropropane	0.00011 UJ			
1,4-Dichlorobenzene	0.00007 UJ			
2,2-Dichloropropane	0.0001 UJ			
2-Butanone (methyl ethyl ketone)	0.0016 UJ			
2-Chlorotoluene	0.00012 UJ			
2-Hexanone	0.0002 UJ			
4-Chlorotoluene	0.00013 UJ			
4-Isopropyltoluene	0.0001 UJ			
4-Methyl-2-Pentanone	0.0001 UJ			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Tap Water - mg/L			
	Sample Results for: EV09TW001			
Acetaldehyde	--			
Acetone	0.001 UJ			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.00005 UJ			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 UJ			
Bromodichloromethane	0.00012 UJ			
Bromoform	0.00194 J			
Bromomethane	0.00037 UJ			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 UJ			
Chlorobenzene	0.00012 UJ			
Chloroethane	0.00018 UJ			
Chloroform	0.00009 UJ			
Chloromethane	0.00021 UJ			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 UJ			
cis-1,3-Dichloropropene	0.00015 UJ			
Cyclohexane	--			
Dibromochloromethane	0.000203 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 UJ			
Ethylbenzene	0.00005 UJ			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 UJ			
m,p-Xylenes	0.00009 UJ			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 UJ			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV09

Chemical	Tap Water - mg/L			
	Sample Results for: EV09TW001			
Methylene Chloride	0.00069 UJ			
n-Butylbenzene	0.00005 UJ			
n-Propylbenzene	0.00007 UJ			
o-Xylene	0.00007 UJ			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 UJ			
Styrene	0.00008 UJ			
tert-Butylbenzene	0.00019 UJ			
Tetrachloroethene	0.00007 UJ			
Toluene	0.00017 UJ			
trans-1,2-Dichloroethene	0.00015 UJ			
trans-1,3-Dichloropropene	0.00007 UJ			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 UJ			
Trichlorofluoromethane	0.00019 UJ			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 UJ			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil - mg/kg				
	Sample Results for: EV10SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.166 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000027036				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	73.40000000000001				
Turbidity	--				
Inorganics					
Aluminum	46400				
Antimony	0.42				
Arsenic	12				
Barium	426				
Beryllium	5.5				
Cadmium (Diet)	0.3				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil - mg/kg				
	Sample Results for: EV10SS0010006				
Chromium	3.9				
Cobalt	5.8				
Copper	16				
Iron	21200				
Lead	34				
Manganese (Diet)	537				
Manganese (Water)	--				
Mercury	0.106 U				
Nickel	4.9				
Selenium	0.083 U				
Silver	0.1				
Thallium	1.4 U				
Tin	2.7				
Vanadium	45				
Zinc	47				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000469 UJ				
4,4-DDE	0.00046 UJ				
4,4-DDT	0.000616 UJ				
Aldrin	0.000373 UJ				
alpha-BHC	0.00046 UJ				
alpha-Chlordane	0.000373 UJ				
beta-BHC	0.000564 UJ				
Chlordane	--				
delta-BHC	0.000512 UJ				
Dieldrin	0.000521 UJ				
Endosulfan I	0.000469 UJ				
Endosulfan II	0.000373 UJ				
Endosulfan Sulfate	0.00053 UJ				
Endrin	0.000599 UJ				
Endrin Aldehyde	0.000538 UJ				

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil - mg/kg			
	Sample Results for: EV10SS0010006			
gamma-BHC (Lindane)	0.000443 UJ			
gamma-Chlordane	0.000408 UJ			
Heptachlor	0.00053 UJ			
Heptachlor Epoxide	0.000408 UJ			
Methoxychlor	0.00066 UJ			
Toxaphene	0.0071 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00828 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00828 UJ			
Aroclor 1232	0.00828 UJ			
Aroclor 1242	0.00828 UJ			
Aroclor 1248	0.00828 UJ			
Aroclor 1254	0.00828 UJ			
Aroclor 1260	0.00828 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0204 U			
1,2,4,5-Tetrachlorobenzene	0.0163 U			
2,3,4,6-Tetrachlorophenol	0.0964 U			
2,4,5-Trichlorophenol	0.167 U			
2,4,6-Trichlorophenol	0.0896 U			
2,4-Dichlorophenol	0.105 U			
2,4-Dimethylphenol	0.201 U			
2,4-Dinitrophenol	0.0747 UJ			
2,4-Dinitrotoluene	0.0244 U			
2,6-Dichlorophenol	0.0638 U			
2,6-Dinitrotoluene	0.0204 U			
2-Chloronaphthalene	0.0109 U			
2-Chlorophenol	0.0679 U			
2-Methylnaphthalene	0.0231 U			
2-Methylphenol (o-Cresol)	0.136 U			
2-Nitrophenol	0.0855 U			
3&4-Methylphenol	0.156 U			
3-Methylphenol	--			
3-Nitroaniline	0.0244 U			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil - mg/kg			
	Sample Results for: EV10SS0010006			
4,6-Dinitro-2-Methylphenol	0.091 U			
4-Bromophenylphenylether	0.0163 U			
4-Chloro-3-Methylphenol	0.119 U			
4-Chloroaniline	0.0312 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0597 U			
4-Nitrophenol	0.16 U			
Acenaphthene	0.0136 U			
Acenaphthylene	0.0122 U			
Aniline	0.0272 U			
Anthracene	0.0163 U			
Atrazine	0.0353 U			
Benzo(g,h,i)perylene	0.038 U			
Bis(2-ethylhexyl)phthalate	0.143 U			
Butylbenzylphthalate	0.0407 U			
Carbazole	0.0244 U			
Di-n-butylphthalate	0.0584 U			
Di-n-octylphthalate	0.0272 U			
Dibenzofuran	0.0136 U			
Diethylphthalate	0.0231 U			
Dimethylphthalate	0.0176 U			
Diphenylamine	0.0706 U			
Fluoranthene	0.0258 U			
Fluorene	0.0163 U			
Hexachlorobenzene	0.0149 U			
Hexachlorobutadiene	0.0136 U			
Hexachlorocyclopentadiene	0.019 U			
Hexachloroethane	0.0149 U			
Naphthalene	0.00814 U			
Nitrobenzene	0.0204 U			
o-Toluidine	0.0244 U			
Pentachlorobenzene	0.038 U			
Pentachloronitrobenzene	0.000434 UJ			
Pentachlorophenol	0.209 U			
Phenanthrene	0.0407 U			
Phenol	0.0462 U			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil - mg/kg			
	Sample Results for: EV10SS0010006			
Pyrene	0.0244 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0586216 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000426 UJ			
1,1,1-Trichloroethane	0.000568 UJ			
1,1,2,2-Tetrachloroethane	0.000284 UJ			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000994 UJ			
1,1,2-Trichloroethane	0.000426 UJ			
1,1-Dichloroethane	0.000994 UJ			
1,1-Dichloroethene	0.00071 UJ			
1,2,3-Trichlorobenzene	0.00071 UJ			
1,2,3-Trichloropropane	0.000426 UJ			
1,2,4-Trichlorobenzene	0.000426 UJ			
1,2,4-Trimethylbenzene	0.000568 UJ			
1,2-Dibromo-3-Chloropropane	0.000568 UJ			
1,2-Dibromoethane	0.000142 UJ			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000852 UJ			
1,2-Dichlorobenzene	0.000142 UJ			
1,2-Dichloroethane	0.000284 UJ			
1,2-Dichloropropane	0.000426 UJ			
1,3,5-Trimethylbenzene	0.00152 J			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000284 UJ			
1,3-Dichloropropane	0.000284 UJ			
1,4-Dichlorobenzene	0.000142 UJ			
2,2-Dichloropropane	0.00071 UJ			
2-Butanone (methyl ethyl ketone)	0.00256 UJ			
2-Chlorotoluene	0.000426 UJ			
2-Hexanone	0.00142 UJ			
4-Chlorotoluene	0.000284 UJ			
4-Isopropyltoluene	0.00122 J			
4-Methyl-2-Pentanone	0.000426 UJ			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil - mg/kg			
	Sample Results for: EV10SS0010006			
Acetone	0.00941 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000426 UJ			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000568 UJ			
Bromodichloromethane	0.000568 UJ			
Bromoform	0.000284 UJ			
Bromomethane	0.00426 UJ			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000568 UJ			
Chlorobenzene	0.000284 UJ			
Chloroethane	0.000568 UJ			
Chloroform	0.000994 UJ			
Chloromethane	0.00128 UJ			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000994 UJ			
cis-1,3-Dichloropropene	0.000142 UJ			
Cyclohexane	--			
Dibromochloromethane	0.000142 UJ			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000426 UJ			
Ethylbenzene	0.00189 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00239 J			
m,p-Xylenes	0.00275 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00071 UJ			
Methylcyclohexane	--			
Methylene Chloride	0.00142 UJ			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil - mg/kg				
	Sample Results for: EV10SS0010006				
n-Butylbenzene	0.00072 J				
n-Propylbenzene	0.00148 J				
o-Xylene	0.00125 J				
Pentachloroethane	--				
sec-Butylbenzene	0.00121 J				
Styrene	0.00123 J				
tert-Butylbenzene	0.0015 J				
Tetrachloroethene	0.000852 UJ				
Toluene	0.00259 J				
trans-1,2-Dichloroethene	0.000852 UJ				
trans-1,3-Dichloropropene	0.000426 UJ				
Trans-1,4-Dichloro-2-Butene	--				
Trichloroethene	0.00071 UJ				
Trichlorofluoromethane	0.00114 UJ				
Vinyl Acetate	--				
Vinyl Chloride	0.000568 UJ				
Xylenes, Total	--				

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV10SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.008742123				
Tridecane	0.004101341				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV10SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV10SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV10SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV10SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.365096804			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV10SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV10SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Tap Water - mg/L				
	Sample Results for: EV10TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	33.3				
Cyanide	0.004 U				
Fluoride	0.25				
Nitrate (measured as NO3-)	7.82				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	10.4				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000007983				
Disinfectants					
Chlorine (as Cl2)	0.1				
Disinfection Byproducts					
Total Trihalomethanes	0.002173				
Field Parameters					
Dissolved Oxygen	8.460000000000001				
Oxidation Reduction Potential	613				
pH	7.22				
Salinity	--				
Specific Conductance	0.095				
Temperature	23.06				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00014 U				
Arsenic	0.0043				
Barium	0.0172				
Beryllium	0.00012 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Tap Water - mg/L				
	Sample Results for: EV10TW001				
Chromium	0.000994				
Cobalt	0.000127				
Copper	0.192				
Iron	0.00767				
Lead	0.00172				
Manganese (Diet)	--				
Manganese (Water)	0.00073				
Mercury	0.000015 U				
Nickel	0.0169				
Selenium	0.000868				
Silver	0.00012 U				
Thallium	0.00164				
Tin	0.0001 U				
Vanadium	0.00332				
Zinc	0.412				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	14				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 UJ				
4,4-DDT	0.000006 U				
Aldrin	0.000002 UJ				
alpha-BHC	0.000003 UJ				
alpha-Chlordane	0.000003 UJ				
beta-BHC	0.000002 UJ				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 UJ				
Endosulfan I	0.000003 UJ				
Endosulfan II	0.000002 UJ				
Endosulfan Sulfate	0.000007 UJ				
Endrin	0.000002 UJ				
Endrin Aldehyde	0.000002 UJ				

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Tap Water - mg/L			
	Sample Results for: EV10TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 UJ			
Heptachlor	0.000004 UJ			
Heptachlor Epoxide	0.000004 UJ			
Methoxychlor	0.000003 UJ			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 UJ			
Aroclor 1232	0.00002 UJ			
Aroclor 1242	0.00002 UJ			
Aroclor 1248	0.00002 UJ			
Aroclor 1254	0.00002 UJ			
Aroclor 1260	0.00002 UJ			
Radionuclides				
Uranium	0.00137			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000237 U			
1,2,4,5-Tetrachlorobenzene	0.000237 U			
2,3,4,6-Tetrachlorophenol	--			
2,4,5-Trichlorophenol	--			
2,4,6-Trichlorophenol	--			
2,4-Dichlorophenol	--			
2,4-Dimethylphenol	--			
2,4-Dinitrophenol	--			
2,4-Dinitrotoluene	0.00119 U			
2,6-Dichlorophenol	--			
2,6-Dinitrotoluene	0.000119 U			
2-Chloronaphthalene	0.000237 U			
2-Chlorophenol	--			
2-Methylnaphthalene	0.000237 U			
2-Methylphenol (o-Cresol)	--			
2-Nitrophenol	--			
3&4-Methylphenol	--			
3-Methylphenol	--			
3-Nitroaniline	0.00119 U			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Tap Water - mg/L			
	Sample Results for: EV10TW001			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	0.000119 U			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	0.00119 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.00119 U			
4-Nitrophenol	--			
Acenaphthene	0.000119 U			
Acenaphthylene	0.000119 U			
Aniline	0.00119 U			
Anthracene	0.000119 U			
Atrazine	0.000119 U			
Benzo(g,h,i)perylene	0.000119 U			
Bis(2-ethylhexyl)phthalate	0.00166 U			
Butylbenzylphthalate	0.000119 U			
Carbazole	0.000119 U			
Di-n-butylphthalate	0.00154 U			
Di-n-octylphthalate	0.000237 UJ			
Dibenzofuran	0.000119 U			
Diethylphthalate	0.000237 U			
Dimethylphthalate	0.000119 U			
Diphenylamine	0.000119 U			
Fluoranthene	0.000119 U			
Fluorene	0.000119 U			
Hexachlorobenzene	0.000119 U			
Hexachlorobutadiene	0.000237 U			
Hexachlorocyclopentadiene	0.00119 U			
Hexachloroethane	0.000119 U			
Naphthalene	0.000237 U			
Nitrobenzene	0.000237 U			
o-Toluidine	0.00083 U			
Pentachlorobenzene	0.000237 U			
Pentachloronitrobenzene	0.000003 UJ			
Pentachlorophenol	--			
Phenanthrene	0.000119 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Tap Water - mg/L			
	Sample Results for: EV10TW001			
Pyrene	0.000119 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0001428 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00027 J			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.000223 J			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Tap Water - mg/L			
	Sample Results for: EV10TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.00012 U			
Bromoform	0.0019			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.00009 U			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000273 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV10

Chemical	Tap Water - mg/L			
	Sample Results for: EV10TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil - mg/kg				
	Sample Results for: EV11SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.144 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000007292				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	84.5				
Turbidity	--				
Inorganics					
Aluminum	42700				
Antimony	0.443				
Arsenic	14.1				
Barium	314				
Beryllium	5.69				
Cadmium (Diet)	0.323				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil - mg/kg				
	Sample Results for: EV11SS0010006				
Chromium	5.34				
Cobalt	5.81				
Copper	21.8				
Iron	20400				
Lead	36.5				
Manganese (Diet)	587				
Manganese (Water)	--				
Mercury	0.106 U				
Nickel	5.9				
Selenium	0.0952				
Silver	0.0987 U				
Thallium	1.43 U				
Tin	2.6				
Vanadium	48.4				
Zinc	55.6				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000465 U				
4,4-DDE	0.000456 U				
4,4-DDT	0.000611 U				
Aldrin	0.00037 U				
alpha-BHC	0.000456 U				
alpha-Chlordane	0.00037 U				
beta-BHC	0.000559 U				
Chlordane	--				
delta-BHC	0.000508 U				
Dieldrin	0.000516 U				
Endosulfan I	0.000465 U				
Endosulfan II	0.00037 U				
Endosulfan Sulfate	0.000525 U				
Endrin	0.000594 UJ				
Endrin Aldehyde	0.000534 U				

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil - mg/kg			
	Sample Results for: EV11SS0010006			
gamma-BHC (Lindane)	0.000439 U			
gamma-Chlordane	0.000404 U			
Heptachlor	0.000525 U			
Heptachlor Epoxide	0.000404 U			
Methoxychlor	0.000654 U			
Toxaphene	0.00611 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00713 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00713 UJ			
Aroclor 1232	0.00713 UJ			
Aroclor 1242	0.00713 UJ			
Aroclor 1248	0.00713 UJ			
Aroclor 1254	0.00713 UJ			
Aroclor 1260	0.00713 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0174 U			
1,2,4,5-Tetrachlorobenzene	0.0139 U			
2,3,4,6-Tetrachlorophenol	0.0822 U			
2,4,5-Trichlorophenol	0.142 U			
2,4,6-Trichlorophenol	0.0764 U			
2,4-Dichlorophenol	0.0891 U			
2,4-Dimethylphenol	0.171 U			
2,4-Dinitrophenol	0.0637 UJ			
2,4-Dinitrotoluene	0.0208 U			
2,6-Dichlorophenol	0.0544 U			
2,6-Dinitrotoluene	0.0174 U			
2-Chloronaphthalene	0.00926 U			
2-Chlorophenol	0.0579 U			
2-Methylnaphthalene	0.0197 U			
2-Methylphenol (o-Cresol)	0.116 U			
2-Nitrophenol	0.0729 U			
3&4-Methylphenol	0.133 U			
3-Methylphenol	--			
3-Nitroaniline	0.0208 U			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil - mg/kg			
	Sample Results for: EV11SS0010006			
4,6-Dinitro-2-Methylphenol	0.0776 U			
4-Bromophenylphenylether	0.0139 U			
4-Chloro-3-Methylphenol	0.102 U			
4-Chloroaniline	0.0266 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0509 U			
4-Nitrophenol	0.137 U			
Acenaphthene	0.0116 U			
Acenaphthylene	0.0104 U			
Aniline	0.0232 U			
Anthracene	0.0139 U			
Atrazine	0.0301 U			
Benzo(g,h,i)perylene	0.0324 U			
Bis(2-ethylhexyl)phthalate	0.122 U			
Butylbenzylphthalate	0.0347 U			
Carbazole	0.0208 U			
Di-n-butylphthalate	0.0498 U			
Di-n-octylphthalate	0.0232 U			
Dibenzofuran	0.0116 U			
Diethylphthalate	0.0197 U			
Dimethylphthalate	0.015 U			
Diphenylamine	0.0602 U			
Fluoranthene	0.022 U			
Fluorene	0.0139 U			
Hexachlorobenzene	0.0127 U			
Hexachlorobutadiene	0.0116 U			
Hexachlorocyclopentadiene	0.0162 U			
Hexachloroethane	0.0127 U			
Naphthalene	0.00694 U			
Nitrobenzene	0.0174 U			
o-Toluidine	0.0208 U			
Pentachlorobenzene	0.0324 U			
Pentachloronitrobenzene	0.00043 U			
Pentachlorophenol	0.178 U			
Phenanthrene	0.0347 U			
Phenol	0.0394 U			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil - mg/kg				
	Sample Results for: EV11SS0010006				
Pyrene	0.0208 U				
Total Carcinogenic PAHS (BaP TEQs)	0.049983 U				
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--				
Tph (c08-c40)	--				
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0.00363 J				
1,1,1-Trichloroethane	0.000557 U				
1,1,2,2-Tetrachloroethane	0.000278 U				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000974 U				
1,1,2-Trichloroethane	0.000418 U				
1,1-Dichloroethane	0.000974 U				
1,1-Dichloroethene	0.000696 U				
1,2,3-Trichlorobenzene	0.000696 U				
1,2,3-Trichloropropane	--				
1,2,4-Trichlorobenzene	0.000418 U				
1,2,4-Trimethylbenzene	0.0025 J				
1,2-Dibromo-3-Chloropropane	0.000557 U				
1,2-Dibromoethane	0.000139 U				
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000835 U				
1,2-Dichlorobenzene	0.000139 U				
1,2-Dichloroethane	0.00299 J				
1,2-Dichloropropane	0.000418 U				
1,3,5-Trimethylbenzene	0.0024 J				
1,3-Butadiene	--				
1,3-Dichlorobenzene	0.00138 J				
1,3-Dichloropropane	0.00239 J				
1,4-Dichlorobenzene	0.000139 U				
2,2-Dichloropropane	0.000696 U				
2-Butanone (methyl ethyl ketone)	0.00251 U				
2-Chlorotoluene	0.000418 U				
2-Hexanone	0.00139 U				
4-Chlorotoluene	0.000278 U				
4-Isopropyltoluene	0.00237 J				
4-Methyl-2-Pentanone	0.000418 U				
Acetaldehyde	--				

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil - mg/kg			
	Sample Results for: EV11SS0010006			
Acetone	0.0292			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000932 J			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000557 U			
Bromodichloromethane	0.0031 J			
Bromoform	0.000278 U			
Bromomethane	0.00418 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000557 U			
Chlorobenzene	0.00346 J			
Chloroethane	0.000557 U			
Chloroform	0.00121 J			
Chloromethane	0.00125 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000974 U			
cis-1,3-Dichloropropene	0.000139 U			
Cyclohexane	--			
Dibromochloromethane	0.00278 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000418 U			
Ethylbenzene	0.00547 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00348 J			
m,p-Xylenes	0.00833 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000696 U			
Methylcyclohexane	--			
Methylene Chloride	0.00139 U			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil - mg/kg				
	Sample Results for: EV11SS0010006				
n-Butylbenzene	0.00109 J				
n-Propylbenzene	0.00263 J				
o-Xylene	0.00367 J				
Pentachloroethane	--				
sec-Butylbenzene	0.00211 J				
Styrene	0.00406 J				
tert-Butylbenzene	0.00292 J				
Tetrachloroethene	0.00443 J				
Toluene	0.0138				
trans-1,2-Dichloroethene	0.000835 U				
trans-1,3-Dichloropropene	0.000418 U				
Trans-1,4-Dichloro-2-Butene	--				
Trichloroethene	0.00229 J				
Trichlorofluoromethane	0.00111 U				
Vinyl Acetate	--				
Vinyl Chloride	0.000557 U				
Xylenes, Total	--				

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV11SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.003308002				
Tridecane	0.001034626				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV11SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV11SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV11SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV11SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.289622128			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV11SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV11SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.040719929			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Tap Water - mg/L				
	Sample Results for: EV11TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	34.8				
Cyanide	0.004 U				
Fluoride	0.206				
Nitrate (measured as NO3-)	7.83				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	10.9				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000034965				
Disinfectants					
Chlorine (as Cl2)	0.1				
Disinfection Byproducts					
Total Trihalomethanes	0.00144				
Field Parameters					
Dissolved Oxygen	7.88				
Oxidation Reduction Potential	574				
pH	6.83				
Salinity	--				
Specific Conductance	0.99				
Temperature	22.32				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00014 U				
Arsenic	0.0037				
Barium	0.0169				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Tap Water - mg/L				
	Sample Results for: EV11TW001				
Chromium	0.000868				
Cobalt	0.0000939				
Copper	0.0356				
Iron	0.00472				
Lead	0.000697				
Manganese (Diet)	--				
Manganese (Water)	0.000273				
Mercury	0.000015 U				
Nickel	0.000961				
Selenium	0.000234				
Silver	0.00012 U				
Thallium	0.00004 U				
Tin	0.0001 U				
Vanadium	0.00306				
Zinc	0.173				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	0				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 UJ				
4,4-DDT	0.000006 U				
Aldrin	0.000002 UJ				
alpha-BHC	0.000003 UJ				
alpha-Chlordane	0.000003 UJ				
beta-BHC	0.000002 UJ				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 UJ				
Endosulfan I	0.000003 UJ				
Endosulfan II	0.000002 UJ				
Endosulfan Sulfate	0.000007 UJ				
Endrin	0.000002 UJ				
Endrin Aldehyde	0.000002 UJ				

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Tap Water - mg/L			
	Sample Results for: EV11TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 UJ			
Heptachlor	0.000004 UJ			
Heptachlor Epoxide	0.000004 UJ			
Methoxychlor	0.000003 UJ			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 UJ			
Aroclor 1232	0.00002 UJ			
Aroclor 1242	0.00002 UJ			
Aroclor 1248	0.00002 UJ			
Aroclor 1254	0.00002 UJ			
Aroclor 1260	0.00002 UJ			
Radionuclides				
Uranium	0.00135			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000194 UJ			
1,2,4,5-Tetrachlorobenzene	0.000194 U			
2,3,4,6-Tetrachlorophenol	--			
2,4,5-Trichlorophenol	--			
2,4,6-Trichlorophenol	--			
2,4-Dichlorophenol	--			
2,4-Dimethylphenol	--			
2,4-Dinitrophenol	--			
2,4-Dinitrotoluene	0.000971 U			
2,6-Dichlorophenol	--			
2,6-Dinitrotoluene	0.0000971 U			
2-Chloronaphthalene	0.000194 U			
2-Chlorophenol	--			
2-Methylnaphthalene	0.000194 U			
2-Methylphenol (o-Cresol)	--			
2-Nitrophenol	--			
3&4-Methylphenol	--			
3-Methylphenol	--			
3-Nitroaniline	0.000971 U			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Tap Water - mg/L			
	Sample Results for: EV11TW001			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	0.000971 U			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	0.000971 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.000971 U			
4-Nitrophenol	--			
Acenaphthene	0.000971 U			
Acenaphthylene	0.000971 U			
Aniline	0.000971 U			
Anthracene	0.000971 U			
Atrazine	0.000971 U			
Benzo(g,h,i)perylene	0.000971 U			
Bis(2-ethylhexyl)phthalate	0.00136 U			
Butylbenzylphthalate	0.000971 U			
Carbazole	0.000971 U			
Di-n-butylphthalate	0.00126 U			
Di-n-octylphthalate	0.000194 UJ			
Dibenzofuran	0.000971 U			
Diethylphthalate	0.000194 U			
Dimethylphthalate	0.000971 U			
Diphenylamine	0.000971 U			
Fluoranthene	0.000971 U			
Fluorene	0.000971 U			
Hexachlorobenzene	0.000971 U			
Hexachlorobutadiene	0.000194 U			
Hexachlorocyclopentadiene	0.000971 U			
Hexachloroethane	0.000971 U			
Naphthalene	0.000194 U			
Nitrobenzene	0.000194 U			
o-Toluidine	0.00068 U			
Pentachlorobenzene	0.000194 U			
Pentachloronitrobenzene	0.000003 UJ			
Pentachlorophenol	--			
Phenanthrene	0.000971 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Tap Water - mg/L			
	Sample Results for: EV11TW001			
Pyrene	0.0000971 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00011652 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Tap Water - mg/L			
	Sample Results for: EV11TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.00012 U			
Bromoform	0.00144			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.00009 U			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.00014 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV11

Chemical	Tap Water - mg/L			
	Sample Results for: EV11TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil - mg/kg				
	Sample Results for: EV12SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.157 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000004387				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	78.2				
Turbidity	--				
Inorganics					
Aluminum	36900				
Antimony	0.39				
Arsenic	13				
Barium	271				
Beryllium	5				
Cadmium (Diet)	0.25				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil - mg/kg				
	Sample Results for: EV12SS0010006				
Chromium	5.4				
Cobalt	5.5				
Copper	22				
Iron	18300				
Lead	33				
Manganese (Diet)	521				
Manganese (Water)	--				
Mercury	0.0971 U				
Nickel	7.3				
Selenium	0.092				
Silver	0.1				
Thallium	1.5 U				
Tin	2.4				
Vanadium	46				
Zinc	55				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000452 UJ				
4,4-DDE	0.000444 UJ				
4,4-DDT	0.000595 UJ				
Aldrin	0.00036 UJ				
alpha-BHC	0.000444 UJ				
alpha-Chlordane	0.00036 UJ				
beta-BHC	0.000544 UJ				
Chlordane	--				
delta-BHC	0.000494 UJ				
Dieldrin	0.000503 UJ				
Endosulfan I	0.000452 UJ				
Endosulfan II	0.00036 UJ				
Endosulfan Sulfate	0.000511 UJ				
Endrin	0.000578 UJ				
Endrin Aldehyde	0.000519 UJ				

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil - mg/kg			
	Sample Results for: EV12SS0010006			
gamma-BHC (Lindane)	0.000427 UJ			
gamma-Chlordane	0.000394 UJ			
Heptachlor	0.000511 UJ			
Heptachlor Epoxide	0.000394 UJ			
Methoxychlor	0.000637 UJ			
Toxaphene	0.00643 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.0075 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.0075 UJ			
Aroclor 1232	0.0075 UJ			
Aroclor 1242	0.0075 UJ			
Aroclor 1248	0.0075 UJ			
Aroclor 1254	0.0075 UJ			
Aroclor 1260	0.0075 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0184 U			
1,2,4,5-Tetrachlorobenzene	0.0147 U			
2,3,4,6-Tetrachlorophenol	0.0872 U			
2,4,5-Trichlorophenol	0.151 U			
2,4,6-Trichlorophenol	0.081 U			
2,4-Dichlorophenol	0.0945 U			
2,4-Dimethylphenol	0.182 U			
2,4-Dinitrophenol	0.0675 UJ			
2,4-Dinitrotoluene	0.0221 U			
2,6-Dichlorophenol	0.0577 U			
2,6-Dinitrotoluene	0.0184 U			
2-Chloronaphthalene	0.00982 U			
2-Chlorophenol	0.0614 U			
2-Methylnaphthalene	0.0209 U			
2-Methylphenol (o-Cresol)	0.123 U			
2-Nitrophenol	0.0773 U			
3&4-Methylphenol	0.141 U			
3-Methylphenol	--			
3-Nitroaniline	0.0221 U			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil - mg/kg			
	Sample Results for: EV12SS0010006			
4,6-Dinitro-2-Methylphenol	0.0822 U			
4-Bromophenylphenylether	0.0147 U			
4-Chloro-3-Methylphenol	0.108 U			
4-Chloroaniline	0.0282 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.054 U			
4-Nitrophenol	0.145 U			
Acenaphthene	0.0123 U			
Acenaphthylene	0.011 U			
Aniline	0.0246 U			
Anthracene	0.0147 U			
Atrazine	0.0319 U			
Benzo(g,h,i)perylene	0.0344 U			
Bis(2-ethylhexyl)phthalate	0.129 U			
Butylbenzylphthalate	0.0368 U			
Carbazole	0.0221 U			
Di-n-butylphthalate	0.0528 U			
Di-n-octylphthalate	0.0246 U			
Dibenzofuran	0.0123 U			
Diethylphthalate	0.0209 U			
Dimethylphthalate	0.016 U			
Diphenylamine	0.0638 U			
Fluoranthene	0.0233 U			
Fluorene	0.0147 U			
Hexachlorobenzene	0.0135 U			
Hexachlorobutadiene	0.0123 U			
Hexachlorocyclopentadiene	0.0172 U			
Hexachloroethane	0.0135 U			
Naphthalene	0.00736 U			
Nitrobenzene	0.0184 U			
o-Toluidine	0.0221 U			
Pentachlorobenzene	0.0344 U			
Pentachloronitrobenzene	0.000419 UJ			
Pentachlorophenol	0.189 U			
Phenanthrene	0.0368 U			
Phenol	0.0417 U			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil - mg/kg			
	Sample Results for: EV12SS0010006			
Pyrene	0.0221 U			
Total Carcinogenic PAHS (BaP TEQs)	0.053057 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000432 UJ			
1,1,1-Trichloroethane	0.000576 UJ			
1,1,2,2-Tetrachloroethane	0.000288 UJ			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00101 UJ			
1,1,2-Trichloroethane	0.000432 UJ			
1,1-Dichloroethane	0.00101 UJ			
1,1-Dichloroethene	0.00072 UJ			
1,2,3-Trichlorobenzene	0.00072 UJ			
1,2,3-Trichloropropane	0.000432 UJ			
1,2,4-Trichlorobenzene	0.000432 UJ			
1,2,4-Trimethylbenzene	0.000576 UJ			
1,2-Dibromo-3-Chloropropane	0.000576 UJ			
1,2-Dibromoethane	0.000144 UJ			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000864 UJ			
1,2-Dichlorobenzene	0.000144 UJ			
1,2-Dichloroethane	0.000288 UJ			
1,2-Dichloropropane	0.000432 UJ			
1,3,5-Trimethylbenzene	0.000288 UJ			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000288 UJ			
1,3-Dichloropropane	0.000288 UJ			
1,4-Dichlorobenzene	0.000144 UJ			
2,2-Dichloropropane	0.00072 UJ			
2-Butanone (methyl ethyl ketone)	0.00259 UJ			
2-Chlorotoluene	0.000432 UJ			
2-Hexanone	0.00144 UJ			
4-Chlorotoluene	0.000288 UJ			
4-Isopropyltoluene	0.000781 J			
4-Methyl-2-Pentanone	0.000432 UJ			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil - mg/kg			
	Sample Results for: EV12SS0010006			
Acetone	0.00835 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000432 UJ			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000576 UJ			
Bromodichloromethane	0.000576 UJ			
Bromoform	0.000288 UJ			
Bromomethane	0.00432 UJ			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000576 UJ			
Chlorobenzene	0.000652 J			
Chloroethane	0.000576 UJ			
Chloroform	0.00101 UJ			
Chloromethane	0.0013 UJ			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00101 UJ			
cis-1,3-Dichloropropene	0.000144 UJ			
Cyclohexane	--			
Dibromochloromethane	0.000144 UJ			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000432 UJ			
Ethylbenzene	0.00101 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000933 J			
m,p-Xylenes	0.0014 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00072 UJ			
Methylcyclohexane	--			
Methylene Chloride	0.00144 UJ			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil - mg/kg			
	Sample Results for: EV12SS0010006			
n-Butylbenzene	0.000426 J			
n-Propylbenzene	0.000631 J			
o-Xylene	0.000692 J			
Pentachloroethane	--			
sec-Butylbenzene	0.000713 J			
Styrene	0.00059 J			
tert-Butylbenzene	0.000852 J			
Tetrachloroethene	0.000864 UJ			
Toluene	0.00218 J			
trans-1,2-Dichloroethene	0.000864 UJ			
trans-1,3-Dichloropropene	0.000432 UJ			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00072 UJ			
Trichlorofluoromethane	0.00115 UJ			
Vinyl Acetate	--			
Vinyl Chloride	0.000576 UJ			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV12SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.002624825				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV12SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil Gas - mg/m3				
	Sample Results for: EV12SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV12SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV12SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.537996437			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV12SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Soil Gas - mg/m3			
	Sample Results for: EV12SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Tap Water - mg/L				
	Sample Results for: EV12TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	33.2 J				
Cyanide	0.004 U				
Fluoride	0.215				
Nitrate (measured as NO3-)	7.99 J				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	10.6 J				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000165568				
Disinfectants					
Chlorine (as Cl2)	0.1				
Disinfection Byproducts					
Total Trihalomethanes	0.001844				
Field Parameters					
Dissolved Oxygen	8.460000000000001				
Oxidation Reduction Potential	613				
pH	7.22				
Salinity	--				
Specific Conductance	0.95				
Temperature	23.06				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	1				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00014 U				
Arsenic	0.00421				
Barium	0.0163				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Tap Water - mg/L				
	Sample Results for: EV12TW001				
Chromium	0.000804				
Cobalt	0.0001				
Copper	0.168 J				
Iron	0.00574				
Lead	0.00144				
Manganese (Diet)	--				
Manganese (Water)	0.000348				
Mercury	0.000015 U				
Nickel	0.00216				
Selenium	0.000274				
Silver	0.00012 U				
Thallium	0.00004 U				
Tin	0.0001 U				
Vanadium	0.00174				
Zinc	0.194 J				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	0				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 UJ				
4,4-DDT	0.000006 U				
Aldrin	0.000002 UJ				
alpha-BHC	0.000003 UJ				
alpha-Chlordane	0.000003 UJ				
beta-BHC	0.000002 UJ				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 UJ				
Endosulfan I	0.000003 UJ				
Endosulfan II	0.000002 UJ				
Endosulfan Sulfate	0.000007 UJ				
Endrin	0.000002 UJ				
Endrin Aldehyde	0.000002 UJ				

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Tap Water - mg/L			
	Sample Results for: EV12TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 UJ			
Heptachlor	0.000004 UJ			
Heptachlor Epoxide	0.000004 UJ			
Methoxychlor	0.000003 UJ			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 UJ			
Aroclor 1232	0.00002 UJ			
Aroclor 1242	0.00002 UJ			
Aroclor 1248	0.00002 UJ			
Aroclor 1254	0.00002 UJ			
Aroclor 1260	0.00002 UJ			
Radionuclides				
Uranium	0.00145			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000201 U			
1,2,4,5-Tetrachlorobenzene	0.000201 U			
2,3,4,6-Tetrachlorophenol	--			
2,4,5-Trichlorophenol	--			
2,4,6-Trichlorophenol	--			
2,4-Dichlorophenol	--			
2,4-Dimethylphenol	--			
2,4-Dinitrophenol	--			
2,4-Dinitrotoluene	0.001 U			
2,6-Dichlorophenol	--			
2,6-Dinitrotoluene	0.0001 U			
2-Chloronaphthalene	0.000201 U			
2-Chlorophenol	--			
2-Methylnaphthalene	0.000201 U			
2-Methylphenol (o-Cresol)	--			
2-Nitrophenol	--			
3&4-Methylphenol	--			
3-Methylphenol	--			
3-Nitroaniline	0.001 U			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Tap Water - mg/L			
	Sample Results for: EV12TW001			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	0.0001 U			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	0.001 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.001 U			
4-Nitrophenol	--			
Acenaphthene	0.0001 U			
Acenaphthylene	0.0001 U			
Aniline	0.001 UJ			
Anthracene	0.0001 U			
Atrazine	0.0001 U			
Benzo(g,h,i)perylene	0.0001 U			
Bis(2-ethylhexyl)phthalate	0.00141 U			
Butylbenzylphthalate	0.0001 U			
Carbazole	0.0001 U			
Di-n-butylphthalate	0.00131 U			
Di-n-octylphthalate	0.000201 UJ			
Dibenzofuran	0.0001 U			
Diethylphthalate	0.000201 U			
Dimethylphthalate	0.0001 U			
Diphenylamine	0.0001 U			
Fluoranthene	0.0001 U			
Fluorene	0.0001 U			
Hexachlorobenzene	0.0001 U			
Hexachlorobutadiene	0.000201 U			
Hexachlorocyclopentadiene	0.001 U			
Hexachloroethane	0.0001 U			
Naphthalene	0.000201 U			
Nitrobenzene	0.000201 U			
o-Toluidine	0.000703 U			
Pentachlorobenzene	0.000201 U			
Pentachloronitrobenzene	0.000003 UJ			
Pentachlorophenol	--			
Phenanthrene	0.0001 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Tap Water - mg/L			
	Sample Results for: EV12TW001			
Pyrene	0.0001 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00012 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 UJ			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Tap Water - mg/L			
	Sample Results for: EV12TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.00012 U			
Bromoform	0.00163			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.00009 U			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000214 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location EV12

Chemical	Tap Water - mg/L			
	Sample Results for: EV12TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	--			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment D
Comparison of Environmental Sampling Results
to
Screening Concentrations

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to allow for double-sided printing.**

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000215	--	0.000072	0.0000045	0.003	0.05
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	75.40000000000001	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	37200	86900	77000	--	0.5	--
Antimony	0.485	42.8	31	--	0.02	--
Arsenic	11.8	164	22	0.39	0.5	30.3
Barium	265	1813	15000	--	0.02	--
Beryllium	4.85	--	160	1400	0.03	0.003
Cadmium (Diet)	0.24	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.97	579	--	--	--	--
Cobalt	5.01	36.6	--	--	--	--
Copper	23.6	3965	3100	--	0.008	--
Iron	18000	154600	55000	--	0.3	--
Lead	34	2052	400	--	0.09	--
Manganese (Diet)	561	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.96	689	1600	--	0.003	--
Selenium	0.108	1.9	390	--	0.0003	--
Silver	--	8.132	390	--	--	--
Thallium	1.63	69	5.1	--	0.3	--
Tin	2.38	--	47000	--	0.00005	--
Vanadium	37.9	187	550	--	0.07	--
Zinc	63.6	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.104	--	61000	--	0.000002	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.9	30.3
BACKGROUND RISK					1.9	30.3
INCREMENTAL RISK					0.03	0.05

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV02

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000003746	--	0.000072	0.0000045	0.005	0.08
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	82.09999999999999	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	41400	86900	77000	--	0.5	--
Antimony	0.195	42.8	31	--	0.006	--
Arsenic	12.9	164	22	0.39	0.6	33.1
Barium	293	1813	15000	--	0.02	--
Beryllium	5.22	--	160	1400	0.03	0.004
Cadmium (Diet)	0.282	10.6	70	1800	0.004	0.0002

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV02

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.8	579	--	--	--	--
Cobalt	6.09	36.6	--	--	--	--
Copper	36.6	3965	3100	--	0.01	--
Iron	19200	154600	55000	--	0.3	--
Lead	44.3	2052	400	--	0.1	--
Manganese (Diet)	651	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	7.55	689	1600	--	0.005	--
Selenium	0.21	1.9	390	--	0.0005	--
Silver	0.141	8.132	390	--	0.0004	--
Thallium	2.37	69	5.1	--	0.5	--
Tin	2.67	--	47000	--	0.00006	--
Vanadium	44.3	187	550	--	0.08	--
Zinc	66.7	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV02

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV02

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV02

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV02

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.00881	--	61000	--	0.0000001	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV02

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.2	33.2
BACKGROUND RISK					2.2	33.1
INCREMENTAL RISK					0.04	0.09

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000018067	--	0.000072	0.0000045	0.003	0.04
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	87.7	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	39200	86900	77000	--	0.5	--
Antimony	0.417	42.8	31	--	0.01	--
Arsenic	12.2	164	22	0.39	0.6	31.3
Barium	314	1813	15000	--	0.02	--
Beryllium	4.79	--	160	1400	0.03	0.003
Cadmium (Diet)	0.22	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.88	579	--	--	--	--
Cobalt	4.98	36.6	--	--	--	--
Copper	16.8	3965	3100	--	0.005	--
Iron	18900	154600	55000	--	0.3	--
Lead	28.6	2052	400	--	0.07	--
Manganese (Diet)	519	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.3	689	1600	--	0.003	--
Selenium	0.537	1.9	390	--	0.001	--
Silver	--	8.132	390	--	--	--
Thallium	3.75	69	5.1	--	0.7	--
Tin	2.46	--	47000	--	0.00005	--
Vanadium	40.6	187	550	--	0.07	--
Zinc	50.8	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0109	--	61000	--	0.0000002	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00149	--	5000	--	0.0000003	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.4	31.3
BACKGROUND RISK					2.3	31.3
INCREMENTAL RISK					0.03	0.04

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.0161025	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
			TOTAL RISK	0	0
			BACKGROUND RISK	0	0
			INCREMENTAL RISK	0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	31.4	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	7.8	44.3	--	--	255.2	0.2	--	--	0.03	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.8	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000134	0.00000003	--	--	0.000000037	0.0000000005	0.004	--	--	0.004	0.3	--
Disinfectants												
Chlorine (as Cl2)	0.02	4.01	--	--	--	--	0.005	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.00279	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	7.27	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	587	--	--	--	--	--	--	--	--	--	--	--
pH	7.32	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.97	--	--	--	--	--	--	--	--	--	--	--
Temperature	29	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	0.00016	0.006	--	--	0.015	0.03	--	--	0.01	--	--	--
Arsenic	0.00336	0.01	--	--	0.011	0.000045	0.3	--	0.3	74.7	--	--
Barium	0.0174	2	--	--	7.3	0.009	--	--	0.002	--	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	--
Chromium	0.000632	0.1	--	--	--	--	0.006	--	--	--	--	--
Cobalt	0.000179	--	--	--	--	--	--	--	--	--	--	--
Copper	0.442	--	--	--	1.5	--	--	--	--	0.3	--	--
Iron	0.0198	--	--	--	26	--	--	--	--	0.0008	--	--
Lead	0.00124	--	--	--	0.02	--	--	--	--	0.06	--	--
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	--
Manganese (Water)	0.00652	--	--	--	0.88	--	--	--	--	0.007	--	--
Mercury	0.000025	0.002	0.00063	--	--	--	0.01	0.04	--	--	--	--
Nickel	0.0246	--	--	--	0.73	--	--	--	--	0.03	--	--
Selenium	0.000371	0.05	--	--	0.18	--	0.007	--	--	0.002	--	--
Silver	--	--	--	--	0.18	--	--	--	--	--	--	--
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	--
Tin	0.000129	--	--	--	22	--	--	--	--	0.000006	--	--
Vanadium	0.00425	--	--	--	0.26	--	--	--	--	0.02	--	--
Zinc	0.23	--	--	--	11	--	--	--	--	0.02	--	--
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	48	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00163	0.03	--	--	0.11	--	0.05	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--
Total Petroleum Hydrocarbon											
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000282	--	--	--	0.73	0.0011	--	--	--	0.0004	0.3
Bromoform	0.00203	--	--	--	0.73	0.0085	--	--	--	0.003	0.2
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000478	--	--	--	0.73	0.0008	--	--	--	0.0007	0.6
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.04	0	0.8	76.0		
BACKGROUND RISK							0.04	0	0.4	74.7		
INCREMENTAL RISK							0	0	0.4	1.4		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000001744	--	0.000072	0.0000045	0.002	0.04
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	85.3	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	37700	86900	77000	--	0.5	--
Antimony	0.41	42.8	31	--	0.01	--
Arsenic	14	164	22	0.39	0.6	35.9
Barium	263	1813	15000	--	0.02	--
Beryllium	5	--	160	1400	0.03	0.004
Cadmium (Diet)	0.23	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.4	579	--	--	--	--
Cobalt	4.9	36.6	--	--	--	--
Copper	19	3965	3100	--	0.006	--
Iron	18200	154600	55000	--	0.3	--
Lead	30	2052	400	--	0.08	--
Manganese (Diet)	475	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.8	689	1600	--	0.003	--
Selenium	0.19	1.9	390	--	0.0005	--
Silver	--	8.132	390	--	--	--
Thallium	2	69	5.1	--	0.4	--
Tin	2.3	--	47000	--	0.00005	--
Vanadium	42	187	550	--	0.08	--
Zinc	51	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	0.00733	--	150	3.9	0.00005	0.002
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	0.00359	--	28000	--	0.0000001	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0366	--	61000	--	0.0000006	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00261	--	5000	--	0.0000005	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.1	35.9
BACKGROUND RISK					2.0	35.9
INCREMENTAL RISK					0.03	0.04

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.002531063	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.025723238	2.8	0.0041	0.009	6.3
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.009	6.3
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.009	6.3

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	31.6	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	0.3	4	--	--	--	0.08	--	--	--	--	--
Nitrate (measured as NO3-)	7.76	44.3	--	--	255.2	0.2	--	--	0.03	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	12.3	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000002	0.00000003	--	--	0.000000037	0.0000000005	0.00009	--	--	0.00007	0.005
Disinfectants											
Chlorine (as Cl2)	--	4.01	--	--	--	--	--	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.002709	0.0807	--	--	--	--	0.03	--	--	--	--
Field Parameters											
Dissolved Oxygen	6.89	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	581	--	--	--	--	--	--	--	--	--	--
pH	7.3	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.96	--	--	--	--	--	--	--	--	--	--
Temperature	29.5	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	0.0068	--	--	--	37	--	--	--	--	0.0002	--
Antimony	0.000389	0.006	--	--	0.015	--	0.06	--	--	0.03	--
Arsenic	0.0033	0.01	--	--	0.011	0.000045	0.3	--	--	0.3	73.3
Barium	0.0182	2	--	--	7.3	--	0.009	--	--	0.002	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.0000848	0.005	--	--	0.018	--	0.02	--	--	0.005	--	
Chromium	0.000531	0.1	--	--	--	--	0.005	--	--	--	--	
Cobalt	0.000134	--	--	--	--	--	--	--	--	--	--	
Copper	0.241	--	--	--	1.5	--	--	--	--	0.2	--	
Iron	0.00972	--	--	--	26	--	--	--	--	0.0004	--	
Lead	0.00383	--	--	--	0.02	--	--	--	--	0.2	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00257	--	--	--	0.88	--	--	--	--	0.003	--	
Mercury	0.000035	0.002	0.00063	--	--	--	0.02	0.06	--	--	--	
Nickel	0.0362	--	--	--	0.73	--	--	--	--	0.05	--	
Selenium	0.0003	0.05	--	--	0.18	--	0.006	--	--	0.002	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000161	--	--	--	22	--	--	--	--	0.000007	--	
Vanadium	0.003	--	--	--	0.26	--	--	--	--	0.01	--	
Zinc	0.574	--	--	--	11	--	--	--	--	0.05	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	23	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.00136	0.03	--	--	0.11	--	0.05	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	0.00167	--	64	--	33	--	--	0.00003	--	0.00005	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000292	--	--	--	0.73	0.0011	--	--	--	0.0004	0.3
Bromoform	0.00194	--	--	--	0.73	0.0085	--	--	--	0.003	0.2
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000477	--	--	--	0.73	0.0008	--	--	--	0.0007	0.6
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV04

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.06	0	0.9	74.4		
BACKGROUND RISK							0.06	0	0.5	73.3		
INCREMENTAL RISK							0.00003	0	0.4	1.1		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000052075	--	0.000072	0.0000045	0.007	0.1
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	85.5	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	34200	86900	77000	--	0.4	--
Antimony	0.417	42.8	31	--	0.01	--
Arsenic	11.7	164	22	0.39	0.5	30.0
Barium	300	1813	15000	--	0.02	--
Beryllium	4.19	--	160	1400	0.03	0.003
Cadmium (Diet)	0.197	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.71	579	--	--	--	--
Cobalt	4.81	36.6	--	--	--	--
Copper	14.9	3965	3100	--	0.005	--
Iron	19400	154600	55000	--	0.4	--
Lead	26.1	2052	400	--	0.07	--
Manganese (Diet)	462	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.28	689	1600	--	0.003	--
Selenium	0.12	1.9	390	--	0.0003	--
Silver	--	8.132	390	--	--	--
Thallium	1.34	69	5.1	--	0.3	--
Tin	2.17	--	47000	--	0.00005	--
Vanadium	39.1	187	550	--	0.07	--
Zinc	56.4	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0477	--	61000	--	0.0000008	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00113	--	5000	--	0.0000002	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.8	30.1
BACKGROUND RISK					1.8	30.0
INCREMENTAL RISK					0.03	0.1

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.001110309	--	--	--	--
Tridecane	0.001041796	--	--	--	--
Undecane	0.00104369	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.152321281	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
			TOTAL RISK	0	0
			BACKGROUND RISK	0	0
			INCREMENTAL RISK	0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	28.1	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	0.209	4	--	--	--	0.05	--	--	--	--	--	--
Nitrate (measured as NO3-)	7.26	44.3	--	--	255.2	0.2	--	--	0.03	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.2	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000053	0.00000003	--	--	0.000000037	0.0000000005	0.002	--	--	0.001	0.1	--
Disinfectants												
Chlorine (as Cl2)	0.1	4.01	--	--	--	--	0.02	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.00302	0.0807	--	--	--	--	0.04	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.050000000000	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	624	--	--	--	--	--	--	--	--	--	--	--
pH	7.19	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.94	--	--	--	--	--	--	--	--	--	--	--
Temperature	25.8	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	0.00205	0.006	--	--	0.015	0.3	--	--	0.1	--	--	--
Arsenic	0.00365	0.01	--	--	0.011	0.000045	0.4	--	0.3	81.1	--	--
Barium	0.0147	2	--	--	7.3	0.007	--	--	0.002	--	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000174	0.005	--	--	0.018	--	0.03	--	--	0.010	--	
Chromium	0.000914	0.1	--	--	--	--	0.009	--	--	--	--	
Cobalt	0.000387	--	--	--	--	--	--	--	--	--	--	
Copper	0.132	--	--	--	1.5	--	--	--	--	0.09	--	
Iron	0.0121	--	--	--	26	--	--	--	--	0.0005	--	
Lead	0.0126	--	--	--	0.02	--	--	--	--	0.6	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.0308	--	--	--	0.88	--	--	--	--	0.04	--	
Mercury	0.00004	0.002	0.00063	--	--	--	0.02	0.06	--	--	--	
Nickel	0.361	--	--	--	0.73	--	--	--	--	0.5	--	
Selenium	0.00035	0.05	--	--	0.18	--	0.007	--	--	0.002	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000199	--	--	--	22	--	--	--	--	0.000009	--	
Vanadium	0.00351	--	--	--	0.26	--	--	--	--	0.01	--	
Zinc	0.917	--	--	--	11	--	--	--	--	0.08	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	28	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	--	0.00028	--	--	--	--	
4,4-DDE	--	--	--	--	--	--	0.0002	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	--	0.0002	--	--	--	--	
Aldrin	--	--	--	--	0.0011	--	0.000004	--	--	--	--	
alpha-BHC	--	--	--	--	--	--	0.000011	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	--	0.000037	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	--	0.00019	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	--	0.0000042	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00151	0.03	--	--	0.11	--	0.05	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000249	--	--	--	0.73	0.0011	--	--	--	0.0003	0.2
Bromoform	0.00227	--	--	--	0.73	0.0085	--	--	--	0.003	0.3
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000501	--	--	--	0.73	0.0008	--	--	--	0.0007	0.6
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV05

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.06	0	1.9	82.3		
BACKGROUND RISK							0.06	0	1.1	81.1		
INCREMENTAL RISK							0	0	0.8	1.2		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000044934	--	0.000072	0.0000045	0.006	0.10
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	86.5	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	43100	86900	77000	--	0.6	--
Antimony	0.59	42.8	31	--	0.02	--
Arsenic	15	164	22	0.39	0.7	38.5
Barium	303	1813	15000	--	0.02	--
Beryllium	5.6	--	160	1400	0.04	0.004
Cadmium (Diet)	0.28	10.6	70	1800	0.004	0.0002

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	4.9	579	--	--	--	--
Cobalt	6.1	36.6	--	--	--	--
Copper	32	3965	3100	--	0.01	--
Iron	20700	154600	55000	--	0.4	--
Lead	40	2052	400	--	0.1	--
Manganese (Diet)	644	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	6.9	689	1600	--	0.004	--
Selenium	0.14	1.9	390	--	0.0004	--
Silver	0.12	8.132	390	--	0.0003	--
Thallium	1.6	69	5.1	--	0.3	--
Tin	2.8	--	47000	--	0.00006	--
Vanadium	43	187	550	--	0.08	--
Zinc	88	3211	23000	--	0.004	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	0.00398	--	28000	--	0.0000001	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.103	--	61000	--	0.000002	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00313	--	5000	--	0.0000006	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.2	38.6
BACKGROUND RISK					2.2	38.5
INCREMENTAL RISK					0.04	0.1

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	0.001045199	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.173359719	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
			TOTAL RISK	0	0
			BACKGROUND RISK	0	0
			INCREMENTAL RISK	0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	27.1	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	0.227	4	--	--	--	0.06	--	--	--	--	--	--
Nitrate (measured as NO3-)	7.15	44.3	--	--	255.2	0.2	--	--	0.03	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000096	0.00000003	--	--	0.000000037	0.0000000005	0.003	--	--	0.003	0.2	--
Disinfectants												
Chlorine (as Cl2)	0.12	4.01	--	--	--	--	0.03	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.002534	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.15	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	571	--	--	--	--	--	--	--	--	--	--	--
pH	6.75	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	1	--	--	--	--	--	--	--	--	--	--	--
Temperature	24.04	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	3	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	0.00188	0.006	--	--	0.015	0.3	--	--	0.1	--	--	--
Arsenic	0.00351	0.01	--	--	0.011	0.000045	0.4	--	0.3	78.0	--	--
Barium	0.0179	2	--	--	7.3	0.009	--	--	0.002	--	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000214	0.005	--	--	0.018	--	0.04	--	--	0.01	--	
Chromium	0.000538	0.1	--	--	--	--	0.005	--	--	--	--	
Cobalt	0.000434	--	--	--	--	--	--	--	--	--	--	
Copper	0.229	--	--	--	1.5	--	--	--	--	0.2	--	
Iron	0.0358	--	--	--	26	--	--	--	--	0.001	--	
Lead	0.00895	--	--	--	0.02	--	--	--	--	0.4	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.0215	--	--	--	0.88	--	--	--	--	0.02	--	
Mercury	0.00005	0.002	0.00063	--	--	--	0.03	0.08	--	--	--	
Nickel	0.106	--	--	--	0.73	--	--	--	--	0.1	--	
Selenium	0.000358	0.05	--	--	0.18	--	0.007	--	--	0.002	--	
Silver	0.000288	--	--	--	0.18	--	--	--	--	0.002	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000179	--	--	--	22	--	--	--	--	0.000008	--	
Vanadium	0.0022	--	--	--	0.26	--	--	--	--	0.008	--	
Zinc	1.23	--	--	--	11	--	--	--	--	0.1	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	86	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00167	0.03	--	--	0.11	--	0.06	--	--	0.02	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	0.73	0.0011	--	--	--	--	--
Bromoform	0.00232	--	--	--	0.73	0.0085	--	--	--	0.003	0.3
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000214	--	--	--	0.73	0.0008	--	--	--	0.0003	0.3
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV06

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.08	0	1.4	78.7		
BACKGROUND RISK							0.08	0	0.8	78.0		
INCREMENTAL RISK							0	0	0.6	0.7		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000008509	--	0.000072	0.0000045	0.001	0.02
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	75.09999999999999	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	40500	86900	77000	--	0.5	--
Antimony	0.439	42.8	31	--	0.01	--
Arsenic	16.6	164	22	0.39	0.8	42.6
Barium	292	1813	15000	--	0.02	--
Beryllium	5.79	--	160	1400	0.04	0.004
Cadmium (Diet)	0.139	10.6	70	1800	0.002	0.00008

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.57	579	--	--	--	--
Cobalt	4.98	36.6	--	--	--	--
Copper	18.3	3965	3100	--	0.006	--
Iron	18000	154600	55000	--	0.3	--
Lead	35.1	2052	400	--	0.09	--
Manganese (Diet)	542	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.73	689	1600	--	0.003	--
Selenium	0.116	1.9	390	--	0.0003	--
Silver	0.128	8.132	390	--	0.0003	--
Thallium	--	69	5.1	--	--	--
Tin	2.41	--	47000	--	0.00005	--
Vanadium	39.8	187	550	--	0.07	--
Zinc	52	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00337	--	43000	--	0.00000008	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	--	--	5000	--	--	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.9	42.6
BACKGROUND RISK					1.8	42.6
INCREMENTAL RISK					0.04	0.02

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.017241631	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0	0
BACKGROUND RISK				0	0
INCREMENTAL RISK				0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	30.9	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	0.288	4	--	--	--	0.07	--	--	--	--	--	--
Nitrate (measured as NO3-)	8.17	44.3	--	--	255.2	0.2	--	--	0.03	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	11.5	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	0.00000003	--	--	0.000000037	0.0000000005	--	--	--	--	--	--
Disinfectants												
Chlorine (as Cl2)	0.12	4.01	--	--	--	--	0.03	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.001986	0.0807	--	--	--	--	0.02	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.779999999999	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	551	--	--	--	--	--	--	--	--	--	--	--
pH	7.13	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	1	--	--	--	--	--	--	--	--	--	--	--
Temperature	22.86	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	1	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	0.00283	0.006	--	--	0.015	0.5	--	--	0.2	--	--	--
Arsenic	0.0036	0.01	--	--	0.011	0.000045	0.4	--	0.3	80.0	--	--
Barium	0.022	2	--	--	7.3	0.01	--	--	0.003	--	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.00105	0.005	--	--	0.018	--	0.2	--	--	0.06	--	
Chromium	0.000492	0.1	--	--	--	--	0.005	--	--	--	--	
Cobalt	0.000494	--	--	--	--	--	--	--	--	--	--	
Copper	0.17	--	--	--	1.5	--	--	--	--	0.1	--	
Iron	0.0143	--	--	--	26	--	--	--	--	0.0006	--	
Lead	0.01	--	--	--	0.02	--	--	--	--	0.5	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.0197	--	--	--	0.88	--	--	--	--	0.02	--	
Mercury	0.000084	0.002	0.00063	--	--	--	0.04	0.1	--	--	--	
Nickel	0.851	--	--	--	0.73	--	--	--	--	1.2	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	0.000617	--	--	--	0.18	--	--	--	--	0.003	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000145	--	--	--	22	--	--	--	--	0.000007	--	
Vanadium	0.00216	--	--	--	0.26	--	--	--	--	0.008	--	
Zinc	2.77	--	--	--	11	--	--	--	--	0.3	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	142	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	--	0.00028	--	--	--	--	--
4,4-DDE	--	--	--	--	--	--	0.0002	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	--	0.0002	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	--	0.000004	--	--	--	--	--
alpha-BHC	--	--	--	--	--	--	0.000011	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	--	0.000037	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	--	0.00019	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	--	0.0000042	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00128	0.03	--	--	0.11	--	0.04	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--
Total Petroleum Hydrocarbon											
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	0.73	0.0011	--	--	--	--	--
Bromoform	0.00174	--	--	--	0.73	0.0085	--	--	--	0.002	0.2
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000246	--	--	--	0.73	0.0008	--	--	--	0.0003	0.3
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV07

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--
Toluene	--	1	10	--	2.9	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--
TOTAL RISK							0.1	0	2.7	80.5	
BACKGROUND RISK							0.1	0	2.0	80.0	
INCREMENTAL RISK							0	0	0.7	0.5	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000023383	--	0.000072	0.0000045	0.003	0.05
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	88.3	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	48300	86900	77000	--	0.6	--
Antimony	0.522	42.8	31	--	0.02	--
Arsenic	14.7	164	22	0.39	0.7	37.7
Barium	354	1813	15000	--	0.02	--
Beryllium	6	--	160	1400	0.04	0.004
Cadmium (Diet)	0.335	10.6	70	1800	0.005	0.0002

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.8	579	--	--	--	--
Cobalt	6.22	36.6	--	--	--	--
Copper	32.7	3965	3100	--	0.01	--
Iron	22800	154600	55000	--	0.4	--
Lead	40.2	2052	400	--	0.1	--
Manganese (Diet)	680	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	6.26	689	1600	--	0.004	--
Selenium	0.105	1.9	390	--	0.0003	--
Silver	0.197	8.132	390	--	0.0005	--
Thallium	1.67	69	5.1	--	0.3	--
Tin	2.84	--	47000	--	0.00006	--
Vanadium	49.5	187	550	--	0.09	--
Zinc	61.1	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	0.00195	--	67	--	0.00003	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	0.0018	--	13000	0.45	0.0000001	0.004
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	0.00248	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	0.0017	--	--	--	--	--
1,3-Dichloropropane	0.0019	--	1600	--	0.000001	--
1,4-Dichlorobenzene	0.00187	--	10000	2.6	0.0000002	0.0007
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.00179	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0177	--	61000	--	0.0000003	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	0.00124	--	310	--	0.000004	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00348	--	3600	5.7	0.0000010	0.0006
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.0033	--	2200	--	0.000002	--
m,p-Xylenes	0.0057	--	600	--	0.000010	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.0016	--	--	--	--	--
n-Propylbenzene	0.00244	--	--	--	--	--
o-Xylene	0.00247	--	5300	--	0.0000005	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.00209	--	--	--	--	--
Styrene	0.00307	--	6500	--	0.0000005	--
tert-Butylbenzene	0.00238	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.009	--	5000	--	0.000002	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.3	37.8
BACKGROUND RISK					2.3	37.7
INCREMENTAL RISK					0.04	0.06

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.009494737	--	--	--	--
Tridecane	0.010528647	--	--	--	--
Undecane	0.004056842	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.728533036	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	0.002648698	1	--	0.003	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.003	0
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.003	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	32.4	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	0.281	4	--	--	--	0.07	--	--	--	--	--	--
Nitrate (measured as NO3-)	8.050000000000	44.3	--	--	255.2	0.2	--	--	0.03	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.4	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000452	0.00000003	--	--	0.000000037	0.0000000005	0.02	--	--	0.01	0.9	--
Disinfectants												
Chlorine (as Cl2)	0.1	4.01	--	--	--	--	0.02	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.00266	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.15	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	596	--	--	--	--	--	--	--	--	--	--	--
pH	7.1	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	1	--	--	--	--	--	--	--	--	--	--	--
Temperature	23.44	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	1	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--	--
Arsenic	0.00399	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	88.7	--
Barium	0.0166	2	--	--	7.3	--	0.008	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	--
Chromium	0.000962	0.1	--	--	--	0.010	--	--	--	--	--	--
Cobalt	0.000107	--	--	--	--	--	--	--	--	--	--	--
Copper	0.0477	--	--	--	1.5	--	--	--	0.03	--	--	--
Iron	0.00912	--	--	--	26	--	--	--	0.0004	--	--	--
Lead	0.00143	--	--	--	0.02	--	--	--	0.07	--	--	--
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	--
Manganese (Water)	0.000297	--	--	--	0.88	--	--	--	0.0003	--	--	--
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	--
Nickel	0.00175	--	--	--	0.73	--	--	--	0.002	--	--	--
Selenium	0.000363	0.05	--	--	0.18	0.007	--	--	0.002	--	--	--
Silver	--	--	--	--	0.18	--	--	--	--	--	--	--
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	--
Tin	--	--	--	--	22	--	--	--	--	--	--	--
Vanadium	0.00303	--	--	--	0.26	--	--	--	0.01	--	--	--
Zinc	0.204	--	--	--	11	--	--	--	0.02	--	--	--
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	2	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.00149	0.03	--	--	0.11	--	0.05	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	--
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	0.73	0.0011	--	--	--	--	--
Bromoform	0.00238	--	--	--	0.73	0.0085	--	--	--	0.003	0.3
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000322	--	--	--	0.73	0.0008	--	--	--	0.0004	0.4
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV08

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--
Toluene	--	1	10	--	2.9	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--
TOTAL RISK							0	0	0.6	90.2	
BACKGROUND RISK							0	0	0.4	88.7	
INCREMENTAL RISK							0	0	0.2	1.6	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000008082	--	0.000072	0.0000045	0.001	0.02
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	78.40000000000001	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	42400	86900	77000	--	0.6	--
Antimony	0.49	42.8	31	--	0.02	--
Arsenic	13	164	22	0.39	0.6	33.3
Barium	305	1813	15000	--	0.02	--
Beryllium	5.8	--	160	1400	0.04	0.004
Cadmium (Diet)	0.3	10.6	70	1800	0.004	0.0002

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	4.9	579	--	--	--	--
Cobalt	5.7	36.6	--	--	--	--
Copper	25	3965	3100	--	0.008	--
Iron	19400	154600	55000	--	0.4	--
Lead	40	2052	400	--	0.1	--
Manganese (Diet)	596	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	6.7	689	1600	--	0.004	--
Selenium	0.11	1.9	390	--	0.0003	--
Silver	0.14	8.132	390	--	0.0004	--
Thallium	--	69	5.1	--	--	--
Tin	2.7	--	47000	--	0.00006	--
Vanadium	45	187	550	--	0.08	--
Zinc	60	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.008	--	43000	--	0.000002	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	0.00111	--	67	--	0.00002	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.000884	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.000907	--	3600	5.7	0.0000003	0.0002
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.00105	--	2200	--	0.0000005	--
m,p-Xylenes	0.00134	--	600	--	0.000002	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.000772	--	--	--	--	--
n-Propylbenzene	0.000852	--	--	--	--	--
o-Xylene	0.000883	--	5300	--	0.0000002	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.000914	--	--	--	--	--
Styrene	0.000708	--	6500	--	0.0000001	--
tert-Butylbenzene	0.00116	--	--	--	--	--
Tetrachloroethene	0.00277	--	380	0.57	0.000007	0.005
Toluene	0.00142	--	5000	--	0.0000003	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.8	33.4
BACKGROUND RISK					1.7	33.3
INCREMENTAL RISK					0.04	0.03

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer- based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
			TOTAL RISK	0	0
			BACKGROUND RISK	0	0
			INCREMENTAL RISK	0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	31.3	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	8	44.3	--	--	255.2	0.2	--	--	0.03	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.4	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000002114	0.00000003	--	--	0.000000037	0.000000005	0.07	--	--	0.06	4.1	--
Disinfectants												
Chlorine (as Cl2)	0.1	4.01	--	--	--	--	0.02	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.002143	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	7.88	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	574	--	--	--	--	--	--	--	--	--	--	--
pH	6.83	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.099	--	--	--	--	--	--	--	--	--	--	--
Temperature	22.32	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--	--
Arsenic	0.00406	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	90.2	--
Barium	0.0164	2	--	--	7.3	--	0.008	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	
Chromium	0.000954	0.1	--	--	--	0.010	--	--	--	--	--	
Cobalt	0.0000958	--	--	--	--	--	--	--	--	--	--	
Copper	0.0358	--	--	--	1.5	--	--	0.02	--	--	--	
Iron	--	--	--	--	26	--	--	--	--	--	--	
Lead	0.000702	--	--	--	0.02	--	--	0.04	--	--	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.000342	--	--	--	0.88	--	--	0.0004	--	--	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.00116	--	--	--	0.73	--	--	0.002	--	--	--	
Selenium	0.000283	0.05	--	--	0.18	0.006	--	0.002	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	0.00261	--	--	--	0.26	--	--	0.01	--	--	--	
Zinc	0.0627	--	--	--	11	--	--	0.006	--	--	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	4	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00147	0.03	--	--	0.11	--	0.05	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--		
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--		
Phenanthrene	--	--	--	--	--	--	--	--	--	--		
Phenol	--	--	--	--	11	--	--	--	--	--		
Pyrene	--	--	--	--	1.1	--	--	--	--	--		
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--		
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--		
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--		
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--		
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--		
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--		
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--		
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--		
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--		
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--		
1,2,3-Trichloropropane	--	--	--	--	0.22	0.000096	--	--	--	--		
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--		
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--		
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.0000032	0.0073	0.000027	--	--	--	--		
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--		
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--		
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--		
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--		
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--		
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--		
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--		
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--		
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--		
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--		
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--		

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	0.73	0.0011	--	--	--	--	--
Bromoform	0.00194	--	--	--	0.73	0.0085	--	--	--	0.003	0.2
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000203	--	--	--	0.73	0.0008	--	--	--	0.0003	0.3
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV09

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0	0	0.6	94.8		
BACKGROUND RISK							0	0	0.4	90.2		
INCREMENTAL RISK							0	0	0.2	4.5		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000027036	--	0.000072	0.0000045	0.004	0.06
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	73.40000000000001	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	46400	86900	77000	--	0.6	--
Antimony	0.42	42.8	31	--	0.01	--
Arsenic	12	164	22	0.39	0.5	30.8
Barium	426	1813	15000	--	0.03	--
Beryllium	5.5	--	160	1400	0.03	0.004
Cadmium (Diet)	0.3	10.6	70	1800	0.004	0.0002

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.9	579	--	--	--	--
Cobalt	5.8	36.6	--	--	--	--
Copper	16	3965	3100	--	0.005	--
Iron	21200	154600	55000	--	0.4	--
Lead	34	2052	400	--	0.09	--
Manganese (Diet)	537	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.9	689	1600	--	0.003	--
Selenium	--	1.9	390	--	--	--
Silver	0.1	8.132	390	--	0.0003	--
Thallium	--	69	5.1	--	--	--
Tin	2.7	--	47000	--	0.00006	--
Vanadium	45	187	550	--	0.08	--
Zinc	47	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	0.00152	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.00122	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.00941	--	61000	--	0.0000002	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00189	--	3600	5.7	0.0000005	0.0003
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.00239	--	2200	--	0.000001	--
m,p-Xylenes	0.00275	--	600	--	0.000005	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.00072	--	--	--	--	--
n-Propylbenzene	0.00148	--	--	--	--	--
o-Xylene	0.00125	--	5300	--	0.0000002	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.00121	--	--	--	--	--
Styrene	0.00123	--	6500	--	0.0000002	--
tert-Butylbenzene	0.0015	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00259	--	5000	--	0.0000005	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.8	30.8
BACKGROUND RISK					1.8	30.8
INCREMENTAL RISK					0.04	0.06

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.008742123	--	--	--	--
Tridecane	0.004101341	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.365096804	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0	0
BACKGROUND RISK				0	0
INCREMENTAL RISK				0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	33.3	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	0.25	4	--	--	--	0.06	--	--	--	--	--	--
Nitrate (measured as NO3-)	7.82	44.3	--	--	255.2	0.2	--	--	0.03	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.4	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000079	0.00000003	--	--	0.000000037	0.0000000005	0.003	--	--	0.002	0.2	--
Disinfectants												
Chlorine (as Cl2)	0.1	4.01	--	--	--	--	0.02	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.002173	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.460000000000	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	613	--	--	--	--	--	--	--	--	--	--	--
pH	7.22	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.095	--	--	--	--	--	--	--	--	--	--	--
Temperature	23.06	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--	--
Arsenic	0.0043	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	95.6	--
Barium	0.0172	2	--	--	7.3	--	0.009	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	
Chromium	0.000994	0.1	--	--	--	0.010	--	--	--	--	--	
Cobalt	0.000127	--	--	--	--	--	--	--	--	--	--	
Copper	0.192	--	--	--	1.5	--	--	--	0.1	--	--	
Iron	0.00767	--	--	--	26	--	--	--	0.0003	--	--	
Lead	0.00172	--	--	--	0.02	--	--	--	0.09	--	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00073	--	--	--	0.88	--	--	--	0.0008	--	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.0169	--	--	--	0.73	--	--	--	0.02	--	--	
Selenium	0.000868	0.05	--	--	0.18	0.02	--	--	0.005	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	0.00164	0.002	--	--	0.0024	0.8	--	--	0.7	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	0.00332	--	--	--	0.26	--	--	--	0.01	--	--	
Zinc	0.412	--	--	--	11	--	--	--	0.04	--	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	14	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.00137	0.03	--	--	0.11	--	0.05	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	0.00027	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	0.000223	0.07	--	--	0.37	0.019	0.003	--	--	0.0006	0.01	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	0.73	0.0011	--	--	--	--	--
Bromoform	0.0019	--	--	--	0.73	0.0085	--	--	--	0.003	0.2
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000273	--	--	--	0.73	0.0008	--	--	--	0.0004	0.3
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0	0	1.4	96.3		
BACKGROUND RISK							0	0	0.5	95.6		
INCREMENTAL RISK							0	0	0.9	0.7		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000007292	--	0.000072	0.0000045	0.001	0.02
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	84.5	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	42700	86900	77000	--	0.6	--
Antimony	0.443	42.8	31	--	0.01	--
Arsenic	14.1	164	22	0.39	0.6	36.2
Barium	314	1813	15000	--	0.02	--
Beryllium	5.69	--	160	1400	0.04	0.004
Cadmium (Diet)	0.323	10.6	70	1800	0.005	0.0002

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.34	579	--	--	--	--
Cobalt	5.81	36.6	--	--	--	--
Copper	21.8	3965	3100	--	0.007	--
Iron	20400	154600	55000	--	0.4	--
Lead	36.5	2052	400	--	0.09	--
Manganese (Diet)	587	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	5.9	689	1600	--	0.004	--
Selenium	0.0952	1.9	390	--	0.0002	--
Silver	--	8.132	390	--	--	--
Thallium	--	69	5.1	--	--	--
Tin	2.6	--	47000	--	0.00006	--
Vanadium	48.4	187	550	--	0.09	--
Zinc	55.6	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	0.00363	--	2300	2	0.000002	0.002
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	0.0025	--	67	--	0.00004	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	0.00299	--	13000	0.45	0.0000002	0.007
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	0.0024	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	0.00138	--	--	--	--	--
1,3-Dichloropropane	0.00239	--	1600	--	0.000001	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.00237	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0292	--	61000	--	0.0000005	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	0.000932	--	90	1.1	0.00001	0.0008
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	0.0031	--	1600	10	0.000002	0.0003
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	0.00346	--	310	--	0.00001	--
Chloroethane	--	--	15000	--	--	--
Chloroform	0.00121	--	220	0.3	0.000006	0.004
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	0.00278	--	1200	5.8	0.000002	0.0005
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00547	--	3600	5.7	0.000002	0.0010
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.00348	--	2200	--	0.000002	--
m,p-Xylenes	0.00833	--	600	--	0.00001	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.00109	--	--	--	--	--
n-Propylbenzene	0.00263	--	--	--	--	--
o-Xylene	0.00367	--	5300	--	0.0000007	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.00211	--	--	--	--	--
Styrene	0.00406	--	6500	--	0.0000006	--
tert-Butylbenzene	0.00292	--	--	--	--	--
Tetrachloroethene	0.00443	--	380	0.57	0.00001	0.008
Toluene	0.0138	--	5000	--	0.000003	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	0.00229	--	--	2.8	--	0.0008
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.8	36.2
BACKGROUND RISK					1.8	36.2
INCREMENTAL RISK					0.04	0.04

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.003308002	--	--	--	--
Tridecane	0.001034626	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.289622128	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.040719929	2.8	0.0041	0.01	9.9
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.01	9.9
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.01	9.9

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	34.8	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	0.206	4	--	--	--	0.05	--	--	--	--	--	--
Nitrate (measured as NO3-)	7.83	44.3	--	--	255.2	0.2	--	--	0.03	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.9	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000349	0.00000003	--	--	0.000000037	0.0000000005	0.01	--	--	0.009	0.7	--
Disinfectants												
Chlorine (as Cl2)	0.1	4.01	--	--	--	--	0.02	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.00144	0.0807	--	--	--	--	0.02	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	7.88	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	574	--	--	--	--	--	--	--	--	--	--	--
pH	6.83	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.99	--	--	--	--	--	--	--	--	--	--	--
Temperature	22.32	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--	--
Arsenic	0.0037	0.01	--	--	0.011	0.000045	0.4	--	--	0.3	82.2	--
Barium	0.0169	2	--	--	7.3	--	0.008	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	--
Chromium	0.000868	0.1	--	--	--	--	0.009	--	--	--	--	--
Cobalt	0.0000939	--	--	--	--	--	--	--	--	--	--	--
Copper	0.0356	--	--	--	1.5	--	--	--	--	0.02	--	--
Iron	0.00472	--	--	--	26	--	--	--	--	0.0002	--	--
Lead	0.000697	--	--	--	0.02	--	--	--	--	0.03	--	--
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	--
Manganese (Water)	0.000273	--	--	--	0.88	--	--	--	--	0.0003	--	--
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	--
Nickel	0.000961	--	--	--	0.73	--	--	--	--	0.001	--	--
Selenium	0.000234	0.05	--	--	0.18	--	0.005	--	--	0.001	--	--
Silver	--	--	--	--	0.18	--	--	--	--	--	--	--
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	--
Tin	--	--	--	--	22	--	--	--	--	--	--	--
Vanadium	0.00306	--	--	--	0.26	--	--	--	--	0.01	--	--
Zinc	0.173	--	--	--	11	--	--	--	--	0.02	--	--
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	0	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00135	0.03	--	--	0.11	--	0.05	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--
Total Petroleum Hydrocarbon											
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	0.73	0.0011	--	--	--	--	--
Bromoform	0.00144	--	--	--	0.73	0.0085	--	--	--	0.002	0.2
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	0.73	0.0008	--	--	--	--	--
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0	0	0.5	83.1		
BACKGROUND RISK							0	0	0.4	82.2		
INCREMENTAL RISK							0	0	0.1	0.8		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000004387	--	0.000072	0.0000045	0.0006	0.010
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	78.2	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	36900	86900	77000	--	0.5	--
Antimony	0.39	42.8	31	--	0.01	--
Arsenic	13	164	22	0.39	0.6	33.3
Barium	271	1813	15000	--	0.02	--
Beryllium	5	--	160	1400	0.03	0.004
Cadmium (Diet)	0.25	10.6	70	1800	0.004	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.4	579	--	--	--	--
Cobalt	5.5	36.6	--	--	--	--
Copper	22	3965	3100	--	0.007	--
Iron	18300	154600	55000	--	0.3	--
Lead	33	2052	400	--	0.08	--
Manganese (Diet)	521	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	7.3	689	1600	--	0.005	--
Selenium	0.092	1.9	390	--	0.0002	--
Silver	0.1	8.132	390	--	0.0003	--
Thallium	--	69	5.1	--	--	--
Tin	2.4	--	47000	--	0.00005	--
Vanadium	46	187	550	--	0.08	--
Zinc	55	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.000781	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.00835	--	61000	--	0.0000001	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	0.000652	--	310	--	0.000002	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00101	--	3600	5.7	0.0000003	0.0002
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.000933	--	2200	--	0.0000004	--
m,p-Xylenes	0.0014	--	600	--	0.000002	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.000426	--	--	--	--	--
n-Propylbenzene	0.000631	--	--	--	--	--
o-Xylene	0.000692	--	5300	--	0.0000001	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.000713	--	--	--	--	--
Styrene	0.00059	--	6500	--	0.00000009	--
tert-Butylbenzene	0.000852	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00218	--	5000	--	0.0000004	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.6	33.3
BACKGROUND RISK					1.6	33.3
INCREMENTAL RISK					0.03	0.01

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.002624825	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.537996437	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0	0
BACKGROUND RISK				0	0
INCREMENTAL RISK				0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	33.2	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	0.215	4	--	--	--	0.05	--	--	--	--	--
Nitrate (measured as NO3-)	7.99	44.3	--	--	255.2	0.2	--	--	0.03	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.6	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000001655	0.00000003	--	--	0.000000037	0.0000000005	0.06	--	--	0.04	3.2
Disinfectants											
Chlorine (as Cl2)	0.1	4.01	--	--	--	--	0.02	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.001844	0.0807	--	--	--	--	0.02	--	--	--	--
Field Parameters											
Dissolved Oxygen	8.460000000000	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	613	--	--	--	--	--	--	--	--	--	--
pH	7.22	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.95	--	--	--	--	--	--	--	--	--	--
Temperature	23.06	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	1	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	--	--	--	--	37	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--
Arsenic	0.00421	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	93.6
Barium	0.0163	2	--	--	7.3	--	0.008	--	--	0.002	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	
Chromium	0.000804	0.1	--	--	--	0.008	--	--	--	--	--	
Cobalt	0.0001	--	--	--	--	--	--	--	--	--	--	
Copper	0.168	--	--	--	1.5	--	--	--	0.1	--	--	
Iron	0.00574	--	--	--	26	--	--	--	0.0002	--	--	
Lead	0.00144	--	--	--	0.02	--	--	--	0.07	--	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.000348	--	--	--	0.88	--	--	--	0.0004	--	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.00216	--	--	--	0.73	--	--	--	0.003	--	--	
Selenium	0.000274	0.05	--	--	0.18	0.005	--	--	0.002	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	0.00174	--	--	--	0.26	--	--	--	0.007	--	--	
Zinc	0.194	--	--	--	11	--	--	--	0.02	--	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	0	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00145	0.03	--	--	0.11	--	0.05	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	0.73	0.0011	--	--	--	--	--
Bromoform	0.00163	--	--	--	0.73	0.0085	--	--	--	0.002	0.2
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	--	--	0.2	0.00021	0.37	0.0022	--	--	--	--	--
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000214	--	--	--	0.73	0.0008	--	--	--	0.0003	0.3
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location EV12

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--
Toluene	--	1	10	--	2.9	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--
TOTAL RISK							0	0	0.7	97.2	
BACKGROUND RISK							0	0	0.4	93.6	
INCREMENTAL RISK							0	0	0.3	3.6	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment E
Chemical Fact Sheets

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to allow for double-sided printing.**

This fact sheet answers the most frequently asked health questions (FAQs) about arsenic. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to higher than average levels of arsenic occur mostly in the workplace, near hazardous waste sites, or in areas with high natural levels. At high levels, inorganic arsenic can cause death. Exposure to lower levels for a long time can cause a discoloration of the skin and the appearance of small corns or warts. Arsenic has been found in at least 1,149 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is arsenic?

Arsenic is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds.

Inorganic arsenic compounds are mainly used to preserve wood. Copper chromated arsenate (CCA) is used to make "pressure-treated" lumber. CCA is no longer used in the U.S. for residential uses; it is still used in industrial applications. Organic arsenic compounds are used as pesticides, primarily on cotton fields and orchards.

What happens to arsenic when it enters the environment?

- Arsenic occurs naturally in soil and minerals and may enter the air, water, and land from wind-blown dust and may get into water from runoff and leaching.
- Arsenic cannot be destroyed in the environment. It can only change its form.
- Rain and snow remove arsenic dust particles from the air.
- Many common arsenic compounds can dissolve in water. Most of the arsenic in water will ultimately end up in soil or sediment.
- Fish and shellfish can accumulate arsenic; most of this arsenic is in an organic form called arsenobetaine that is much less harmful.

How might I be exposed to arsenic?

- Ingesting small amounts present in your food and water or breathing air containing arsenic.
- Breathing sawdust or burning smoke from wood treated with arsenic.
- Living in areas with unusually high natural levels of arsenic in rock.
- Working in a job that involves arsenic production or use, such as copper or lead smelting, wood treating, or pesticide application.

How can arsenic affect my health?

Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs.

Ingesting very high levels of arsenic can result in death. Exposure to lower levels can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Ingesting or breathing low levels of inorganic arsenic for a long time can cause a darkening of the skin and the appearance of small "corns" or "warts" on the palms, soles, and torso.

Skin contact with inorganic arsenic may cause redness and swelling.

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Almost nothing is known regarding health effects of organic arsenic compounds in humans. Studies in animals show that some simple organic arsenic compounds are less toxic than inorganic forms. Ingestion of methyl and dimethyl compounds can cause diarrhea and damage to the kidneys

How likely is arsenic to cause cancer?

Several studies have shown that ingestion of inorganic arsenic can increase the risk of skin cancer and cancer in the liver, bladder, and lungs. Inhalation of inorganic arsenic can cause increased risk of lung cancer. The Department of Health and Human Services (DHHS) and the EPA have determined that inorganic arsenic is a known human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic arsenic is carcinogenic to humans.

How can arsenic affect children?

There is some evidence that long-term exposure to arsenic in children may result in lower IQ scores. There is also some evidence that exposure to arsenic in the womb and early childhood may increase mortality in young adults.

There is some evidence that inhaled or ingested arsenic can injure pregnant women or their unborn babies, although the studies are not definitive. Studies in animals show that large doses of arsenic that cause illness in pregnant females, can also cause low birth weight, fetal malformations, and even fetal death. Arsenic can cross the placenta and has been found in fetal tissues. Arsenic is found at low levels in breast milk.

How can families reduce the risks of exposure to arsenic?

If you use arsenic-treated wood in home projects, you should wear dust masks, gloves, and protective clothing to decrease exposure to sawdust.

- If you live in an area with high levels of arsenic in water or soil, you should use cleaner sources of water and limit contact with soil.
- If you work in a job that may expose you to arsenic, be aware that you may carry arsenic home on your clothing, skin, hair, or tools. Be sure to shower and change clothes before going home.

Is there a medical test to determine whether I've been exposed to arsenic?

There are tests available to measure arsenic in your blood, urine, hair, and fingernails. The urine test is the most reliable test for arsenic exposure within the last few days. Tests on hair and fingernails can measure exposure to high levels of arsenic over the past 6-12 months. These tests can determine if you have been exposed to above-average levels of arsenic. They cannot predict whether the arsenic levels in your body will affect your health.

Has the federal government made recommendations to protect human health?

The EPA has set limits on the amount of arsenic that industrial sources can release to the environment and has restricted or cancelled many of the uses of arsenic in pesticides. EPA has set a limit of 0.01 parts per million (ppm) for arsenic in drinking water.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit (PEL) of 10 micrograms of arsenic per cubic meter of workplace air (10 µg/m³) for 8 hour shifts and 40 hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Arsenic (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about nickel. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Nickel is a naturally occurring element. Pure nickel is a hard, silvery-white metal used to make stainless steel and other metal alloys. Skin effects are the most common effects in people who are sensitive to nickel. Workers who breathed very large amounts of nickel compounds developed chronic bronchitis and lung and nasal sinus cancers. Nickel has been found in at least 882 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is nickel?

Nickel is a very abundant natural element. Pure nickel is a hard, silvery-white metal. Nickel can be combined with other metals, such as iron, copper, chromium, and zinc, to form alloys. These alloys are used to make coins, jewelry, and items such as valves and heat exchangers. Most nickel is used to make stainless steel.

Nickel can combine with other elements such as chlorine, sulfur, and oxygen to form nickel compounds. Many nickel compounds dissolve fairly easy in water and have a green color. Nickel compounds are used for nickel plating, to color ceramics, to make some batteries, and as substances known as catalysts that increase the rate of chemical reactions. Nickel is found in all soil and is emitted from volcanoes. Nickel is also found in meteorites and on the ocean floor. Nickel and its compounds have no characteristic odor or taste.

What happens to nickel when it enters the environment?

- Nickel is released into the atmosphere by industries that make or use nickel, nickel alloys, or nickel compounds. It is also released into the atmosphere by oil-burning power plants, coal-burning power plants, and trash incinerators.
- In the air, it attaches to small particles of dust that settle to the ground or are taken out of the air in rain or snow; this usually takes many days.

- Nickel released in industrial waste water ends up in soil or sediment where it strongly attaches to particles containing iron or manganese.
- Nickel does not appear to accumulate in fish or in other animals used as food.

How might I be exposed to nickel?

- By eating food containing nickel, which is the major source of exposure for most people.
- By skin contact with soil, bath or shower water, or metals containing nickel, as well as by handling coins or touching jewelry containing nickel.
- By drinking water that contains small amounts of nickel.
- By breathing air or smoking tobacco containing nickel.
- Higher exposure may occur if you work in industries that process or use nickel.

How can nickel affect my health?

The most common harmful health effect of nickel in humans is an allergic reaction. Approximately 10-20% of the population is sensitive to nickel. People can become sensitive to nickel when jewelry or other things containing it are in direct contact with the skin for a long time. Once a person is sensitized to nickel, further contact with the metal may produce a reaction. The most common reaction is a skin rash at the site of contact. The skin rash may also

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occur at a site away from the site of contact. Less frequently, some people who are sensitive to nickel have asthma attacks following exposure to nickel. Some sensitized people react when they consume food or water containing nickel or breathe dust containing it.

People working in nickel refineries or nickel-processing plants have experienced chronic bronchitis and reduced lung function. These persons breathed amounts of nickel much higher than levels found normally in the environment.

Workers who drank water containing high amounts of nickel had stomach ache and suffered adverse effects to their blood and kidneys.

Damage to the lung and nasal cavity has been observed in rats and mice breathing nickel compounds. Eating or drinking large amounts of nickel has caused lung disease in dogs and rats and has affected the stomach, blood, liver, kidneys, and immune system in rats and mice, as well as their reproduction and development.

How likely is nickel to cause cancer?

Cancers of the lung and nasal sinus have resulted when workers breathed dust containing high levels of nickel compounds while working in nickel refineries or nickel processing plants. The Department of Health and Human Services (DHHS) has determined that nickel metal may reasonably be anticipated to be a carcinogen and that nickel compounds are known human carcinogens. The International Agency for Research on Cancer (IARC) has determined that some nickel compounds are carcinogenic to humans and that metallic nickel may possibly be carcinogenic to humans. The EPA has determined that nickel refinery dust and nickel subsulfide are human carcinogens.

How can nickel affect children?

It is likely that the health effects seen in children exposed to nickel will be similar to those seen in adults. We do not know whether children differ from adults in their susceptibility to nickel. Human studies that examined whether nickel can harm the fetus are inconclusive. Animal studies have found increases in newborn deaths and

decreased newborn weight after ingesting very high amounts of nickel. Nickel can be transferred from the mother to an infant in breast milk and can cross the placenta.

How can families reduce the risks of exposure to nickel?

- Avoiding jewelry containing nickel will eliminate risks of exposure to this source of the metal.
- Exposures of the general population from other sources, such as foods and drinking water, are almost always too low to be of concern.

Is there a medical test to determine whether I've been exposed to nickel?

There are tests available to measure nickel in your blood, feces, and urine. More nickel was measured in the urine of workers who were exposed to nickel compounds that dissolve easily in water than in the urine of workers exposed to nickel compounds that are hard to dissolve. This means that it is easier to tell if you have been exposed to soluble nickel compounds than less-soluble compounds. The nickel measurements do not accurately predict potential health effects from exposure to nickel.

Has the federal government made recommendations to protect human health?

The EPA recommends that drinking water should contain no more than 0.1 milligrams of nickel per liter of water (0.1 mg/L). To protect workers, the Occupational Safety and Health Administration (OSHA) has set a limit of 1 mg of nickel per cubic meter of air (1 mg/m³) for metallic nickel and nickel compounds in workplace air during an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Nickel (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about tetrachloroethylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Tetrachloroethylene is a manufactured chemical used for dry cleaning and metal degreasing. Exposure to very high concentrations of tetrachloroethylene can cause dizziness, headaches, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death. Tetrachloroethylene has been found in at least 771 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is tetrachloroethylene?

(Pronounced tět'rə-klôr' 0-ěth'ə-lēn')

Tetrachloroethylene is a manufactured chemical that is widely used for dry cleaning of fabrics and for metal-degreasing. It is also used to make other chemicals and is used in some consumer products.

Other names for tetrachloroethylene include perchloroethylene, PCE, and tetrachloroethene. It is a nonflammable liquid at room temperature. It evaporates easily into the air and has a sharp, sweet odor. Most people can smell tetrachloroethylene when it is present in the air at a level of 1 part tetrachloroethylene per million parts of air (1 ppm) or more, although some can smell it at even lower levels.

What happens to tetrachloroethylene when it enters the environment?

- Much of the tetrachloroethylene that gets into water or soil evaporates into the air.
- Microorganisms can break down some of the tetrachloroethylene in soil or underground water.
- In the air, it is broken down by sunlight into other chemicals or brought back to the soil and water by rain.
- It does not appear to collect in fish or other animals that live in water.

How might I be exposed to tetrachloroethylene?

- When you bring clothes from the dry cleaners, they will release small amounts of tetrachloroethylene into the air.
- When you drink water containing tetrachloroethylene, you are exposed to it.

How can tetrachloroethylene affect my health?

High concentrations of tetrachloroethylene (particularly in closed, poorly ventilated areas) can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death.

Irritation may result from repeated or extended skin contact with it. These symptoms occur almost entirely in work (or hobby) environments when people have been accidentally exposed to high concentrations or have intentionally used tetrachloroethylene to get a "high."

In industry, most workers are exposed to levels lower than those causing obvious nervous system effects. The health effects of breathing in air or drinking water with low levels of tetrachloroethylene are not known.

Results from some studies suggest that women who work in dry cleaning industries where exposures to tetrachloroethyl-

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ene can be quite high may have more menstrual problems and spontaneous abortions than women who are not exposed. However, it is not known if tetrachloroethylene was responsible for these problems because other possible causes were not considered.

Results of animal studies, conducted with amounts much higher than those that most people are exposed to, show that tetrachloroethylene can cause liver and kidney damage. Exposure to very high levels of tetrachloroethylene can be toxic to the unborn pups of pregnant rats and mice. Changes in behavior were observed in the offspring of rats that breathed high levels of the chemical while they were pregnant.

How likely is tetrachloroethylene to cause cancer?

The Department of Health and Human Services (DHHS) has determined that tetrachloroethylene may reasonably be anticipated to be a carcinogen. Tetrachloroethylene has been shown to cause liver tumors in mice and kidney tumors in male rats.

Is there a medical test to show whether I've been exposed to tetrachloroethylene?

One way of testing for tetrachloroethylene exposure is to measure the amount of the chemical in the breath, much the same way breath-alcohol measurements are used to determine the amount of alcohol in the blood.

Because it is stored in the body's fat and slowly released into the bloodstream, tetrachloroethylene can be detected in the breath for weeks following a heavy exposure.

Tetrachloroethylene and trichloroacetic acid (TCA), a breakdown product of tetrachloroethylene, can be detected in the blood. These tests are relatively simple to perform. These tests aren't available at most doctors' offices, but can be per-

formed at special laboratories that have the right equipment.

Because exposure to other chemicals can produce the same breakdown products in the urine and blood, the tests for breakdown products cannot determine if you have been exposed to tetrachloroethylene or the other chemicals.

Has the federal government made recommendations to protect human health?

The EPA maximum contaminant level for the amount of tetrachloroethylene that can be in drinking water is 0.005 milligrams tetrachloroethylene per liter of water (0.005 mg/L).

The Occupational Safety and Health Administration (OSHA) has set a limit of 100 ppm for an 8-hour workday over a 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) recommends that tetrachloroethylene be handled as a potential carcinogen and recommends that levels in workplace air should be as low as possible.

Glossary

Carcinogen: A substance with the ability to cause cancer.

CAS: Chemical Abstracts Service.

Milligram (mg): One thousandth of a gram.

Nonflammable: Will not burn.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Tetrachloroethylene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about chlorinated dibenzo-p-dioxins (CDDs). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to chlorinated dibenzo-p-dioxins (CDDs) (75 chemicals) occurs mainly from eating food that contains the chemicals. One chemical in this group, 2,3,7,8-tetrachlorodibenzo-p-dioxin or 2,3,7,8-TCDD, has been shown to be very toxic in animal studies. It causes effects on the skin and may cause cancer in people. This chemical has been found in at least 91 of 1,467 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are CDDs?

CDDs are a family of 75 chemically related compounds commonly known as chlorinated dioxins. One of these compounds is called 2,3,7,8-TCDD. It is one of the most toxic of the CDDs and is the one most studied.

In the pure form, CDDs are crystals or colorless solids. CDDs enter the environment as mixtures containing a number of individual components. 2,3,7,8-TCDD is odorless and the odors of the other CDDs are not known.

CDDs are not intentionally manufactured by industry except for research purposes. They (mainly 2,3,7,8-TCDD) may be formed during the chlorine bleaching process at pulp and paper mills. CDDs are also formed during chlorination by waste and drinking water treatment plants. They can occur as contaminants in the manufacture of certain organic chemicals. CDDs are released into the air in emissions from municipal solid waste and industrial incinerators.

What happens to CDDs when they enter the environment?

- When released into the air, some CDDs may be transported long distances, even around the globe.

- When released in waste waters, some CDDs are broken down by sunlight, some evaporate to air, but most attach to soil and settle to the bottom sediment in water.
- CDD concentrations may build up in the food chain, resulting in measurable levels in animals.

How might I be exposed to CDDs?

- Eating food, primarily meat, dairy products, and fish, makes up more than 90% of the intake of CDDs for the general population.
- Breathing low levels in air and drinking low levels in water.
- Skin contact with certain pesticides and herbicides.
- Living near an uncontrolled hazardous waste site containing CDDs or incinerators releasing CDDs.
- Working in industries involved in producing certain pesticides containing CDDs as impurities, working at paper and pulp mills, or operating incinerators.

How can CDDs affect my health?

The most noted health effect in people exposed to large amounts of 2,3,7,8-TCDD is chloracne. Chloracne is a severe skin disease with acne-like lesions that occur mainly on the face and upper body. Other skin effects noted in people exposed to high doses of 2,3,7,8-TCDD include skin rashes, dis-

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coloration, and excessive body hair. Changes in blood and urine that may indicate liver damage also are seen in people. Exposure to high concentrations of CDDs may induce long-term alterations in glucose metabolism and subtle changes in hormonal levels.

In certain animal species, 2,3,7,8-TCDD is especially harmful and can cause death after a single exposure. Exposure to lower levels can cause a variety of effects in animals, such as weight loss, liver damage, and disruption of the endocrine system. In many species of animals, 2,3,7,8-TCDD weakens the immune system and causes a decrease in the system's ability to fight bacteria and viruses. In other animal studies, exposure to 2,3,7,8-TCDD has caused reproductive damage and birth defects. Some animal species exposed to CDDs during pregnancy had miscarriages and the offspring of animals exposed to 2,3,7,8-TCDD during pregnancy often had severe birth defects including skeletal deformities, kidney defects, and weakened immune responses.

How likely are CDDs to cause cancer?

Several studies suggest that exposure to 2,3,7,8-TCDD increases the risk of several types of cancer in people. Animal studies have also shown an increased risk of cancer from exposure to 2,3,7,8-TCDD.

The World Health Organization (WHO) has determined that 2,3,7,8-TCDD is a human carcinogen.

The Department of Health and Human Services (DHHS) has determined that 2,3,7,8-TCDD may reasonably be anticipated to cause cancer.

How can CDDs affect children?

Very few studies have looked at the effects of CDDs on children. Chloracne has been seen in children exposed to high levels of CDDs. We don't know if CDDs affect the ability of people to have children or if it causes birth defects, but given the effects observed in animal studies, this cannot be ruled out.

How can families reduce the risk of exposure to CDDs?

- Children should avoid playing in soils near uncontrolled hazardous waste sites.
- Discourage children from eating dirt or putting toys or other objects in their mouths.
- Everyone should wash hands frequently if playing or working near uncontrolled hazardous waste sites.
- For new mothers and young children, restrict eating foods from the proximity of uncontrolled sites with known CDDs.

Is there a medical test to show whether I've been exposed to CDDs?

Tests are available to measure CDD levels in body fat, blood, and breast milk, but these tests are not routinely available. Most people have low levels of CDDs in their body fat and blood, and levels considerably above these levels indicate past exposure to above-normal levels of 2,3,7,8-TCDD. Although CDDs stay in body fat for a long time, tests cannot be used to determine when exposure occurred.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 0.00003 micrograms of 2,3,7,8-TCDD per liter of drinking water (0.00003 µg/L). Discharges, spills, or accidental releases of 1 pound or more of 2,3,7,8-TCDD must be reported to EPA. The Food and Drug Administration (FDA) recommends against eating fish and shellfish with levels of 2,3,7,8-TCDD greater than 50 parts per trillion (50 ppt).

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1998. Toxicological profile for chlorinated dibenzo-p-dioxins. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

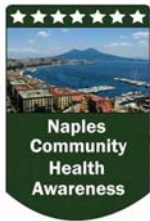
Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



ATTACHMENT E-3

PHASE I SCREENING RISK EVALUATION FOR PARCO LE GINESTRE RESIDENCES

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NAPLES Public Health Evaluation



U.S. Navy, Naples Housing Office Premise ID: Le Ginestre

Dear Le Ginestre Resident:

SUBJECT: Phase I Screening Risk Evaluation for Le Ginestre Residences

The Navy Public Health Evaluation Team has completed a Screening Risk Evaluation (SRE) of soil, soil gas, tap water, and irrigation well water samples that were collected at Parco Le Ginestre residences and common areas from 07/03/2008 to 09/18/2008 (See Figure 1). The purpose of the SRE is to evaluate the potential human health risks to Navy personnel and their families residing in the Naples area as a result of public health concerns that could be related to improper refuse disposal (including open burning) and hazardous waste disposal practices. This memo summarizes the results of the investigation that was performed at Parco Le Ginestre residences and common areas. These sampling results were compared to U.S. Environmental Protection Agency (USEPA) health standards and of the fourteen locations sampled in the Parco, seven have been assessed to be Acceptable and seven have been assessed to be Unacceptable.

SCREENING RISK EVALUATION RESULTS

The environmental sampling results for soil, soil gas, tap water, and irrigation well water were compared to risk-based regional screening levels (RSLs) and drinking water standards (maximum contaminant levels [MCLs]) to evaluate potential risks to human health. These levels are considered by the USEPA to be protective of human health. Concentrations of chemicals in soil, soil gas, and tap water that exceed these levels may be of concern. Please see Attachment A for further discussion of the SRE approach.

These sampling results are being used as the basis for making recommendations for your residence. They will also be used as part of the overall effort in evaluating potential risks in the Naples area. The two potential outcomes of the SRE are that risks at your residence were: 1) Acceptable or 2) Unacceptable. Please see Attachment B for further discussion of these risk categories. This determination is based on a number of factors and assumes that an individual lives at the residence for 30-years, which is typically used by the USEPA to evaluate residential locations. Your actual risk may be significantly less than the risks presented in this memo. For example, if you live at this location for only three years and do not drink the tap water, then your risks will be significantly less than those presented in this memo.

Finally, risks presented in this SRE are based on a single sampling event. A single sample only provides a "snapshot" of concentrations that are present in soil, soil gas, and tap water. One sample may or may not be representative of the soil, soil gas, and tap water concentrations present each location. Please see Attachment C for the sampling results for all Parco Le Ginestre locations.

SUBJECT: Phase I Screening Risk Evaluation for Le Ginestre Residences

Typically, in SRE reports, total risks are determined by calculating the potential risk for all of the various ways one might be exposed to contaminants, which are referred to as exposure pathways such as ingestion, inhalation, dermal contact, et cetera. For Naples, Navy leadership has implemented a Bottled Water Advisory and is requiring landlords to provide a water service from Navy-approved sources to eliminate the tap water ingestion exposure pathway. Therefore, we are calculating the risk two ways, assuming exposure via the ingestion pathway, and assuming no exposure via the ingestion pathway. Both of these risk determinations are described below and a table presenting the comparison of the environmental sampling results collected at Parco Le Ginestre and applicable screening concentrations is presented in Attachment D.

Risks Calculated Assuming that Tap Water IS Used for Drinking, Cooking, Brushing Teeth and Making Ice

If the tap water at Parco Le Ginestre is used for drinking, cooking, brushing teeth, and making ice (in addition to other household uses), then based on USEPA RSLs and MCLs, the risks at three out of ten residences are Acceptable and seven are Unacceptable because the total cancer risk exceedance factor (summed based on exposure to soil, soil gas, and tap water) was greater than 10 and due to concentrations of chemicals detected in soil gas and tap water. Of the nearly 220 chemicals that were tested in soil and tap water and the approximately 40 that were tested for in soil gas, five were detected at levels of potential concern¹.

Risks Calculated Assuming that Tap Water IS NOT Used for Drinking, Cooking, Brushing Teeth and Making Ice

The Navy has determined that the tap water in Naples should not be used for drinking, cooking, brushing teeth, or making ice. Therefore, if the tap water at Parco Le Ginestre is not used for drinking, cooking, brushing teeth, and making ice (i.e., tap water is only used for other household uses such as showering or washing clothes), then based on USEPA RSLs and MCLs, the risks at four out of ten residences are Acceptable and six are Unacceptable because the total cancer risk exceedance factor (summed based on exposure to soil, soil gas, and tap water) was greater than 10 and due to concentrations of chemicals detected in soil gas and tap water. Of the nearly 220 chemicals that were tested in soil and tap water and approximately 40 that were tested for in soil gas, three were detected at a level of potential concern¹.

Summary of Chemical-Specific Results

In soil gas, tetrachloroethene exceeded its RSL at locations LE01, LE03, LE07, LE11, LE19, and LE20 and chloroform exceeded its RSL at location LE08. In tap water, total dioxin/furans exceeded its RSL at locations LE19 and LE20, chloroform exceeded its RSL at locations LE01, LE03, LE07, LE10, LE11, LE15, LE19 and LE20, dibromochloromethane exceeded its RSL at locations LE01, LE10 and LE20, tetrachloroethene exceeded its RSL at location LE01, and total coliform bacteria exceeded the MCL at location LE19. Please see Table 1 for a summary of Parco Le Ginestre residence risks by location.

¹ This excludes naturally-occurring chemicals, such as arsenic.

SUBJECT: Phase I Screening Risk Evaluation for Le Ginestre Residences

- 1) The tetrachloroethene ingestion RSL exceedance is mitigated by the use of bottled water. The tetrachloroethene inhalation RSL exceedance in tap water cannot be totally mitigated by bottled water; there will be some exposure via inhalation due to household uses of tap water (e.g., washing clothes and showering). Tetrachloroethene is a solvent commonly used to dry clean clothes.
- 2) The chloroform inhalation RSL exceedance in tap water cannot be totally mitigated by bottled water; there will be some exposure via inhalation due to household uses of tap water (e.g., washing clothes and showering). In the past, chloroform was used as an inhaled anesthetic during surgery, but it isn't used that way today. Today, chloroform is used to make other chemicals and can also be formed as a byproduct when chlorine is added to water to kill bacteria.
- 3) The total dioxin/furans ingestion RSL exceedances are mitigated by the use of bottled water. Dioxins/Furans are a group of chemicals that are called chlorinated dibenzo-p-dioxins and dibenzo-p-furans. These chemicals can be produced during incomplete burning of wood or materials such as garbage.
- 4) The dibromochloromethane ingestion RSL exceedances are mitigated by the use of bottled water. Dibromochloromethane is typically formed as a byproduct when chlorine is added to water to kill bacteria.
- 5) The total coliform MCL exceedance cannot be totally mitigated by bottled water, there will be some exposure via household uses of tap water (e.g., showering). Total coliforms are a group of bacteria that are used as indicators of possible sewage contamination because they are commonly found in human and animal feces. Although they are generally not harmful themselves, they indicate the possible presence of pathogenic (disease-causing) bacteria, viruses, and protozoans that also live in human and animal digestive systems.

For more information on these chemicals, please see Attachment E.

It should be noted that the concentrations of naturally-occurring arsenic in soil and tap water were above RSLs at all Parco Le Ginestre residences.

- 1) Arsenic in soil and tap water is often associated with volcanic activity. This is similar to areas in the United States (e.g., Puget Sound, Washington).

USEPA risk assessors also consider background concentrations of naturally-occurring metals (identified as Inorganics in Attachment D), such as arsenic, when evaluating risks. The concentrations of these naturally-occurring substances found at your residence were not included in risk-management decisions. The concentrations of metals in soil at your residence were similar to background concentrations found in the Naples area. The concentrations of arsenic in tap water were below the MCL for all Parco Le Ginestre residences. For more information on arsenic, please see Attachment E.

SUBJECT: Phase I Screening Risk Evaluation for Le Ginestre Residences

The risk-management decision (i.e., Acceptable or Unacceptable) presented in this memo is based on the Incremental Risk (i.e., the risks not including natural background). See the footnotes in Attachment D for more information.

Risks Calculated for Parco Le Ginestre Common Areas

Three soil samples (locations LE21, LE22 and LE23) and one water sample from an irrigation well (location LEIW01) were collected from a common area. These samples were also compared to USEPA RSLs and MCLs to evaluate potential risks to human health. The risks at all three soil sample locations have been assessed to be Acceptable. Irrigation well water is not being used for human consumption, however, if it were used for human consumption the risk would be Unacceptable. Please see Table 1 for a summary of Parco Le Ginestre residence risk by location.

None of the nearly 220 chemicals that were tested in soil were detected at levels of potential concern in the common areas (locations LE21, LE22 and LE23). However, the concentrations of naturally-occurring arsenic in soil were above its RSL. For details on naturally-occurring arsenic, please see the Summary of Chemical-Specific Results section. The concentrations of metals at these locations were similar to background concentrations found in the Naples area. For more information on arsenic, please see Attachment E.

Of the nearly 220 chemicals that were tested for in the irrigation well water, eight were detected at levels of potential concern¹. Nitrate, total dioxin/furans, zinc, bis(2-ethylhexyl)phthalate and tetrachloroethene exceeded RSLs. Nitrate, fecal coliform, total coliforms, uranium and bis(2-ethylhexyl)phthalate exceeded MCLs. Naturally-occurring arsenic was also present in the well water but at a concentration below the MCL. For more information on these chemicals, please see Attachment E.

Actions that the Navy is Taking Based on the Sampling Results

Based on the results of the environmental sampling performed at Parco Le Ginestre, the following actions have been or will be implemented:

- a) Bottled water will continue to be provided by the Navy until such time as the Navy's lease for this property is modified to require the landlord to provide containerized water.
- b) The bottled water advisory issued in 2008 is still in place.
- c) The Navy will ensure any water holding tanks and associated plumbing are regularly cleaned and disinfected.
- d) Italian authorities have been and will continue to be notified of the results of the environmental sampling.
- e) The Navy is collecting additional soil gas samples to confirm sampling results.
- f) Signs will be posted warning people that the irrigation well on-site is non-potable.

SUBJECT: Phase I Screening Risk Evaluation for Le Ginestre Residences

Actions that You Can Take to Reduce Exposure to Chemicals

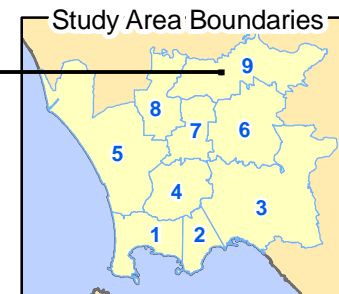
- a) In accordance with the Bottled Water Advisory, use only bottled water for drinking, cooking, and brushing your teeth, and making ice.

Navy leadership is committed to your health and well-being. The U.S. and Italian governments have both made this study a top priority and we will keep you informed every step of the way. We appreciate your patience with this deliberate and complex process.

We encourage you to ask questions, attend Town Hall Meetings, check the website (<https://www.cnmc.navy.mil/Naples/Programs/HealthAwareness>), and use your chain of command for assistance in getting the answers you deserve. We have established an Environmental Health Information Office as a resource to help with your health related questions or concerns, which is located on the ground floor of Naval Hospital Naples, Room 1096, DSN 629-6071. CDR Tim Halenkamp, who runs this office, is also the Director of Occupational and Environmental Medicine and can be reached at DSN 314-626-6807 or Commercial 39-081-568-6807.

- Attachments:
- (A) Overview of the Phase I Screening Risk Evaluation Approach
 - (B) Risk Management Framework
 - (C) Environmental Sampling Results
 - (D) Comparison of Environmental Sampling Results to Screening Concentrations
 - (E) Chemical Fact Sheets

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Legend

Study Area Boundary (1-9)

Sample Locations

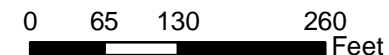
Soil Gas

Soil

Tap Water

Irrigation Well

Air



PIONEER
TECHNOLOGIES CORPORATION

**Parco Le Ginestre Sample Locations
Phase I Screening Risk Evaluation
Naples, Italy**

DWN:
KR

PROJECT:

DATE:
May 2009

FIGURE NO.:
1

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Table 1: Summary of Parco Le Ginestre Residence Risks by Location

Site ID	Water Source	Soil RSL CNECF	Soil RSL CCEF	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+Inh. ⁽¹⁾ RSL CNECF	Tap Water Ing.+Inh. ⁽¹⁾ RSL CCEF	Tap Water Inh. Only ⁽²⁾ RSL CNECF	Tap Water Inh. Only ⁽²⁾ RSL CCEF	Includes Soil, Soil Gas, and Tap Water				Exceed Fecal or Total Coliform MCL?	Exceed MCL for any Chemical?	Ing.+Inh. Acceptable or Unacceptable	Inh. Only Acceptable or Unacceptable
										Total CNECF Ing.+Inh. ⁽³⁾	Total CCEF Ing.+Inh. ⁽³⁾	Total CNECF Inh. Only ⁽⁴⁾	Total CCEF Inh. Only ⁽⁴⁾				
LE01	Public	0.03	0.04	0.002	1.3	0.2	27.4	0.006	4.5	0.28	28.78	0.04	5.83	No	No	Unacceptable	Acceptable
LE03	Public	--	--	0.04	24.0	0.1	2.6	0.001	1.3	0.18	26.58	0.04	25.26	No	No	Unacceptable	Unacceptable
LE07	Public	0.02	0.02	0.3	171.7	0.2	3.1	0.001	1.3	0.50	174.79	0.28	173.06	No	No	Unacceptable	Unacceptable
LE08	Public	0.02	0.009	0.01	9.9	0.3	1.9	0.001	0.7	0.34	11.79	0.03	10.65	No	No	Unacceptable	Unacceptable
LE10	Public	--	--	0	0	0.6	2.8	0.001	1.0	0.63	2.76	0.00	1.03	No	No	Acceptable	Acceptable
LE11	Public	0.05	0.06	0.01	9.8	0.09	2.7	0.001	1.1	0.15	12.60	0.07	10.98	No	No	Unacceptable	Unacceptable
LE12	Public	0.02	0.04	--	--	0.2	1.4	0.0007	0.6	0.17	1.46	0.02	0.66	No	No	Acceptable	Acceptable
LE15	Public	0.02	0.05	0.001	0.9	0.1	2.8	0.001	1.4	0.17	3.73	0.03	2.30	No	No	Acceptable	Acceptable
LE19	Public	0.02	0.02	0.002	1.4	0.2	4.1	0.001	1.1	0.19	5.48	0.02	2.51	Yes	No	Unacceptable	Unacceptable
LE20	Public	0.03	0.10	0.03	19.0	0.2	5.2	0.002	1.9	0.23	24.25	0.06	20.96	No	No	Unacceptable	Unacceptable
LE21	--	0.07	0.6	--	--	--	--	--	--	0.07	0.64	0.07	0.64	--	--	Acceptable	Acceptable
LE22	--	0.03	0.1	--	--	--	--	--	--	0.03	0.13	0.03	0.13	--	--	Acceptable	Acceptable
LE23	--	0.04	0.05	--	--	--	--	--	--	0.04	0.05	0.04	0.05	--	--	Acceptable	Acceptable
LEIW01 ⁽⁵⁾	Irrigation Well	--	--	--	--	1.6	18.4	0.003	2.1	1.60	18.40	0.00	2.10	Yes	Yes	Unacceptable	Unacceptable

Note:

CCEF = Cumulative Cancer Exceedance Factor, CNECF = Cumulative Noncancer Exceedance Factor, Inh. = Inhalation, Ing. = Ingestion, RSL = USEPA Regional risk-based screening level, MCL = USEPA Maximum Contaminant Limit

0.0 = Value is less than 0.01.

-- = Samples were not collected for that medium.

Residences that meet the unacceptable criteria for Ing.+Inh. or Inh. Only are shaded and bold.

¹Ing.+Inh. exposure scenario for residences assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.

²Inh. Only exposure scenario for residences assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.

³Ing.+Inh. exposure scenario for residences (Total Cumulative Exceedance Factor-Based on Soil, Soil Gas, and Tap Water) assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.

⁴Inh. Only exposure scenario for residences (Total Cumulative Exceedance Factor-Based on Soil, Soil Gas, and Tap Water) assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.

⁵Sample was located at an irrigation well and compared against USEPA RSL and MCLs to validate that water is nonpotable.

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Attachment A

Overview of the Phase I Screening Risk Evaluation Approach

Comparison of Environmental Sampling Results to Risk-Based Screening Concentrations

To determine whether or not the sampling results for soil, soil gas, and tap water are potentially of concern to human health, the sampling results were compared to United States Environmental Protection Agency (USEPA) risk-based regional screening levels (RSLs). The RSLs incorporate many conservative assumptions about exposure to be protective of human health.

Concentrations for each chemical were compared to:

1. USEPA RSLs based on 30-year residential exposure
2. USEPA Maximum Contaminant Levels (MCLs) for Drinking Water

The USEPA RSLs are calculated based on carcinogenic (i.e., cancer) risks and noncarcinogenic (i.e., noncancer) health effects. Cancer risk is an estimate of how exposure to a chemical may increase the normal or expected rate of developing cancer in a population of people. The USEPA generally evaluates cancer risk¹ as follows:

- **Acceptable Risk** – A cancer risk of 1×10^{-6} (i.e., one person out of 1,000,000 will develop cancer) or less is considered safe (i.e., acceptable). Note: The USEPA generally also considers the range between one in 10,000 (1×10^{-4}) and one in 1,000,000 (1×10^{-6}) people as a safe (i.e., acceptable) range, and actions to reduce the risk may or may not be required based on various site-specific factors. The USEPA typically considers additional actions to reduce cancer risks that are close to or greater than one in 10,000 (1×10^{-4}) people.
- **Unacceptable Risk** – USEPA considers an increase of “more than” one additional case of cancer (or greater) in 10,000 (1×10^{-4}) people to be of concern (i.e., unacceptable).

Noncancer health effects are expressed by a number known as the “hazard quotient” or “HQ.” The HQ compares the amount of a chemical that people may have been exposed to over a specified time period with the amount that is considered to have no effect (i.e., safe). If people are exposed to an amount greater than that considered safe for a particular chemical, then the ratio will be greater than one. Because people can be

¹ For the purposes of the Phase I SRE, the Navy has decided to use only two categories to categorize risks (i.e., “Acceptable” or “Unacceptable”). See Appendix B for the definition of *Acceptable* and *Unacceptable* risks).

exposed to more than one chemical at a time, the HQs for different chemicals are added together to give an overall “Hazard Index” or “HI,” unless data is available to indicate that they should not be added together. USEPA policy considers chemical concentrations resulting in an HI above one to be of concern for developing potential noncancer health effects. Professional judgment must be used to evaluate the potential noncancer health effects related to the concentration of these chemicals to determine if actions to reduce the risk are needed.

Comparison of Environmental Sampling Results to Maximum Contaminant Levels (MCLs)

MCLs are maximum permissible levels of a contaminant in public water supplies. For private water supplies, MCLs are useful for determining potability. MCLs are protective of public health during a lifetime (70 years) for an individual who drinks two liters of water per day.

Attachment B

Risk Management Criteria

This Screening Risk Evaluation (SRE) characterizes the potential health risks associated with living at your residence for 30 years. This is generally a conservative assumption because typical tour lengths range from three to six years. The risk evaluation results were placed into one of two categories: 1) Acceptable Risks or 2) Unacceptable Risks. Based on the results of the SRE, the appropriate course of action will be taken to ensure the safety of U.S. Navy military and civilian personnel and their families. The criteria for each of the risk-management categories are defined below.

**United States Navy
Naples, Italy Phase I Screening Risk Evaluation
Risk Management Categories**

Criteria/ Actions	Acceptable Risks	Unacceptable Risks
Risk Criteria – for Residences Using Tap Water for Drinking, Cooking, Brushing Teeth, and Making Ice⁶	<ul style="list-style-type: none"> • Total NCEF less than or equal to 1; and • Total CEF less than or equal to 10; and • Concentration less than or equal to USEPA MCL (tap water). Applies to all chemicals. 	<ul style="list-style-type: none"> • Total NCEF greater than 1; or • Total CEF greater than 10; or • Concentration greater than the USEPA MCL (tap water). Applies to all chemicals.
Risk Criteria – for Residences <u>NOT</u> Using Tap Water for Drinking, Cooking, Brushing Teeth, and Making Ice⁷	<ul style="list-style-type: none"> • Total NCEF less than or equal to 1; and • Total CEF less than or equal to 10; and • Concentration less than or equal to USEPA MCL (tap water). Applies only to Fecal Coliform and Total Coliforms (including Fecal Coliform and E. Coli). 	<ul style="list-style-type: none"> • Total NCEF greater than 1; or • Total CEF greater than 10; or • Concentration greater than the USEPA MCL (tap water). Applies only to Fecal Coliform and Total Coliforms (including Fecal Coliform and E. Coli).

**United States Navy
Naples, Italy Phase I Screening Risk Evaluation
Risk Management Categories**

Criteria/ Actions	Acceptable Risks	Unacceptable Risks
	<p>Notes:</p> <ol style="list-style-type: none"> 1. Noncancer exceedance factors (NCEFs) were calculated by dividing the maximum detected concentrations by noncancer-based U.S. Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs). 2. Cancer exceedance factors (CEFs) were calculated by dividing the maximum detected concentrations by cancer-based USEPA RSLs. 3. The individual NCEFs and CEFs were summed to provide the total NCEF and total CEF. 4. An NCEF of 1 corresponds to a Hazard Index of 1. 5. A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million). A CEF of 10 corresponds to a cancer risk of 1×10^{-5} (one in a one hundred thousand). 6. The tap water RSLs used to evaluate residences that <u>USE</u> tap water for drinking, cooking, brushing teeth, and making ice were based on ingestion and inhalation of household uses (e.g., showering) of tap water. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate. 7. The tap water RSLs used to evaluate residences that <u>DO NOT</u> use tap water for drinking, cooking, brushing teeth, and making ice were based on inhalation of household uses (e.g., showering) of tap water only. This evaluation also included RSLs for evaluating soil and soil gas, as appropriate. 	

Attachment C
Environmental Sampling Results

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Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil - mg/kg				
	Sample Results for: LE01SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.135 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000010257				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	90				
Turbidity	--				
Inorganics					
Aluminum	39600				
Antimony	0.44				
Arsenic	12				
Barium	315 J				
Beryllium	4.9				
Cadmium (Diet)	0.082				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil - mg/kg				
	Sample Results for: LE01SS0010006				
Chromium	6.4				
Cobalt	5.3				
Copper	38				
Iron	19000				
Lead	47				
Manganese (Diet)	598				
Manganese (Water)	--				
Mercury	0.0968 U				
Nickel	6.2				
Selenium	0.17 U				
Silver	0.27				
Thallium	2.2				
Tin	5.8				
Vanadium	38				
Zinc	56				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000479 U				
4,4-DDE	0.00047 U				
4,4-DDT	0.000629 U				
Aldrin	0.000381 U				
alpha-BHC	0.00047 U				
alpha-Chlordane	0.000381 U				
beta-BHC	0.000576 U				
Chlordane	--				
delta-BHC	0.000523 U				
Dieldrin	0.000532 U				
Endosulfan I	0.000479 U				
Endosulfan II	0.000381 U				
Endosulfan Sulfate	0.000541 U				
Endrin	0.000612 U				
Endrin Aldehyde	0.00055 U				

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil - mg/kg			
	Sample Results for: LE01SS0010006			
gamma-BHC (Lindane)	0.000452 U			
gamma-Chlordane	0.000417 U			
Heptachlor	0.000541 U			
Heptachlor Epoxide	0.000417 U			
Methoxychlor	0.000674 U			
Toxaphene	0.00586 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00683 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00683 UJ			
Aroclor 1232	0.00683 UJ			
Aroclor 1242	0.00683 UJ			
Aroclor 1248	0.00683 UJ			
Aroclor 1254	0.00683 UJ			
Aroclor 1260	0.00683 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0167 U			
1,2,4,5-Tetrachlorobenzene	0.0133 U			
2,3,4,6-Tetrachlorophenol	0.0788 U			
2,4,5-Trichlorophenol	0.137 U			
2,4,6-Trichlorophenol	0.0733 U			
2,4-Dichlorophenol	0.0855 U			
2,4-Dimethylphenol	0.164 U			
2,4-Dinitrophenol	0.0611 UJ			
2,4-Dinitrotoluene	0.02 U			
2,6-Dichlorophenol	0.0522 U			
2,6-Dinitrotoluene	0.0167 U			
2-Chloronaphthalene	0.00888 U			
2-Chlorophenol	0.0555 U			
2-Methylnaphthalene	0.0189 U			
2-Methylphenol (o-Cresol)	0.111 U			
2-Nitrophenol	0.0699 U			
3&4-Methylphenol	0.128 U			
3-Methylphenol	--			
3-Nitroaniline	0.02 U			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil - mg/kg			
	Sample Results for: LE01SS0010006			
4,6-Dinitro-2-Methylphenol	0.0744 U			
4-Bromophenylphenylether	0.0133 U			
4-Chloro-3-Methylphenol	0.0977 U			
4-Chloroaniline	0.0255 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0488 U			
4-Nitrophenol	0.131 U			
Acenaphthene	0.0111 U			
Acenaphthylene	0.00999 U			
Aniline	0.0222 U			
Anthracene	0.0133 U			
Atrazine	0.0289 U			
Benzo(g,h,i)perylene	0.0311 U			
Bis(2-ethylhexyl)phthalate	0.117 U			
Butylbenzylphthalate	0.0333 U			
Carbazole	0.02 U			
Di-n-butylphthalate	0.0477 U			
Di-n-octylphthalate	0.0222 U			
Dibenzofuran	0.0111 U			
Diethylphthalate	0.0189 U			
Dimethylphthalate	0.0144 U			
Diphenylamine	0.0577 U			
Fluoranthene	0.0211 U			
Fluorene	0.0133 U			
Hexachlorobenzene	0.0122 U			
Hexachlorobutadiene	0.0111 U			
Hexachlorocyclopentadiene	0.0155 UJ			
Hexachloroethane	0.0122 U			
Naphthalene	0.00666 U			
Nitrobenzene	0.0167 U			
o-Toluidine	0.02 U			
Pentachlorobenzene	0.0311 U			
Pentachloronitrobenzene	0.000443 UJ			
Pentachlorophenol	0.171 U			
Phenanthrene	0.0333 U			
Phenol	0.0377 U			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil - mg/kg			
	Sample Results for: LE01SS0010006			
Pyrene	0.02 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0479944 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000389 U			
1,1,1-Trichloroethane	0.000518 U			
1,1,2,2-Tetrachloroethane	0.000259 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00242 J			
1,1,2-Trichloroethane	0.000389 U			
1,1-Dichloroethane	0.000907 U			
1,1-Dichloroethene	0.000648 U			
1,2,3-Trichlorobenzene	0.000648 U			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	0.000389 U			
1,2,4-Trimethylbenzene	0.00165 J			
1,2-Dibromo-3-Chloropropane	0.000518 U			
1,2-Dibromoethane	0.00013 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000777 U			
1,2-Dichlorobenzene	0.00101 J			
1,2-Dichloroethane	0.00216 J			
1,2-Dichloropropane	0.000389 U			
1,3,5-Trimethylbenzene	0.00122 J			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000941 J			
1,3-Dichloropropane	0.000259 U			
1,4-Dichlorobenzene	0.000993 J			
2,2-Dichloropropane	0.000648 U			
2-Butanone (methyl ethyl ketone)	0.00233 U			
2-Chlorotoluene	0.00169 J			
2-Hexanone	0.0013 U			
4-Chlorotoluene	0.00176 J			
4-Isopropyltoluene	0.00132 J			
4-Methyl-2-Pentanone	0.000389 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil - mg/kg			
	Sample Results for: LE01SS0010006			
Acetone	0.0226			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000546 J			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000518 U			
Bromodichloromethane	0.00154 J			
Bromoform	0.000259 U			
Bromomethane	0.00389 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000518 U			
Chlorobenzene	0.00133 J			
Chloroethane	0.000518 U			
Chloroform	0.000907 J			
Chloromethane	0.00117 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000907 U			
cis-1,3-Dichloropropene	0.00106 J			
Cyclohexane	--			
Dibromochloromethane	0.00013 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000389 U			
Ethylbenzene	0.00248 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00184 J			
m,p-Xylenes	0.0041 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000648 U			
Methylcyclohexane	--			
Methylene Chloride	0.0013 U			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil - mg/kg			
	Sample Results for: LE01SS0010006			
n-Butylbenzene	0.000874 J			
n-Propylbenzene	0.00175 J			
o-Xylene	0.00197 J			
Pentachloroethane	--			
sec-Butylbenzene	0.0015 J			
Styrene	0.00225 J			
tert-Butylbenzene	0.00158 J			
Tetrachloroethene	0.00213 J			
Toluene	0.014			
trans-1,2-Dichloroethene	0.000777 U			
trans-1,3-Dichloropropene	0.000389 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000648 U			
Trichlorofluoromethane	0.00104 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000518 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE01SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.012113517				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE01SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE01SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE01SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE01SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.453732807			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE01SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE01SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.005325415			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Tap Water - mg/L				
	Sample Results for: LE01TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	9.66				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	3.53				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	8.94				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000036				
Disinfectants					
Chlorine (as Cl2)	0.04				
Disinfection Byproducts					
Total Trihalomethanes	0.00271				
Field Parameters					
Dissolved Oxygen	9.01				
Oxidation Reduction Potential	324				
pH	6.97				
Salinity	0.1				
Specific Conductance	1.15				
Temperature	26.18				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0101				
Antimony	0.00014 U				
Arsenic	0.00418				
Barium	0.0154				
Beryllium	0.0000836				
Cadmium (Diet)	--				
Cadmium (Water)	0.0000646				

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Tap Water - mg/L				
	Sample Results for: LE01TW001				
Chromium	0.000969				
Cobalt	0.000112				
Copper	0.138				
Iron	0.0218				
Lead	0.0023				
Manganese (Diet)	--				
Manganese (Water)	0.00205				
Mercury	0.00002				
Nickel	0.0205				
Selenium	0.000318				
Silver	0.00012 U				
Thallium	0.00069 U				
Tin	0.0001 U				
Vanadium	0.0029 U				
Zinc	1.79				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	128				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 U				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Tap Water - mg/L			
	Sample Results for: LE01TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 UJ			
Aroclor 1232	0.00002 UJ			
Aroclor 1242	0.00002 UJ			
Aroclor 1248	0.00002 UJ			
Aroclor 1254	0.00002 UJ			
Aroclor 1260	0.00002 UJ			
Radionuclides				
Uranium	0.000829			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000197 U			
1,2,4,5-Tetrachlorobenzene	0.000197 U			
2,3,4,6-Tetrachlorophenol	0.000295 U			
2,4,5-Trichlorophenol	0.000492 U			
2,4,6-Trichlorophenol	0.000492 U			
2,4-Dichlorophenol	0.000689 U			
2,4-Dimethylphenol	0.000984 U			
2,4-Dinitrophenol	0.000295 UJ			
2,4-Dinitrotoluene	0.000984 U			
2,6-Dichlorophenol	0.000787 U			
2,6-Dinitrotoluene	0.000984 U			
2-Chloronaphthalene	0.000197 U			
2-Chlorophenol	0.000886 U			
2-Methylnaphthalene	0.000197 U			
2-Methylphenol (o-Cresol)	0.000689 U			
2-Nitrophenol	0.000886 U			
3&4-Methylphenol	0.00118 U			
3-Methylphenol	--			
3-Nitroaniline	0.000984 U			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Tap Water - mg/L			
	Sample Results for: LE01TW001			
4,6-Dinitro-2-Methylphenol	0.000197 U			
4-Bromophenylphenylether	0.0000984 U			
4-Chloro-3-Methylphenol	0.00059 U			
4-Chloroaniline	0.000984 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.000984 U			
4-Nitrophenol	0.000295 U			
Acenaphthene	0.0000984 U			
Acenaphthylene	0.0000984 U			
Aniline	0.000984 U			
Anthracene	0.0000984 U			
Atrazine	0.0000984 U			
Benzo(g,h,i)perylene	0.0000984 U			
Bis(2-ethylhexyl)phthalate	0.00138 U			
Butylbenzylphthalate	0.0000984 U			
Carbazole	0.0000984 U			
Di-n-butylphthalate	0.00128 U			
Di-n-octylphthalate	0.000197 U			
Dibenzofuran	0.0000984 U			
Diethylphthalate	0.000197 U			
Dimethylphthalate	0.0000984 U			
Diphenylamine	0.0000984 U			
Fluoranthene	0.0000984 U			
Fluorene	0.0000984 U			
Hexachlorobenzene	0.0000984 U			
Hexachlorobutadiene	0.000197 U			
Hexachlorocyclopentadiene	0.000984 U			
Hexachloroethane	0.0000984 U			
Naphthalene	0.000197 U			
Nitrobenzene	0.000197 U			
o-Toluidine	0.000689 U			
Pentachlorobenzene	0.000197 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.000295 U			
Phenanthrene	0.0000984 U			
Phenol	0.000984 U			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Tap Water - mg/L			
	Sample Results for: LE01TW001			
Pyrene	0.0000984 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00011808 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Tap Water - mg/L			
	Sample Results for: LE01TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000494 J			
Bromoform	0.000906 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.0003			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.00101			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.0000981 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000123 J			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE01

Chemical	Tap Water - mg/L			
	Sample Results for: LE01TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00251			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE03SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001505672				
Tridecane	0.001163452				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE03SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE03SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE03SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE03SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.141740762			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE03SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE03SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.098215192			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Tap Water - mg/L				
	Sample Results for: LE03TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	11.8				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	3.79				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	10.1				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000010193 U				
Disinfectants					
Chlorine (as Cl2)	0.06				
Disinfection Byproducts					
Total Trihalomethanes	0.00214				
Field Parameters					
Dissolved Oxygen	8.57				
Oxidation Reduction Potential	297				
pH	7.35				
Salinity	--				
Specific Conductance	0.87				
Temperature	23.79				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00014 U				
Arsenic	0.00353				
Barium	0.016				
Beryllium	0.0000629				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Tap Water - mg/L				
	Sample Results for: LE03TW001				
Chromium	0.000681				
Cobalt	0.0000832				
Copper	0.046				
Iron	0.123				
Lead	0.00167				
Manganese (Diet)	--				
Manganese (Water)	0.00105				
Mercury	0.000016				
Nickel	0.0458				
Selenium	0.0002 U				
Silver	0.00012 U				
Thallium	0.000259 U				
Tin	0.0001 U				
Vanadium	0.0011				
Zinc	1.45				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	370				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.00000323 U				
4,4-DDE	0.00000215 U				
4,4-DDT	0.00000645 U				
Aldrin	0.00000215 U				
alpha-BHC	0.00000323 U				
alpha-Chlordane	0.00000323 U				
beta-BHC	0.00000215 U				
Chlordane	--				
delta-BHC	0.00000108 U				
Dieldrin	0.00000323 U				
Endosulfan I	0.00000323 U				
Endosulfan II	0.00000215 U				
Endosulfan Sulfate	0.00000753 U				
Endrin	0.00000215 U				
Endrin Aldehyde	0.00000215 U				

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Tap Water - mg/L			
	Sample Results for: LE03TW001			
gamma-BHC (Lindane)	0.00000108 U			
gamma-Chlordane	0.00000215 U			
Heptachlor	0.0000043 U			
Heptachlor Epoxide	0.0000043 U			
Methoxychlor	0.00000323 U			
Toxaphene	0.0000108 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.0000215 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.0000215 U			
Aroclor 1232	0.0000215 U			
Aroclor 1242	0.0000215 U			
Aroclor 1248	0.0000215 U			
Aroclor 1254	0.0000215 U			
Aroclor 1260	0.0000215 U			
Radionuclides				
Uranium	0.00101			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000197 U			
1,2,4,5-Tetrachlorobenzene	0.000197 U			
2,3,4,6-Tetrachlorophenol	0.000296 U			
2,4,5-Trichlorophenol	0.000494 U			
2,4,6-Trichlorophenol	0.000494 U			
2,4-Dichlorophenol	0.000691 U			
2,4-Dimethylphenol	0.000987 U			
2,4-Dinitrophenol	0.000296 U			
2,4-Dinitrotoluene	0.000987 U			
2,6-Dichlorophenol	0.00079 U			
2,6-Dinitrotoluene	0.000987 U			
2-Chloronaphthalene	0.000197 U			
2-Chlorophenol	0.000888 U			
2-Methylnaphthalene	0.000197 U			
2-Methylphenol (o-Cresol)	0.000691 U			
2-Nitrophenol	0.000888 U			
3&4-Methylphenol	0.00118 U			
3-Methylphenol	--			
3-Nitroaniline	0.000987 U			

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Tap Water - mg/L			
	Sample Results for: LE03TW001			
4,6-Dinitro-2-Methylphenol	0.000197 U			
4-Bromophenylphenylether	0.0000987 U			
4-Chloro-3-Methylphenol	0.000592 U			
4-Chloroaniline	0.000987 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.000987 U			
4-Nitrophenol	0.000296 U			
Acenaphthene	0.0000987 U			
Acenaphthylene	0.0000987 U			
Aniline	0.000987 U			
Anthracene	0.0000987 U			
Atrazine	0.0000987 U			
Benzo(g,h,i)perylene	0.0000987 U			
Bis(2-ethylhexyl)phthalate	0.00138 U			
Butylbenzylphthalate	0.0000987 U			
Carbazole	0.0000987 U			
Di-n-butylphthalate	0.00128 U			
Di-n-octylphthalate	0.000197 U			
Dibenzofuran	0.0000987 U			
Diethylphthalate	0.000197 U			
Dimethylphthalate	0.0000987 U			
Diphenylamine	0.0000987 U			
Fluoranthene	0.0000987 U			
Fluorene	0.0000987 U			
Hexachlorobenzene	0.0000987 U			
Hexachlorobutadiene	0.000197 U			
Hexachlorocyclopentadiene	0.000987 U			
Hexachloroethane	0.0000987 U			
Naphthalene	0.000197 U			
Nitrobenzene	0.000197 U			
o-Toluidine	0.000691 U			
Pentachlorobenzene	0.000197 U			
Pentachloronitrobenzene	0.00000323 U			
Pentachlorophenol	0.000296 U			
Phenanthrene	0.0000987 U			
Phenol	0.000987 U			

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Tap Water - mg/L			
	Sample Results for: LE03TW001			
Pyrene	0.0000987 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00011844 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Tap Water - mg/L			
	Sample Results for: LE03TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.00038 J			
Bromoform	0.000895 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000275 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.00059			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE03

Chemical	Tap Water - mg/L			
	Sample Results for: LE03TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil - mg/kg				
	Sample Results for: LE07SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.148 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000666				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	83				
Turbidity	--				
Inorganics					
Aluminum	30600				
Antimony	0.387				
Arsenic	8.57				
Barium	224				
Beryllium	3.61				
Cadmium (Diet)	0.219				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil - mg/kg				
	Sample Results for: LE07SS0010006				
Chromium	3.91				
Cobalt	4.29				
Copper	11.9				
Iron	14900				
Lead	26.9				
Manganese (Diet)	472				
Manganese (Water)	--				
Mercury	0.101 U				
Nickel	4.37				
Selenium	0.0814				
Silver	0.11				
Thallium	1.19 U				
Tin	2.36				
Vanadium	32.1				
Zinc	43.6				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.00045 U				
4,4-DDE	0.000442 U				
4,4-DDT	0.000592 U				
Aldrin	0.000358 U				
alpha-BHC	0.000442 U				
alpha-Chlordane	0.000358 U				
beta-BHC	0.000542 U				
Chlordane	--				
delta-BHC	0.000492 U				
Dieldrin	0.0005 U				
Endosulfan I	0.00045 U				
Endosulfan II	0.000358 U				
Endosulfan Sulfate	0.000508 U				
Endrin	0.000575 U				
Endrin Aldehyde	0.000517 U				

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil - mg/kg			
	Sample Results for: LE07SS0010006			
gamma-BHC (Lindane)	0.000425 U			
gamma-Chlordane	0.000392 U			
Heptachlor	0.000508 U			
Heptachlor Epoxide	0.000392 U			
Methoxychlor	0.000633 U			
Toxaphene	0.00602 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00702 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00702 UJ			
Aroclor 1232	0.00702 UJ			
Aroclor 1242	0.00702 UJ			
Aroclor 1248	0.00702 UJ			
Aroclor 1254	0.00702 UJ			
Aroclor 1260	0.00702 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0176 U			
1,2,4,5-Tetrachlorobenzene	0.0141 U			
2,3,4,6-Tetrachlorophenol	0.0835 U			
2,4,5-Trichlorophenol	0.145 U			
2,4,6-Trichlorophenol	0.0776 U			
2,4-Dichlorophenol	0.0906 U			
2,4-Dimethylphenol	0.174 U			
2,4-Dinitrophenol	0.0647 UJ			
2,4-Dinitrotoluene	0.0212 U			
2,6-Dichlorophenol	0.0553 U			
2,6-Dinitrotoluene	0.0176 U			
2-Chloronaphthalene	0.00941 U			
2-Chlorophenol	0.0588 U			
2-Methylnaphthalene	0.02 U			
2-Methylphenol (o-Cresol)	0.118 U			
2-Nitrophenol	0.0741 U			
3&4-Methylphenol	0.135 U			
3-Methylphenol	--			
3-Nitroaniline	0.0212 U			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil - mg/kg			
	Sample Results for: LE07SS0010006			
4,6-Dinitro-2-Methylphenol	0.0788 U			
4-Bromophenylphenylether	0.0141 U			
4-Chloro-3-Methylphenol	0.103 U			
4-Chloroaniline	0.027 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0517 U			
4-Nitrophenol	0.139 U			
Acenaphthene	0.0118 U			
Acenaphthylene	0.0106 U			
Aniline	0.0235 U			
Anthracene	0.0141 U			
Atrazine	0.0306 U			
Benzo(g,h,i)perylene	0.0329 U			
Bis(2-ethylhexyl)phthalate	0.123 U			
Butylbenzylphthalate	0.0353 U			
Carbazole	0.0212 U			
Di-n-butylphthalate	0.0506 U			
Di-n-octylphthalate	0.0235 U			
Dibenzofuran	0.0118 U			
Diethylphthalate	0.02 U			
Dimethylphthalate	0.0153 U			
Diphenylamine	0.0612 U			
Fluoranthene	0.0223 U			
Fluorene	0.0141 U			
Hexachlorobenzene	0.0129 U			
Hexachlorobutadiene	0.0118 U			
Hexachlorocyclopentadiene	0.0165 U			
Hexachloroethane	0.0129 U			
Naphthalene	0.00706 U			
Nitrobenzene	0.0176 U			
o-Toluidine	0.0212 U			
Pentachlorobenzene	0.0329 U			
Pentachloronitrobenzene	0.000417 UJ			
Pentachlorophenol	0.181 U			
Phenanthrene	0.0353 U			
Phenol	0.04 U			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil - mg/kg			
	Sample Results for: LE07SS0010006			
Pyrene	0.0212 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0508273 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00074 UJ			
1,1,1-Trichloroethane	0.000987 UJ			
1,1,2,2-Tetrachloroethane	0.000493 UJ			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00173 UJ			
1,1,2-Trichloroethane	0.00074 UJ			
1,1-Dichloroethane	0.00173 UJ			
1,1-Dichloroethene	0.00123 UJ			
1,2,3-Trichlorobenzene	0.00123 UJ			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	0.00074 UJ			
1,2,4-Trimethylbenzene	0.00622 J			
1,2-Dibromo-3-Chloropropane	0.000987 UJ			
1,2-Dibromoethane	0.000247 UJ			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.00148 UJ			
1,2-Dichlorobenzene	0.000247 UJ			
1,2-Dichloroethane	0.000493 UJ			
1,2-Dichloropropane	0.00074 UJ			
1,3,5-Trimethylbenzene	0.0058 J			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00434 J			
1,3-Dichloropropane	0.000493 UJ			
1,4-Dichlorobenzene	0.00373 J			
2,2-Dichloropropane	0.00123 UJ			
2-Butanone (methyl ethyl ketone)	0.00444 UJ			
2-Chlorotoluene	0.0113 J			
2-Hexanone	0.00247 UJ			
4-Chlorotoluene	0.00623 J			
4-Isopropyltoluene	0.00514 J			
4-Methyl-2-Pentanone	0.00074 UJ			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil - mg/kg			
	Sample Results for: LE07SS0010006			
Acetone	0.0193 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.00074 UJ			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000987 UJ			
Bromodichloromethane	0.000987 UJ			
Bromoform	0.000493 UJ			
Bromomethane	0.0074 UJ			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000987 UJ			
Chlorobenzene	0.0025 J			
Chloroethane	0.000987 UJ			
Chloroform	0.00173 UJ			
Chloromethane	0.00222 UJ			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00173 UJ			
cis-1,3-Dichloropropene	0.000247 UJ			
Cyclohexane	--			
Dibromochloromethane	0.000247 UJ			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00074 UJ			
Ethylbenzene	0.00597 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00732 J			
m,p-Xylenes	0.0105 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00123 UJ			
Methylcyclohexane	--			
Methylene Chloride	0.00247 UJ			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil - mg/kg				
	Sample Results for: LE07SS0010006				
n-Butylbenzene	0.00313 J				
n-Propylbenzene	0.00622 J				
o-Xylene	0.00403 J				
Pentachloroethane	--				
sec-Butylbenzene	0.00472 J				
Styrene	0.00586 J				
tert-Butylbenzene	0.00446 J				
Tetrachloroethene	0.00148 UJ				
Toluene	0.00976 J				
trans-1,2-Dichloroethene	0.00148 UJ				
trans-1,3-Dichloropropene	0.00074 UJ				
Trans-1,4-Dichloro-2-Butene	--				
Trichloroethene	0.00123 UJ				
Trichlorofluoromethane	0.00197 UJ				
Vinyl Acetate	--				
Vinyl Chloride	0.000987 UJ				
Xylenes, Total	--				

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

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Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE07SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.008011979				
Tridecane	0.002147883				
Undecane	0.001075894				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE07SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE07SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE07SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE07SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.717626123			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE07SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE07SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.704052092			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Tap Water - mg/L				
	Sample Results for: LE07TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	11.6				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	3.33				
Nitrite (measured as NO2-)	0.2 UJ				
Phosphate	0.4 UJ				
Sulfate	9.42				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000034				
Disinfectants					
Chlorine (as Cl2)	0.04				
Disinfection Byproducts					
Total Trihalomethanes	0.00221				
Field Parameters					
Dissolved Oxygen	8.609999999999999				
Oxidation Reduction Potential	294				
pH	7.25				
Salinity	--				
Specific Conductance	0.97				
Temperature	24.54				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00014 U				
Arsenic	0.00406				
Barium	0.015				
Beryllium	0.000057 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.0000631				

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Tap Water - mg/L				
	Sample Results for: LE07TW001				
Chromium	0.000761				
Cobalt	0.000155				
Copper	0.0879				
Iron	0.0919				
Lead	0.0027				
Manganese (Diet)	--				
Manganese (Water)	0.00231				
Mercury	0.000015 U				
Nickel	0.141				
Selenium	0.000259				
Silver	0.00012 U				
Thallium	0.000087 U				
Tin	0.000108				
Vanadium	0.001 U				
Zinc	1.94				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	81				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 UJ				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Tap Water - mg/L			
	Sample Results for: LE07TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 UJ			
Aroclor 1232	0.00002 UJ			
Aroclor 1242	0.00002 UJ			
Aroclor 1248	0.00002 UJ			
Aroclor 1254	0.00002 UJ			
Aroclor 1260	0.00002 UJ			
Radionuclides				
Uranium	0.00098			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000196 U			
1,2,4,5-Tetrachlorobenzene	0.000196 U			
2,3,4,6-Tetrachlorophenol	0.000294 U			
2,4,5-Trichlorophenol	0.000491 U			
2,4,6-Trichlorophenol	0.000491 U			
2,4-Dichlorophenol	0.000687 U			
2,4-Dimethylphenol	0.000981 U			
2,4-Dinitrophenol	0.000294 U			
2,4-Dinitrotoluene	0.000981 U			
2,6-Dichlorophenol	0.000785 U			
2,6-Dinitrotoluene	0.000981 U			
2-Chloronaphthalene	0.000196 U			
2-Chlorophenol	0.000883 U			
2-Methylnaphthalene	0.000196 U			
2-Methylphenol (o-Cresol)	0.000687 U			
2-Nitrophenol	0.000883 U			
3&4-Methylphenol	0.00118 U			
3-Methylphenol	--			
3-Nitroaniline	0.000981 U			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Tap Water - mg/L			
	Sample Results for: LE07TW001			
4,6-Dinitro-2-Methylphenol	0.000196 U			
4-Bromophenylphenylether	0.0000981 U			
4-Chloro-3-Methylphenol	0.000589 U			
4-Chloroaniline	0.000981 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.000981 U			
4-Nitrophenol	0.000294 U			
Acenaphthene	0.0000981 U			
Acenaphthylene	0.0000981 U			
Aniline	0.000981 U			
Anthracene	0.0000981 U			
Atrazine	0.0000981 U			
Benzo(g,h,i)perylene	0.0000981 U			
Bis(2-ethylhexyl)phthalate	0.00137 U			
Butylbenzylphthalate	0.000143			
Carbazole	0.0000981 U			
Di-n-butylphthalate	0.00128 U			
Di-n-octylphthalate	0.000196 UJ			
Dibenzofuran	0.0000981 U			
Diethylphthalate	0.000196 U			
Dimethylphthalate	0.0000981 U			
Diphenylamine	0.0000981 U			
Fluoranthene	0.0000981 U			
Fluorene	0.0000981 U			
Hexachlorobenzene	0.0000981 U			
Hexachlorobutadiene	0.000196 U			
Hexachlorocyclopentadiene	0.000981 U			
Hexachloroethane	0.0000981 U			
Naphthalene	0.000196 U			
Nitrobenzene	0.000196 U			
o-Toluidine	0.000687 U			
Pentachlorobenzene	0.000196 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.000294 U			
Phenanthrene	0.0000981 U			
Phenol	0.000981 U			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Tap Water - mg/L			
	Sample Results for: LE07TW001			
Pyrene	0.0000981 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00011772 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Tap Water - mg/L			
	Sample Results for: LE07TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000538			
Bromoform	0.000608 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000277 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000787			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE07

Chemical	Tap Water - mg/L			
	Sample Results for: LE07TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil - mg/kg				
	Sample Results for: LE08SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.172				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000294				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	22800				
Antimony	0.293				
Arsenic	5.64				
Barium	134				
Beryllium	2.7				
Cadmium (Diet)	0.115				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil - mg/kg				
	Sample Results for: LE08SS0010006				
Chromium	3.8				
Cobalt	3.24				
Copper	8.91				
Iron	12800				
Lead	19.2				
Manganese (Diet)	422				
Manganese (Water)	--				
Mercury	0.105 U				
Nickel	7.45				
Selenium	0.0888				
Silver	0.0996 U				
Thallium	1.29 U				
Tin	2.02				
Vanadium	30.4				
Zinc	35.2				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000665 U				
4,4-DDE	0.000652 U				
4,4-DDT	0.000874 U				
Aldrin	0.000529 U				
alpha-BHC	0.000652 U				
alpha-Chlordane	0.000529 U				
beta-BHC	0.0008 U				
Chlordane	--				
delta-BHC	0.000726 U				
Dieldrin	0.000738 U				
Endosulfan I	0.000665 U				
Endosulfan II	0.000529 U				
Endosulfan Sulfate	0.000751 U				
Endrin	0.000849 U				
Endrin Aldehyde	0.000763 U				

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil - mg/kg			
	Sample Results for: LE08SS0010006			
gamma-BHC (Lindane)	0.000628 U			
gamma-Chlordane	0.000578 U			
Heptachlor	0.000751 U			
Heptachlor Epoxide	0.000578 U			
Methoxychlor	0.000935 U			
Toxaphene	0.00738 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00862 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00862 U			
Aroclor 1232	0.00862 U			
Aroclor 1242	0.00862 U			
Aroclor 1248	0.00862 U			
Aroclor 1254	0.00862 U			
Aroclor 1260	0.00862 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0213 U			
1,2,4,5-Tetrachlorobenzene	0.0171 U			
2,3,4,6-Tetrachlorophenol	0.101 U			
2,4,5-Trichlorophenol	0.175 U			
2,4,6-Trichlorophenol	0.0939 U			
2,4-Dichlorophenol	0.11 U			
2,4-Dimethylphenol	0.211 U			
2,4-Dinitrophenol	0.0783 U			
2,4-Dinitrotoluene	0.0256 U			
2,6-Dichlorophenol	0.0669 U			
2,6-Dinitrotoluene	0.0213 U			
2-Chloronaphthalene	0.0114 U			
2-Chlorophenol	0.0712 U			
2-Methylnaphthalene	0.0242 U			
2-Methylphenol (o-Cresol)	0.142 U			
2-Nitrophenol	0.0896 U			
3&4-Methylphenol	0.164 U			
3-Methylphenol	--			
3-Nitroaniline	0.0256 U			

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil - mg/kg			
	Sample Results for: LE08SS0010006			
4,6-Dinitro-2-Methylphenol	0.0953 U			
4-Bromophenylphenylether	0.0171 U			
4-Chloro-3-Methylphenol	0.125 U			
4-Chloroaniline	0.0327 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0626 U			
4-Nitrophenol	0.168 U			
Acenaphthene	0.0142 U			
Acenaphthylene	0.0128 U			
Aniline	0.0285 U			
Anthracene	0.0171 U			
Atrazine	0.037 U			
Benzo(g,h,i)perylene	0.0398 U			
Bis(2-ethylhexyl)phthalate	0.149 U			
Butylbenzylphthalate	0.0427 U			
Carbazole	0.0256 U			
Di-n-butylphthalate	0.0612 U			
Di-n-octylphthalate	0.0285 U			
Dibenzofuran	0.0142 U			
Diethylphthalate	0.0242 U			
Dimethylphthalate	0.0185 U			
Diphenylamine	0.074 U			
Fluoranthene	0.027 U			
Fluorene	0.0171 U			
Hexachlorobenzene	0.0157 U			
Hexachlorobutadiene	0.0142 U			
Hexachlorocyclopentadiene	0.0199 U			
Hexachloroethane	0.0157 U			
Naphthalene	0.00854 U			
Nitrobenzene	0.0213 U			
o-Toluidine	0.0256 U			
Pentachlorobenzene	0.0398 U			
Pentachloronitrobenzene	0.000615 U			
Pentachlorophenol	0.219 U			
Phenanthrene	0.0427 U			
Phenol	0.0484 U			

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil - mg/kg			
	Sample Results for: LE08SS0010006			
Pyrene	0.0256 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0614645 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000494 U			
1,1,1-Trichloroethane	0.000659 U			
1,1,2,2-Tetrachloroethane	0.000329 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00115 U			
1,1,2-Trichloroethane	0.000494 U			
1,1-Dichloroethane	0.00115 U			
1,1-Dichloroethene	0.000823 U			
1,2,3-Trichlorobenzene	0.000823 U			
1,2,3-Trichloropropane	0.000494 U			
1,2,4-Trichlorobenzene	0.000494 U			
1,2,4-Trimethylbenzene	0.000659 U			
1,2-Dibromo-3-Chloropropane	0.000659 U			
1,2-Dibromoethane	0.000165 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000988 U			
1,2-Dichlorobenzene	0.000165 U			
1,2-Dichloroethane	0.000329 U			
1,2-Dichloropropane	0.000494 U			
1,3,5-Trimethylbenzene	0.000329 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000329 U			
1,3-Dichloropropane	0.000329 U			
1,4-Dichlorobenzene	0.000165 U			
2,2-Dichloropropane	0.000823 U			
2-Butanone (methyl ethyl ketone)	0.00296 U			
2-Chlorotoluene	0.000494 U			
2-Hexanone	0.00165 U			
4-Chlorotoluene	0.000329 U			
4-Isopropyltoluene	0.000646 J			
4-Methyl-2-Pentanone	0.000494 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil - mg/kg			
	Sample Results for: LE08SS0010006			
Acetone	0.0255			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0084 U			
Acrylonitrile	--			
Benzene	0.000494 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000659 U			
Bromodichloromethane	0.000659 U			
Bromoform	0.000329 U			
Bromomethane	0.00494 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000659 U			
Chlorobenzene	0.000329 U			
Chloroethane	0.000659 U			
Chloroform	0.00115 U			
Chloromethane	0.00148 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00115 U			
cis-1,3-Dichloropropene	0.000165 U			
Cyclohexane	--			
Dibromochloromethane	0.000165 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000494 U			
Ethylbenzene	0.000494 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000329 U			
m,p-Xylenes	0.000988 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000823 U			
Methylcyclohexane	--			
Methylene Chloride	0.00165 U			

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil - mg/kg			
	Sample Results for: LE08SS0010006			
n-Butylbenzene	0.000329 U			
n-Propylbenzene	0.000494 U			
o-Xylene	0.000329 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000329 J			
Styrene	0.00111 J			
tert-Butylbenzene	0.000659 J			
Tetrachloroethene	0.000988 U			
Toluene	0.00233 J			
trans-1,2-Dichloroethene	0.000988 U			
trans-1,3-Dichloropropene	0.000494 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000823 U			
Trichlorofluoromethane	0.00132 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000659 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE08SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001276534				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE08SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE08SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE08SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE08SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.287835583			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE08SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.009935611			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE08SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.003546405			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Tap Water - mg/L			
	Sample Results for: LE08TW001	Sample Results for: LE08TW002		
Alkane Hydrocarbon				
Octane	--	--		
Pentadecane	--	--		
Tridecane	--	--		
Undecane	--	--		
Anion				
Chloride	12.7	--		
Cyanide	0.004 U	--		
Fluoride	0.2 U	--		
Nitrate (measured as NO3-)	3.9	--		
Nitrite (measured as NO2-)	0.2 U	--		
Phosphate	0.4 U	--		
Sulfate	9.949999999999999	--		
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000229438 U	--		
Disinfectants				
Chlorine (as Cl2)	0.06	0.4		
Disinfection Byproducts				
Total Trihalomethanes	0.001981	--		
Field Parameters				
Dissolved Oxygen	8.27	8.84		
Oxidation Reduction Potential	318	321		
pH	7.39	7.03		
Salinity	--	--		
Specific Conductance	0.84	0.9		
Temperature	24.4	25.74		
Total Dissolved Solids	--	--		
Total Solids	--	--		
Turbidity	4	--		
Inorganics				
Aluminum	0.0022 U	--		
Antimony	0.00014 U	--		
Arsenic	0.00379	--		
Barium	0.0175	--		
Beryllium	0.00003 U	--		
Cadmium (Diet)	--	--		
Cadmium (Water)	0.000048	--		

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Tap Water - mg/L			
	Sample Results for: LE08TW001	Sample Results for: LE08TW002		
Chromium	0.000818	--		
Cobalt	0.000162	--		
Copper	0.128	--		
Iron	0.109	--		
Lead	0.00403	--		
Manganese (Diet)	--	--		
Manganese (Water)	0.00403	--		
Mercury	0.000023	--		
Nickel	0.0494	--		
Selenium	0.000238	--		
Silver	0.00012 U	--		
Thallium	0.000196 U	--		
Tin	0.0001 U	--		
Vanadium	0.00215	--		
Zinc	1.96	--		
Microorganisms				
Fecal Coliform	1 <	1 <		
Fecal Streptococcus	0	0		
Heterotrophic Plate Count	550	1230		
Total Coliforms (including Fecal Coliform and E. Coli)	1 <	1 <		
Pesticides				
4,4-DDD	0.0000033 U	--		
4,4-DDE	0.0000022 U	--		
4,4-DDT	0.0000066 U	--		
Aldrin	0.0000022 U	--		
alpha-BHC	0.0000033 U	--		
alpha-Chlordane	0.0000033 U	--		
beta-BHC	0.0000022 U	--		
Chlordane	--	--		
delta-BHC	0.0000011 U	--		
Dieldrin	0.0000033 U	--		
Endosulfan I	0.0000033 U	--		
Endosulfan II	0.0000022 U	--		
Endosulfan Sulfate	0.0000077 U	--		
Endrin	0.0000022 U	--		
Endrin Aldehyde	0.0000022 U	--		

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Tap Water - mg/L			
	Sample Results for: LE08TW001	Sample Results for: LE08TW002		
gamma-BHC (Lindane)	0.000011 U	--		
gamma-Chlordane	0.000022 U	--		
Heptachlor	0.000044 U	--		
Heptachlor Epoxide	0.000044 U	--		
Methoxychlor	0.000033 U	--		
Toxaphene	0.000011 U	--		
Polychlorinated bi-phenyls				
Aroclor 1016	0.000022 U	--		
Aroclor 1016/1260	--	--		
Aroclor 1221	0.000022 U	--		
Aroclor 1232	0.000022 U	--		
Aroclor 1242	0.000022 U	--		
Aroclor 1248	0.000022 U	--		
Aroclor 1254	0.000022 U	--		
Aroclor 1260	0.000022 U	--		
Radionuclides				
Uranium	0.000972	--		
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000226 U	--		
1,2,4,5-Tetrachlorobenzene	0.000226 U	--		
2,3,4,6-Tetrachlorophenol	0.00034 U	--		
2,4,5-Trichlorophenol	0.000566 U	--		
2,4,6-Trichlorophenol	0.000566 U	--		
2,4-Dichlorophenol	0.000792 U	--		
2,4-Dimethylphenol	0.00113 U	--		
2,4-Dinitrophenol	0.00034 U	--		
2,4-Dinitrotoluene	0.00113 U	--		
2,6-Dichlorophenol	0.000905 U	--		
2,6-Dinitrotoluene	0.000113 U	--		
2-Chloronaphthalene	0.000226 U	--		
2-Chlorophenol	0.00102 U	--		
2-Methylnaphthalene	0.000226 U	--		
2-Methylphenol (o-Cresol)	0.000792 U	--		
2-Nitrophenol	0.00102 U	--		
3&4-Methylphenol	0.00136 U	--		
3-Methylphenol	--	--		
3-Nitroaniline	0.00113 U	--		

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Tap Water - mg/L			
	Sample Results for: LE08TW001	Sample Results for: LE08TW002		
4,6-Dinitro-2-Methylphenol	0.000226 U	--		
4-Bromophenylphenylether	0.000113 U	--		
4-Chloro-3-Methylphenol	0.000679 U	--		
4-Chloroaniline	0.00113 U	--		
4-Methylphenol (p-Cresol)	--	--		
4-Nitroaniline	0.00113 U	--		
4-Nitrophenol	0.00034 U	--		
Acenaphthene	0.000113 U	--		
Acenaphthylene	0.000113 U	--		
Aniline	0.00113 U	--		
Anthracene	0.000113 U	--		
Atrazine	0.000113 U	--		
Benzo(g,h,i)perylene	0.000113 U	--		
Bis(2-ethylhexyl)phthalate	0.00158 U	--		
Butylbenzylphthalate	0.000113 U	--		
Carbazole	0.000113 U	--		
Di-n-butylphthalate	0.00147 U	--		
Di-n-octylphthalate	0.000226 U	--		
Dibenzofuran	0.000113 U	--		
Diethylphthalate	0.000226 U	--		
Dimethylphthalate	0.000113 U	--		
Diphenylamine	0.000113 U	--		
Fluoranthene	0.000113 U	--		
Fluorene	0.000113 U	--		
Hexachlorobenzene	0.000113 U	--		
Hexachlorobutadiene	0.000226 U	--		
Hexachlorocyclopentadiene	0.00113 U	--		
Hexachloroethane	0.000113 U	--		
Naphthalene	0.000226 U	--		
Nitrobenzene	0.000226 U	--		
o-Toluidine	0.000792 U	--		
Pentachlorobenzene	0.000226 U	--		
Pentachloronitrobenzene	0.0000033 U	--		
Pentachlorophenol	0.00034 U	--		
Phenanthrene	0.000113 U	--		
Phenol	0.00113 U	--		

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Tap Water - mg/L				
	Sample Results for: LE08TW001	Sample Results for: LE08TW002			
Pyrene	0.000113 U	--			
Total Carcinogenic PAHS (BaP TEQs)	0.0001356 U	--			
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--	--			
Tph (c08-c40)	--	--			
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0.00011 U	--			
1,1,1-Trichloroethane	0.00017 U	--			
1,1,2,2-Tetrachloroethane	0.00005 U	--			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U	--			
1,1,2-Trichloroethane	0.00011 U	--			
1,1-Dichloroethane	0.0001 U	--			
1,1-Dichloroethene	0.00013 U	--			
1,2,3-Trichlorobenzene	0.00012 U	--			
1,2,3-Trichloropropane	0.00013 U	--			
1,2,4-Trichlorobenzene	0.00013 U	--			
1,2,4-Trimethylbenzene	0.00006 U	--			
1,2-Dibromo-3-Chloropropane	0.00025 U	--			
1,2-Dibromoethane	0.00009 U	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U	--			
1,2-Dichlorobenzene	0.00007 U	--			
1,2-Dichloroethane	0.00008 U	--			
1,2-Dichloropropane	0.00015 U	--			
1,3,5-Trimethylbenzene	0.00008 U	--			
1,3-Butadiene	--	--			
1,3-Dichlorobenzene	0.00013 U	--			
1,3-Dichloropropane	0.00011 U	--			
1,4-Dichlorobenzene	0.00007 U	--			
2,2-Dichloropropane	0.0001 U	--			
2-Butanone (methyl ethyl ketone)	0.0016 U	--			
2-Chlorotoluene	0.00012 U	--			
2-Hexanone	0.0002 U	--			
4-Chlorotoluene	0.00013 U	--			
4-Isopropyltoluene	0.0001 U	--			
4-Methyl-2-Pentanone	0.0001 U	--			

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Tap Water - mg/L			
	Sample Results for: LE08TW001	Sample Results for: LE08TW002		
Acetaldehyde	--	--		
Acetone	0.001 U	--		
Acetonitrile	--	--		
Acetophenone	--	--		
Acrolein	0.0004 U	--		
Acrylonitrile	--	--		
Benzene	0.00005 U	--		
Bis(2-Chloroethyl)ether	--	--		
Bis(chloromethyl)ether	--	--		
Bromochloromethane	0.0001 U	--		
Bromodichloromethane	0.000307 J	--		
Bromoform	0.000982 J	--		
Bromomethane	0.00037 U	--		
Carbon Disulfide	--	--		
Carbon Tetrachloride	0.00008 U	--		
Chlorobenzene	0.00012 U	--		
Chloroethane	0.00018 U	--		
Chloroform	0.000157 J	--		
Chloromethane	0.00021 U	--		
Chloroprene	--	--		
cis-1,2-Dichloroethene	0.00013 U	--		
cis-1,3-Dichloropropene	0.00015 U	--		
Cyclohexane	--	--		
Dibromochloromethane	0.000535	--		
Dibromomethane	--	--		
Dichlorodifluoromethane (Freon 12)	0.00012 U	--		
Ethylbenzene	0.00005 U	--		
Formaldehyde	--	--		
Hexane	--	--		
Isobutyl Alcohol	--	--		
Isophorone	--	--		
Isopropylbenzene	0.00006 U	--		
m,p-Xylenes	0.00009 U	--		
Methyl Acetate	--	--		
Methyl tert-Butyl Ether	0.00011 U	--		
Methylcyclohexane	--	--		

Attachment C - Environmental Sampling Results For Location LE08

Chemical	Tap Water - mg/L			
	Sample Results for: LE08TW001	Sample Results for: LE08TW002		
Methylene Chloride	0.00069 U	--		
n-Butylbenzene	0.00005 U	--		
n-Propylbenzene	0.00007 U	--		
o-Xylene	0.00007 U	--		
Pentachloroethane	--	--		
sec-Butylbenzene	0.00004 U	--		
Styrene	0.00008 U	--		
tert-Butylbenzene	0.00019 U	--		
Tetrachloroethene	0.00007 U	--		
Toluene	0.00017 U	--		
trans-1,2-Dichloroethene	0.00015 U	--		
trans-1,3-Dichloropropene	0.00007 U	--		
Trans-1,4-Dichloro-2-Butene	--	--		
Trichloroethene	0.00013 U	--		
Trichlorofluoromethane	0.00019 U	--		
Vinyl Acetate	--	--		
Vinyl Chloride	0.00015 U	--		
Xylenes, Total	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Streptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE10SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001071361 U				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE10SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE10SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE10SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE10SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.002261455 U			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE10SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE10SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.00226079 U			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Tap Water - mg/L				
	Sample Results for: LE10TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	11.9				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	3.62				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	9.949999999999999				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000011801 U				
Disinfectants					
Chlorine (as Cl2)	0.06				
Disinfection Byproducts					
Total Trihalomethanes	0.002447				
Field Parameters					
Dissolved Oxygen	8.539999999999999				
Oxidation Reduction Potential	297				
pH	7.25				
Salinity	--				
Specific Conductance	0.85				
Temperature	23.95				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.00252				
Antimony	0.000362				
Arsenic	0.00328				
Barium	0.0153				
Beryllium	0.0000675				
Cadmium (Diet)	--				
Cadmium (Water)	0.000142				

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Tap Water - mg/L				
	Sample Results for: LE10TW001				
Chromium	0.000691				
Cobalt	0.0001				
Copper	0.433				
Iron	0.0185				
Lead	0.00619				
Manganese (Diet)	--				
Manganese (Water)	0.00353				
Mercury	0.000015				
Nickel	0.068				
Selenium	0.000218				
Silver	0.00012 U				
Thallium	0.000417 U				
Tin	0.0001 U				
Vanadium	0.001 U				
Zinc	2.13				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	132				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.00000327 U				
4,4-DDE	0.00000218 U				
4,4-DDT	0.00000654 U				
Aldrin	0.00000218 U				
alpha-BHC	0.00000327 U				
alpha-Chlordane	0.00000327 U				
beta-BHC	0.00000218 U				
Chlordane	--				
delta-BHC	0.00000109 U				
Dieldrin	0.00000327 U				
Endosulfan I	0.00000327 U				
Endosulfan II	0.00000218 U				
Endosulfan Sulfate	0.00000763 U				
Endrin	0.00000218 U				
Endrin Aldehyde	0.00000218 U				

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Tap Water - mg/L			
	Sample Results for: LE10TW001			
gamma-BHC (Lindane)	0.00000109 U			
gamma-Chlordane	0.00000218 U			
Heptachlor	0.00000436 U			
Heptachlor Epoxide	0.00000436 U			
Methoxychlor	0.00000327 U			
Toxaphene	0.0000109 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.0000218 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.0000218 U			
Aroclor 1232	0.0000218 U			
Aroclor 1242	0.0000218 U			
Aroclor 1248	0.0000218 U			
Aroclor 1254	0.0000218 U			
Aroclor 1260	0.0000218 U			
Radionuclides				
Uranium	0.000978			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000196 U			
1,2,4,5-Tetrachlorobenzene	0.000196 U			
2,3,4,6-Tetrachlorophenol	0.000295 U			
2,4,5-Trichlorophenol	0.000491 U			
2,4,6-Trichlorophenol	0.000491 U			
2,4-Dichlorophenol	0.000687 U			
2,4-Dimethylphenol	0.000982 U			
2,4-Dinitrophenol	0.000295 U			
2,4-Dinitrotoluene	0.000982 U			
2,6-Dichlorophenol	0.000785 U			
2,6-Dinitrotoluene	0.000982 U			
2-Chloronaphthalene	0.000196 U			
2-Chlorophenol	0.000884 U			
2-Methylnaphthalene	0.000196 U			
2-Methylphenol (o-Cresol)	0.000687 U			
2-Nitrophenol	0.000884 U			
3&4-Methylphenol	0.00118 U			
3-Methylphenol	--			
3-Nitroaniline	0.000982 U			

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Tap Water - mg/L			
	Sample Results for: LE10TW001			
4,6-Dinitro-2-Methylphenol	0.000196 U			
4-Bromophenylphenylether	0.0000982 U			
4-Chloro-3-Methylphenol	0.000589 U			
4-Chloroaniline	0.000982 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.000982 U			
4-Nitrophenol	0.000295 U			
Acenaphthene	0.0000982 U			
Acenaphthylene	0.0000982 U			
Aniline	0.000982 U			
Anthracene	0.0000982 U			
Atrazine	0.0000982 U			
Benzo(g,h,i)perylene	0.0000982 U			
Bis(2-ethylhexyl)phthalate	0.00137 U			
Butylbenzylphthalate	0.0000982 U			
Carbazole	0.0000982 U			
Di-n-butylphthalate	0.00128 U			
Di-n-octylphthalate	0.000196 U			
Dibenzofuran	0.0000982 U			
Diethylphthalate	0.000196 U			
Dimethylphthalate	0.0000982 U			
Diphenylamine	0.0000982 U			
Fluoranthene	0.0000982 U			
Fluorene	0.0000982 U			
Hexachlorobenzene	0.0000982 U			
Hexachlorobutadiene	0.000196 U			
Hexachlorocyclopentadiene	0.000982 U			
Hexachloroethane	0.0000982 U			
Naphthalene	0.000196 U			
Nitrobenzene	0.000196 U			
o-Toluidine	0.000687 U			
Pentachlorobenzene	0.000196 U			
Pentachloronitrobenzene	0.00000327 U			
Pentachlorophenol	0.000295 U			
Phenanthrene	0.0000982 U			
Phenol	0.000982 U			

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Tap Water - mg/L			
	Sample Results for: LE10TW001			
Pyrene	0.0000982 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00011784 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Tap Water - mg/L			
	Sample Results for: LE10TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000542			
Bromoform	0.000857 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000216 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000832			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE10

Chemical	Tap Water - mg/L			
	Sample Results for: LE10TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil - mg/kg				
	Sample Results for: LE11SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.16 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000002622				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	59800				
Antimony	0.58				
Arsenic	21				
Barium	426				
Beryllium	7.9				
Cadmium (Diet)	0.4				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil - mg/kg				
	Sample Results for: LE11SS0010006				
Chromium	6.1				
Cobalt	6.9				
Copper	28				
Iron	27200				
Lead	45				
Manganese (Diet)	851				
Manganese (Water)	--				
Mercury	0.14				
Nickel	6.5				
Selenium	0.19				
Silver	0.13				
Thallium	2				
Tin	3.9				
Vanadium	54				
Zinc	72				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000491 U				
4,4-DDE	0.000482 U				
4,4-DDT	0.000645 U				
Aldrin	0.000391 U				
alpha-BHC	0.000482 U				
alpha-Chlordane	0.000391 U				
beta-BHC	0.000591 U				
Chlordane	--				
delta-BHC	0.000536 U				
Dieldrin	0.000545 U				
Endosulfan I	0.000491 U				
Endosulfan II	0.000391 U				
Endosulfan Sulfate	0.000555 U				
Endrin	0.000627 U				
Endrin Aldehyde	0.000564 U				

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil - mg/kg			
	Sample Results for: LE11SS0010006			
gamma-BHC (Lindane)	0.000464 U			
gamma-Chlordane	0.000427 U			
Heptachlor	0.000555 U			
Heptachlor Epoxide	0.000427 U			
Methoxychlor	0.000691 U			
Toxaphene	0.00692 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00807 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00807 U			
Aroclor 1232	0.00807 U			
Aroclor 1242	0.00807 U			
Aroclor 1248	0.00807 U			
Aroclor 1254	0.00807 U			
Aroclor 1260	0.00807 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0186 U			
1,2,4,5-Tetrachlorobenzene	0.0149 U			
2,3,4,6-Tetrachlorophenol	0.0881 U			
2,4,5-Trichlorophenol	0.153 U			
2,4,6-Trichlorophenol	0.0819 U			
2,4-Dichlorophenol	0.0956 U			
2,4-Dimethylphenol	0.184 U			
2,4-Dinitrophenol	0.0683 U			
2,4-Dinitrotoluene	0.0223 U			
2,6-Dichlorophenol	0.0583 U			
2,6-Dinitrotoluene	0.0186 U			
2-Chloronaphthalene	0.00993 U			
2-Chlorophenol	0.0621 U			
2-Methylnaphthalene	0.0211 U			
2-Methylphenol (o-Cresol)	0.124 U			
2-Nitrophenol	0.0782 U			
3&4-Methylphenol	0.143 U			
3-Methylphenol	--			
3-Nitroaniline	0.0223 U			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil - mg/kg			
	Sample Results for: LE11SS0010006			
4,6-Dinitro-2-Methylphenol	0.0831 U			
4-Bromophenylphenylether	0.0149 U			
4-Chloro-3-Methylphenol	0.109 U			
4-Chloroaniline	0.0285 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0546 U			
4-Nitrophenol	0.146 U			
Acenaphthene	0.0124 U			
Acenaphthylene	0.0112 U			
Aniline	0.0248 U			
Anthracene	0.0149 U			
Atrazine	0.0323 U			
Benzo(g,h,i)perylene	0.0347 U			
Bis(2-ethylhexyl)phthalate	0.13 U			
Butylbenzylphthalate	0.0372 U			
Carbazole	0.0223 U			
Di-n-butylphthalate	0.0534 U			
Di-n-octylphthalate	0.0248 U			
Dibenzofuran	0.0124 U			
Diethylphthalate	0.0211 U			
Dimethylphthalate	0.0161 U			
Diphenylamine	0.0645 U			
Fluoranthene	0.0236 U			
Fluorene	0.0149 U			
Hexachlorobenzene	0.0137 U			
Hexachlorobutadiene	0.0124 U			
Hexachlorocyclopentadiene	0.0174 U			
Hexachloroethane	0.0137 U			
Naphthalene	0.00745 U			
Nitrobenzene	0.0186 U			
o-Toluidine	0.0223 U			
Pentachlorobenzene	0.0347 U			
Pentachloronitrobenzene	0.000455 U			
Pentachlorophenol	0.191 U			
Phenanthrene	0.0372 U			
Phenol	0.0422 U			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil - mg/kg			
	Sample Results for: LE11SS0010006			
Pyrene	0.0223 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0535691 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000422 U			
1,1,1-Trichloroethane	0.000562 U			
1,1,2,2-Tetrachloroethane	0.000281 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00451 J			
1,1,2-Trichloroethane	0.000422 U			
1,1-Dichloroethane	0.000984 U			
1,1-Dichloroethene	0.000703 U			
1,2,3-Trichlorobenzene	0.000703 U			
1,2,3-Trichloropropane	0.000422 U			
1,2,4-Trichlorobenzene	0.000422 U			
1,2,4-Trimethylbenzene	0.000562 U			
1,2-Dibromo-3-Chloropropane	0.000562 U			
1,2-Dibromoethane	0.000141 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000844 U			
1,2-Dichlorobenzene	0.000141 U			
1,2-Dichloroethane	0.000281 U			
1,2-Dichloropropane	0.000422 U			
1,3,5-Trimethylbenzene	0.000281 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000281 U			
1,3-Dichloropropane	0.000281 U			
1,4-Dichlorobenzene	0.000141 U			
2,2-Dichloropropane	0.000703 U			
2-Butanone (methyl ethyl ketone)	0.00253 U			
2-Chlorotoluene	0.000422 U			
2-Hexanone	0.00141 U			
4-Chlorotoluene	0.000281 U			
4-Isopropyltoluene	0.000281 U			
4-Methyl-2-Pentanone	0.000422 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil - mg/kg			
	Sample Results for: LE11SS0010006			
Acetone	0.0218			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.00717 U			
Acrylonitrile	--			
Benzene	0.000422 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000562 U			
Bromodichloromethane	0.000562 U			
Bromoform	0.000281 U			
Bromomethane	0.00422 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000562 U			
Chlorobenzene	0.000281 U			
Chloroethane	0.000562 U			
Chloroform	0.000984 U			
Chloromethane	0.00127 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000984 U			
cis-1,3-Dichloropropene	0.000141 U			
Cyclohexane	--			
Dibromochloromethane	0.000141 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000422 U			
Ethylbenzene	0.000422 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000281 U			
m,p-Xylenes	0.000844 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000703 U			
Methylcyclohexane	--			
Methylene Chloride	0.00141 U			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil - mg/kg				
	Sample Results for: LE11SS0010006				
n-Butylbenzene	0.000281 U				
n-Propylbenzene	0.000422 U				
o-Xylene	0.000281 U				
Pentachloroethane	--				
sec-Butylbenzene	0.000281 U				
Styrene	0.000281 U				
tert-Butylbenzene	0.000562 U				
Tetrachloroethene	0.000844 U				
Toluene	0.000703 J				
trans-1,2-Dichloroethene	0.000844 U				
trans-1,3-Dichloropropene	0.000422 U				
Trans-1,4-Dichloro-2-Butene	--				
Trichloroethene	0.000703 U				
Trichlorofluoromethane	0.00112 U				
Vinyl Acetate	--				
Vinyl Chloride	0.000562 U				
Xylenes, Total	--				

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE11SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.004003854				
Tridecane	0.003756793				
Undecane	0.002822717				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE11SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE11SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE11SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE11SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.35178779			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE11SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE11SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.040132512			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Tap Water - mg/L				
	Sample Results for: LE11TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	9.84				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	3.47				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	10.2				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000001824				
Disinfectants					
Chlorine (as Cl2)	0.02				
Disinfection Byproducts					
Total Trihalomethanes	0.001984				
Field Parameters					
Dissolved Oxygen	9.6				
Oxidation Reduction Potential	301				
pH	7.43				
Salinity	--				
Specific Conductance	0.82				
Temperature	28				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	17				
Inorganics					
Aluminum	0.0118				
Antimony	0.00014 U				
Arsenic	0.00532				
Barium	0.0174				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Tap Water - mg/L			
	Sample Results for: LE11TW001			
Chromium	0.000769			
Cobalt	0.0000722			
Copper	0.0206			
Iron	0.0135			
Lead	0.00083			
Manganese (Diet)	--			
Manganese (Water)	0.000369			
Mercury	0.000015 U			
Nickel	0.00196			
Selenium	0.000209			
Silver	0.00012 U			
Thallium	0.000153 U			
Tin	0.000123			
Vanadium	0.0023			
Zinc	1.32			
Microorganisms				
Fecal Coliform	1 <			
Fecal Streptococcus	0			
Heterotrophic Plate Count	9			
Total Coliforms (including Fecal Coliform and E. Coli)	1 <			
Pesticides				
4,4-DDD	0.00000312 U			
4,4-DDE	0.00000208 U			
4,4-DDT	0.00000625 U			
Aldrin	0.00000208 U			
alpha-BHC	0.00000312 U			
alpha-Chlordane	0.00000312 U			
beta-BHC	0.00000208 U			
Chlordane	--			
delta-BHC	0.00000104 U			
Dieldrin	0.00000312 U			
Endosulfan I	0.00000312 U			
Endosulfan II	0.00000208 U			
Endosulfan Sulfate	0.00000729 U			
Endrin	0.00000208 U			
Endrin Aldehyde	0.00000208 U			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Tap Water - mg/L			
	Sample Results for: LE11TW001			
gamma-BHC (Lindane)	0.00000104 U			
gamma-Chlordane	0.00000208 U			
Heptachlor	0.00000417 U			
Heptachlor Epoxide	0.00000417 U			
Methoxychlor	0.00000312 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 U			
Aroclor 1232	0.00002 U			
Aroclor 1242	0.00002 U			
Aroclor 1248	0.00002 U			
Aroclor 1254	0.00002 U			
Aroclor 1260	0.00002 U			
Radionuclides				
Uranium	0.0009			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000203 U			
1,2,4,5-Tetrachlorobenzene	0.000203 U			
2,3,4,6-Tetrachlorophenol	0.000305 U			
2,4,5-Trichlorophenol	0.000508 U			
2,4,6-Trichlorophenol	0.000508 U			
2,4-Dichlorophenol	0.000712 U			
2,4-Dimethylphenol	0.00102 U			
2,4-Dinitrophenol	0.000305 U			
2,4-Dinitrotoluene	0.00102 U			
2,6-Dichlorophenol	0.000813 U			
2,6-Dinitrotoluene	0.000102 U			
2-Chloronaphthalene	0.000203 U			
2-Chlorophenol	0.000915 U			
2-Methylnaphthalene	0.000203 U			
2-Methylphenol (o-Cresol)	0.000712 U			
2-Nitrophenol	0.000915 U			
3&4-Methylphenol	0.00122 U			
3-Methylphenol	--			
3-Nitroaniline	0.00102 U			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Tap Water - mg/L			
	Sample Results for: LE11TW001			
4,6-Dinitro-2-Methylphenol	0.000203 U			
4-Bromophenylphenylether	0.000102 U			
4-Chloro-3-Methylphenol	0.00061 U			
4-Chloroaniline	0.00102 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.00102 U			
4-Nitrophenol	0.000305 U			
Acenaphthene	0.000102 U			
Acenaphthylene	0.000102 U			
Aniline	0.00102 U			
Anthracene	0.000102 U			
Atrazine	0.000102 U			
Benzo(g,h,i)perylene	0.000102 U			
Bis(2-ethylhexyl)phthalate	0.00142 U			
Butylbenzylphthalate	0.000102 U			
Carbazole	0.000102 U			
Di-n-butylphthalate	0.00132 U			
Di-n-octylphthalate	0.000203 U			
Dibenzofuran	0.000102 U			
Diethylphthalate	0.000203 U			
Dimethylphthalate	0.000102 U			
Diphenylamine	0.000102 U			
Fluoranthene	0.000102 U			
Fluorene	0.000102 U			
Hexachlorobenzene	0.000102 U			
Hexachlorobutadiene	0.000203 U			
Hexachlorocyclopentadiene	0.00102 U			
Hexachloroethane	0.000102 U			
Naphthalene	0.000203 U			
Nitrobenzene	0.000203 U			
o-Toluidine	0.000712 U			
Pentachlorobenzene	0.000203 U			
Pentachloronitrobenzene	0.00000312 U			
Pentachlorophenol	0.000305 U			
Phenanthrene	0.000102 U			
Phenol	0.00102 U			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Tap Water - mg/L				
	Sample Results for: LE11TW001				
Pyrene	0.000102 U				
Total Carcinogenic PAHS (BaP TEQs)	0.0001224 U				
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--				
Tph (c08-c40)	--				
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0.00011 U				
1,1,1-Trichloroethane	0.00017 U				
1,1,2,2-Tetrachloroethane	0.00005 U				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U				
1,1,2-Trichloroethane	0.00011 U				
1,1-Dichloroethane	0.0001 U				
1,1-Dichloroethene	0.00013 U				
1,2,3-Trichlorobenzene	0.00012 U				
1,2,3-Trichloropropane	0.00013 U				
1,2,4-Trichlorobenzene	0.00013 U				
1,2,4-Trimethylbenzene	0.00006 U				
1,2-Dibromo-3-Chloropropane	0.00025 U				
1,2-Dibromoethane	0.00009 U				
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U				
1,2-Dichlorobenzene	0.00007 U				
1,2-Dichloroethane	0.00008 U				
1,2-Dichloropropane	0.00015 U				
1,3,5-Trimethylbenzene	0.00008 U				
1,3-Butadiene	--				
1,3-Dichlorobenzene	0.00013 U				
1,3-Dichloropropane	0.00011 U				
1,4-Dichlorobenzene	0.00007 U				
2,2-Dichloropropane	0.0001 U				
2-Butanone (methyl ethyl ketone)	0.0016 U				
2-Chlorotoluene	0.00012 U				
2-Hexanone	0.0002 U				
4-Chlorotoluene	0.00013 U				
4-Isopropyltoluene	0.0001 U				
4-Methyl-2-Pentanone	0.0001 U				

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Tap Water - mg/L			
	Sample Results for: LE11TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000381 J			
Bromoform	0.000787 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000237 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000579			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE11

Chemical	Tap Water - mg/L			
	Sample Results for: LE11TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Soil - mg/kg				
	Sample Results for: LE12SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.162 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000542				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	52400				
Antimony	0.68				
Arsenic	14.6				
Barium	413				
Beryllium	5.85				
Cadmium (Diet)	0.235				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Soil - mg/kg				
	Sample Results for: LE12SS0010006				
Chromium	5.84				
Cobalt	6.08				
Copper	57.8				
Iron	24100				
Lead	70.7				
Manganese (Diet)	779				
Manganese (Water)	--				
Mercury	0.137				
Nickel	6.18				
Selenium	0.183				
Silver	0.323				
Thallium	1.78				
Tin	7.6				
Vanadium	58				
Zinc	61.4				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000617 U				
4,4-DDE	0.000605 U				
4,4-DDT	0.000811 U				
Aldrin	0.000491 U				
alpha-BHC	0.000605 U				
alpha-Chlordane	0.000491 U				
beta-BHC	0.000742 U				
Chlordane	--				
delta-BHC	0.000674 U				
Dieldrin	0.000685 U				
Endosulfan I	0.000617 U				
Endosulfan II	0.000491 U				
Endosulfan Sulfate	0.000697 U				
Endrin	0.000788 U				
Endrin Aldehyde	0.000708 U				

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Soil - mg/kg			
	Sample Results for: LE12SS0010006			
gamma-BHC (Lindane)	0.000582 U			
gamma-Chlordane	0.000537 U			
Heptachlor	0.000697 U			
Heptachlor Epoxide	0.000537 U			
Methoxychlor	0.000868 U			
Toxaphene	0.00685 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00799 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00799 U			
Aroclor 1232	0.00799 U			
Aroclor 1242	0.00799 U			
Aroclor 1248	0.00799 U			
Aroclor 1254	0.00799 U			
Aroclor 1260	0.00799 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0198 U			
1,2,4,5-Tetrachlorobenzene	0.0158 U			
2,3,4,6-Tetrachlorophenol	0.0936 U			
2,4,5-Trichlorophenol	0.162 U			
2,4,6-Trichlorophenol	0.0871 U			
2,4-Dichlorophenol	0.102 U			
2,4-Dimethylphenol	0.195 U			
2,4-Dinitrophenol	0.0725 U			
2,4-Dinitrotoluene	0.0237 U			
2,6-Dichlorophenol	0.062 U			
2,6-Dinitrotoluene	0.0198 U			
2-Chloronaphthalene	0.0106 U			
2-Chlorophenol	0.066 U			
2-Methylnaphthalene	0.0224 U			
2-Methylphenol (o-Cresol)	0.132 U			
2-Nitrophenol	0.0831 U			
3&4-Methylphenol	0.152 U			
3-Methylphenol	--			
3-Nitroaniline	0.0237 U			

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Soil - mg/kg			
	Sample Results for: LE12SS0010006			
4,6-Dinitro-2-Methylphenol	0.0884 U			
4-Bromophenylphenylether	0.0158 U			
4-Chloro-3-Methylphenol	0.116 U			
4-Chloroaniline	0.0303 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.058 U			
4-Nitrophenol	0.156 U			
Acenaphthene	0.0132 U			
Acenaphthylene	0.0119 U			
Aniline	0.0264 U			
Anthracene	0.0158 U			
Atrazine	0.0343 U			
Benzo(g,h,i)perylene	0.0369 U			
Bis(2-ethylhexyl)phthalate	0.138 U			
Butylbenzylphthalate	0.0396 U			
Carbazole	0.0237 U			
Di-n-butylphthalate	0.0567 U			
Di-n-octylphthalate	0.0264 U			
Dibenzofuran	0.0132 U			
Diethylphthalate	0.0224 U			
Dimethylphthalate	0.0171 U			
Diphenylamine	0.0686 U			
Fluoranthene	0.0251 U			
Fluorene	0.0158 U			
Hexachlorobenzene	0.0145 U			
Hexachlorobutadiene	0.0132 U			
Hexachlorocyclopentadiene	0.0185 U			
Hexachloroethane	0.0145 U			
Naphthalene	0.00791 U			
Nitrobenzene	0.0198 U			
o-Toluidine	0.0237 U			
Pentachlorobenzene	0.0369 U			
Pentachloronitrobenzene	0.000571 U			
Pentachlorophenol	0.203 U			
Phenanthrene	0.0396 U			
Phenol	0.0448 U			

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Soil - mg/kg				
	Sample Results for: LE12SS0010006				
Pyrene	0.0237 U				
Total Carcinogenic PAHS (BaP TEQs)	0.0569041 U				
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--				
Tph (c08-c40)	--				
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0.000493 U				
1,1,1-Trichloroethane	0.000657 U				
1,1,2,2-Tetrachloroethane	0.000329 U				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00453 J				
1,1,2-Trichloroethane	0.000493 U				
1,1-Dichloroethane	0.00115 U				
1,1-Dichloroethene	0.000822 U				
1,2,3-Trichlorobenzene	0.000822 U				
1,2,3-Trichloropropane	0.000493 U				
1,2,4-Trichlorobenzene	0.000493 U				
1,2,4-Trimethylbenzene	0.000657 U				
1,2-Dibromo-3-Chloropropane	0.000657 U				
1,2-Dibromoethane	0.000164 U				
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000986 U				
1,2-Dichlorobenzene	0.000164 U				
1,2-Dichloroethane	0.000329 U				
1,2-Dichloropropane	0.000493 U				
1,3,5-Trimethylbenzene	0.000329 U				
1,3-Butadiene	--				
1,3-Dichlorobenzene	0.000329 U				
1,3-Dichloropropane	0.000329 U				
1,4-Dichlorobenzene	0.000164 U				
2,2-Dichloropropane	0.000822 U				
2-Butanone (methyl ethyl ketone)	0.00296 U				
2-Chlorotoluene	0.000493 U				
2-Hexanone	0.00164 U				
4-Chlorotoluene	0.000329 U				
4-Isopropyltoluene	0.000329 U				
4-Methyl-2-Pentanone	0.000493 U				
Acetaldehyde	--				

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Soil - mg/kg			
	Sample Results for: LE12SS0010006			
Acetone	0.00953 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.00838 U			
Acrylonitrile	--			
Benzene	0.000493 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000657 U			
Bromodichloromethane	0.000657 U			
Bromoform	0.000329 U			
Bromomethane	0.00493 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000657 U			
Chlorobenzene	0.000329 U			
Chloroethane	0.000657 U			
Chloroform	0.00115 U			
Chloromethane	0.00148 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00115 U			
cis-1,3-Dichloropropene	0.000164 U			
Cyclohexane	--			
Dibromochloromethane	0.000164 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000493 U			
Ethylbenzene	0.000493 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000329 U			
m,p-Xylenes	0.000986 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000822 U			
Methylcyclohexane	--			
Methylene Chloride	0.00164 U			

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Soil - mg/kg			
	Sample Results for: LE12SS0010006			
n-Butylbenzene	0.000329 U			
n-Propylbenzene	0.000493 U			
o-Xylene	0.000329 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000329 U			
Styrene	0.000329 U			
tert-Butylbenzene	0.000657 U			
Tetrachloroethene	0.000986 U			
Toluene	0.00406 J			
trans-1,2-Dichloroethene	0.000986 U			
trans-1,3-Dichloropropene	0.000493 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000822 U			
Trichlorofluoromethane	0.00131 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000657 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Tap Water - mg/L				
	Sample Results for: LE12TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	10.8				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	3.5				
Nitrite (measured as NO2-)	0.2 U				
Phosphate	0.4 U				
Sulfate	9.34				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000093513 U				
Disinfectants					
Chlorine (as Cl2)	0.06				
Disinfection Byproducts					
Total Trihalomethanes	0.001556				
Field Parameters					
Dissolved Oxygen	7.61				
Oxidation Reduction Potential	311				
pH	7.45				
Salinity	--				
Specific Conductance	0.82				
Temperature	26.97				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00014 U				
Arsenic	0.00405				
Barium	0.0171				
Beryllium	0.00003 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Tap Water - mg/L				
	Sample Results for: LE12TW001				
Chromium	0.000671				
Cobalt	0.000121				
Copper	0.0403				
Iron	0.0223				
Lead	0.00207				
Manganese (Diet)	--				
Manganese (Water)	0.000716				
Mercury	0.000025				
Nickel	0.0251				
Selenium	0.000215				
Silver	0.00012 U				
Thallium	0.000148 U				
Tin	0.0001 U				
Vanadium	0.00193				
Zinc	1.63				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	29				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.00000324 U				
4,4-DDE	0.00000216 U				
4,4-DDT	0.00000649 U				
Aldrin	0.00000216 U				
alpha-BHC	0.00000324 U				
alpha-Chlordane	0.00000324 U				
beta-BHC	0.00000216 U				
Chlordane	--				
delta-BHC	0.00000108 U				
Dieldrin	0.00000324 U				
Endosulfan I	0.00000324 U				
Endosulfan II	0.00000216 U				
Endosulfan Sulfate	0.00000757 U				
Endrin	0.00000216 U				
Endrin Aldehyde	0.00000216 U				

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Tap Water - mg/L			
	Sample Results for: LE12TW001			
gamma-BHC (Lindane)	0.00000108 U			
gamma-Chlordane	0.00000216 U			
Heptachlor	0.00000432 U			
Heptachlor Epoxide	0.00000432 U			
Methoxychlor	0.00000324 U			
Toxaphene	0.0000108 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.0000216 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.0000216 U			
Aroclor 1232	0.0000216 U			
Aroclor 1242	0.0000216 U			
Aroclor 1248	0.0000216 U			
Aroclor 1254	0.0000216 U			
Aroclor 1260	0.0000216 U			
Radionuclides				
Uranium	0.00111			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000213 U			
1,2,4,5-Tetrachlorobenzene	0.000213 U			
2,3,4,6-Tetrachlorophenol	0.000319 U			
2,4,5-Trichlorophenol	0.000532 U			
2,4,6-Trichlorophenol	0.000532 U			
2,4-Dichlorophenol	0.000745 U			
2,4-Dimethylphenol	0.00106 U			
2,4-Dinitrophenol	0.000319 U			
2,4-Dinitrotoluene	0.00106 U			
2,6-Dichlorophenol	0.000851 U			
2,6-Dinitrotoluene	0.000106 U			
2-Chloronaphthalene	0.000213 U			
2-Chlorophenol	0.000958 U			
2-Methylnaphthalene	0.000213 U			
2-Methylphenol (o-Cresol)	0.000745 U			
2-Nitrophenol	0.000958 U			
3&4-Methylphenol	0.00128 U			
3-Methylphenol	--			
3-Nitroaniline	0.00106 U			

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Tap Water - mg/L			
	Sample Results for: LE12TW001			
4,6-Dinitro-2-Methylphenol	0.000213 U			
4-Bromophenylphenylether	0.000106 U			
4-Chloro-3-Methylphenol	0.000639 U			
4-Chloroaniline	0.00106 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.00106 U			
4-Nitrophenol	0.000319 U			
Acenaphthene	0.000106 U			
Acenaphthylene	0.000106 U			
Aniline	0.00106 U			
Anthracene	0.000106 U			
Atrazine	0.000106 U			
Benzo(g,h,i)perylene	0.000106 U			
Bis(2-ethylhexyl)phthalate	0.00149 U			
Butylbenzylphthalate	0.000106 U			
Carbazole	0.000106 U			
Di-n-butylphthalate	0.00138 U			
Di-n-octylphthalate	0.000213 U			
Dibenzofuran	0.000106 U			
Diethylphthalate	0.000213 U			
Dimethylphthalate	0.000106 U			
Diphenylamine	0.000106 U			
Fluoranthene	0.000106 U			
Fluorene	0.000106 U			
Hexachlorobenzene	0.000106 U			
Hexachlorobutadiene	0.000213 U			
Hexachlorocyclopentadiene	0.00106 U			
Hexachloroethane	0.000106 U			
Naphthalene	0.000213 U			
Nitrobenzene	0.000213 U			
o-Toluidine	0.000745 U			
Pentachlorobenzene	0.000213 U			
Pentachloronitrobenzene	0.00000324 U			
Pentachlorophenol	0.000319 U			
Phenanthrene	0.000106 U			
Phenol	0.00106 U			

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Tap Water - mg/L			
	Sample Results for: LE12TW001			
Pyrene	0.000106 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0001272 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Tap Water - mg/L			
	Sample Results for: LE12TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000186 J			
Bromoform	0.000867 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000131 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000372 J			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE12

Chemical	Tap Water - mg/L			
	Sample Results for: LE12TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil - mg/kg				
	Sample Results for: LE15SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.146 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000002007				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	82.59999999999999				
Turbidity	--				
Inorganics					
Aluminum	22100				
Antimony	0.328				
Arsenic	6.16				
Barium	158				
Beryllium	3.25				
Cadmium (Diet)	0.187				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil - mg/kg				
	Sample Results for: LE15SS0010006				
Chromium	2.82				
Cobalt	3.64				
Copper	13.7				
Iron	12500				
Lead	25				
Manganese (Diet)	440				
Manganese (Water)	--				
Mercury	0.106 U				
Nickel	3.51				
Selenium	0.0778 U				
Silver	0.0973 U				
Thallium	1.02 U				
Tin	2.27				
Vanadium	22.5				
Zinc	38.8				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000479 U				
4,4-DDE	0.00047 U				
4,4-DDT	0.000629 U				
Aldrin	0.000381 U				
alpha-BHC	0.00047 U				
alpha-Chlordane	0.000381 U				
beta-BHC	0.000576 U				
Chlordane	--				
delta-BHC	0.000523 U				
Dieldrin	0.000532 U				
Endosulfan I	0.000479 U				
Endosulfan II	0.000381 U				
Endosulfan Sulfate	0.000541 U				
Endrin	0.000612 U				
Endrin Aldehyde	0.00055 U				

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil - mg/kg			
	Sample Results for: LE15SS0010006			
gamma-BHC (Lindane)	0.000452 U			
gamma-Chlordane	0.000417 U			
Heptachlor	0.000541 U			
Heptachlor Epoxide	0.000417 U			
Methoxychlor	0.000674 U			
Toxaphene	0.00644 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00751 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00751 UJ			
Aroclor 1232	0.00751 UJ			
Aroclor 1242	0.00751 UJ			
Aroclor 1248	0.00751 UJ			
Aroclor 1254	0.00751 UJ			
Aroclor 1260	0.00751 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0162 U			
1,2,4,5-Tetrachlorobenzene	0.013 U			
2,3,4,6-Tetrachlorophenol	0.0767 U			
2,4,5-Trichlorophenol	0.133 U			
2,4,6-Trichlorophenol	0.0713 U			
2,4-Dichlorophenol	0.0832 U			
2,4-Dimethylphenol	0.16 U			
2,4-Dinitrophenol	0.0594 UJ			
2,4-Dinitrotoluene	0.0194 U			
2,6-Dichlorophenol	0.0508 U			
2,6-Dinitrotoluene	0.0162 U			
2-Chloronaphthalene	0.00864 U			
2-Chlorophenol	0.054 U			
2-Methylnaphthalene	0.0184 U			
2-Methylphenol (o-Cresol)	0.108 U			
2-Nitrophenol	0.0681 U			
3&4-Methylphenol	0.124 U			
3-Methylphenol	--			
3-Nitroaniline	0.0194 U			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil - mg/kg			
	Sample Results for: LE15SS0010006			
4,6-Dinitro-2-Methylphenol	0.0724 U			
4-Bromophenylphenylether	0.013 U			
4-Chloro-3-Methylphenol	0.0951 U			
4-Chloroaniline	0.0249 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0475 U			
4-Nitrophenol	0.127 U			
Acenaphthene	0.0108 U			
Acenaphthylene	0.00972 U			
Aniline	0.0216 U			
Anthracene	0.013 U			
Atrazine	0.0281 U			
Benzo(g,h,i)perylene	0.0303 U			
Bis(2-ethylhexyl)phthalate	0.113 U			
Butylbenzylphthalate	0.0324 U			
Carbazole	0.0194 U			
Di-n-butylphthalate	0.0465 U			
Di-n-octylphthalate	0.0216 U			
Dibenzofuran	0.0108 U			
Diethylphthalate	0.0184 U			
Dimethylphthalate	0.014 U			
Diphenylamine	0.0562 U			
Fluoranthene	0.0205 U			
Fluorene	0.013 U			
Hexachlorobenzene	0.0119 U			
Hexachlorobutadiene	0.0108 U			
Hexachlorocyclopentadiene	0.0151 U			
Hexachloroethane	0.0119 U			
Naphthalene	0.00648 U			
Nitrobenzene	0.0162 U			
o-Toluidine	0.0194 U			
Pentachlorobenzene	0.0303 U			
Pentachloronitrobenzene	0.000443 UJ			
Pentachlorophenol	0.166 U			
Phenanthrene	0.0324 U			
Phenol	0.0367 U			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil - mg/kg			
	Sample Results for: LE15SS0010006			
Pyrene	0.0194 U			
Total Carcinogenic PAHS (BaP TEQs)	0.046648 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000439 U			
1,1,1-Trichloroethane	0.000586 U			
1,1,2,2-Tetrachloroethane	0.000293 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00684 J			
1,1,2-Trichloroethane	0.000439 U			
1,1-Dichloroethane	0.00103 U			
1,1-Dichloroethene	0.000732 U			
1,2,3-Trichlorobenzene	0.000732 U			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	0.000439 U			
1,2,4-Trimethylbenzene	0.00425 J			
1,2-Dibromo-3-Chloropropane	0.000586 U			
1,2-Dibromoethane	0.000146 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000879 U			
1,2-Dichlorobenzene	0.000146 U			
1,2-Dichloroethane	0.000293 U			
1,2-Dichloropropane	0.000439 U			
1,3,5-Trimethylbenzene	0.00483 J			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.003 J			
1,3-Dichloropropane	0.000293 U			
1,4-Dichlorobenzene	0.00279 J			
2,2-Dichloropropane	0.000732 U			
2-Butanone (methyl ethyl ketone)	0.00264 U			
2-Chlorotoluene	0.00342 J			
2-Hexanone	0.00146 U			
4-Chlorotoluene	0.00373 J			
4-Isopropyltoluene	0.00427 J			
4-Methyl-2-Pentanone	0.000439 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil - mg/kg			
	Sample Results for: LE15SS0010006			
Acetone	0.0122 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000439 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000586 U			
Bromodichloromethane	0.000586 U			
Bromoform	0.000293 U			
Bromomethane	0.00439 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000586 U			
Chlorobenzene	0.000293 U			
Chloroethane	0.000586 U			
Chloroform	0.00103 U			
Chloromethane	0.00132 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00103 U			
cis-1,3-Dichloropropene	0.000146 U			
Cyclohexane	--			
Dibromochloromethane	0.000146 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000439 U			
Ethylbenzene	0.0042 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00319 J			
m,p-Xylenes	0.00678 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000732 U			
Methylcyclohexane	--			
Methylene Chloride	0.00146 U			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil - mg/kg			
	Sample Results for: LE15SS0010006			
n-Butylbenzene	0.00324 J			
n-Propylbenzene	0.00467 J			
o-Xylene	0.00343 J			
Pentachloroethane	--			
sec-Butylbenzene	0.00351 J			
Styrene	0.00338 J			
tert-Butylbenzene	0.00439 J			
Tetrachloroethene	0.000879 U			
Toluene	0.00439 J			
trans-1,2-Dichloroethene	0.000879 U			
trans-1,3-Dichloropropene	0.000439 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000732 U			
Trichlorofluoromethane	0.00117 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000586 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE15SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.023900771				
Tridecane	0.006407414				
Undecane	0.001069844				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE15SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE15SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE15SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE15SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.765448648			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE15SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE15SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.003602536			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Tap Water - mg/L				
	Sample Results for: LE15TW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	11.3				
Cyanide	0.004 U				
Fluoride	0.2 U				
Nitrate (measured as NO3-)	3.77				
Nitrite (measured as NO2-)	0.2 UJ				
Phosphate	0.4 UJ				
Sulfate	9.710000000000001				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000111163 U				
Disinfectants					
Chlorine (as Cl2)	0.12				
Disinfection Byproducts					
Total Trihalomethanes	0.001993				
Field Parameters					
Dissolved Oxygen	9.029999999999999				
Oxidation Reduction Potential	309				
pH	7.16				
Salinity	--				
Specific Conductance	0.94				
Temperature	23.98				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.0022 U				
Antimony	0.00014 U				
Arsenic	0.00442				
Barium	0.0168				
Beryllium	0.000064 U				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Tap Water - mg/L				
	Sample Results for: LE15TW001				
Chromium	0.000579				
Cobalt	0.000101				
Copper	0.0513				
Iron	0.0162				
Lead	0.0016				
Manganese (Diet)	--				
Manganese (Water)	0.000945				
Mercury	0.000015 U				
Nickel	0.0127				
Selenium	0.000304				
Silver	0.00012 U				
Thallium	0.00012 U				
Tin	0.0001 U				
Vanadium	0.00192				
Zinc	2				
Microorganisms					
Fecal Coliform	1 <				
Fecal Streptococcus	0				
Heterotrophic Plate Count	58				
Total Coliforms (including Fecal Coliform and E. Coli)	1 <				
Pesticides					
4,4-DDD	0.000003 U				
4,4-DDE	0.000002 U				
4,4-DDT	0.000006 U				
Aldrin	0.000002 U				
alpha-BHC	0.000003 U				
alpha-Chlordane	0.000003 U				
beta-BHC	0.000002 U				
Chlordane	--				
delta-BHC	0.000001 U				
Dieldrin	0.000003 U				
Endosulfan I	0.000003 U				
Endosulfan II	0.000002 U				
Endosulfan Sulfate	0.000007 UJ				
Endrin	0.000002 U				
Endrin Aldehyde	0.000002 U				

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Tap Water - mg/L			
	Sample Results for: LE15TW001			
gamma-BHC (Lindane)	0.000001 U			
gamma-Chlordane	0.000002 U			
Heptachlor	0.000004 U			
Heptachlor Epoxide	0.000004 U			
Methoxychlor	0.000003 U			
Toxaphene	0.00001 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00002 UJ			
Aroclor 1232	0.00002 UJ			
Aroclor 1242	0.00002 UJ			
Aroclor 1248	0.00002 UJ			
Aroclor 1254	0.00002 UJ			
Aroclor 1260	0.00002 UJ			
Radionuclides				
Uranium	0.00103			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000193 U			
1,2,4,5-Tetrachlorobenzene	0.000193 U			
2,3,4,6-Tetrachlorophenol	0.000289 U			
2,4,5-Trichlorophenol	0.000482 U			
2,4,6-Trichlorophenol	0.000482 U			
2,4-Dichlorophenol	0.000674 U			
2,4-Dimethylphenol	0.000963 U			
2,4-Dinitrophenol	0.000289 U			
2,4-Dinitrotoluene	0.000963 U			
2,6-Dichlorophenol	0.000771 U			
2,6-Dinitrotoluene	0.0000963 U			
2-Chloronaphthalene	0.000193 U			
2-Chlorophenol	0.000867 U			
2-Methylnaphthalene	0.000193 U			
2-Methylphenol (o-Cresol)	0.000674 U			
2-Nitrophenol	0.000867 U			
3&4-Methylphenol	0.00116 U			
3-Methylphenol	--			
3-Nitroaniline	0.000963 U			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Tap Water - mg/L			
	Sample Results for: LE15TW001			
4,6-Dinitro-2-Methylphenol	0.000193 U			
4-Bromophenylphenylether	0.0000963 U			
4-Chloro-3-Methylphenol	0.000578 U			
4-Chloroaniline	0.000963 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.000963 U			
4-Nitrophenol	0.000289 U			
Acenaphthene	0.0000963 U			
Acenaphthylene	0.0000963 U			
Aniline	0.000963 U			
Anthracene	0.0000963 U			
Atrazine	0.0000963 U			
Benzo(g,h,i)perylene	0.0000963 U			
Bis(2-ethylhexyl)phthalate	0.00135 U			
Butylbenzylphthalate	0.0000963 U			
Carbazole	0.0000963 U			
Di-n-butylphthalate	0.00125 U			
Di-n-octylphthalate	0.000193 UJ			
Dibenzofuran	0.0000963 U			
Diethylphthalate	0.000193 U			
Dimethylphthalate	0.0000963 U			
Diphenylamine	0.0000963 U			
Fluoranthene	0.0000963 U			
Fluorene	0.0000963 U			
Hexachlorobenzene	0.0000963 U			
Hexachlorobutadiene	0.000193 U			
Hexachlorocyclopentadiene	0.000963 U			
Hexachloroethane	0.0000963 U			
Naphthalene	0.000193 U			
Nitrobenzene	0.000193 U			
o-Toluidine	0.000674 U			
Pentachlorobenzene	0.000193 U			
Pentachloronitrobenzene	0.000003 U			
Pentachlorophenol	0.000289 U			
Phenanthrene	0.0000963 U			
Phenol	0.000963 U			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Tap Water - mg/L			
	Sample Results for: LE15TW001			
Pyrene	0.0000963 U			
Total Carcinogenic PAHS (BaP TEQs)	0.00011556 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Tap Water - mg/L			
	Sample Results for: LE15TW001			
Acetaldehyde	--			
Acetone	0.001 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.000476 J			
Bromoform	0.000593 J			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000288 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.000636			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE15

Chemical	Tap Water - mg/L			
	Sample Results for: LE15TW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00007 U			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil - mg/kg				
	Sample Results for: LE19SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.14 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000005303				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	88.5				
Turbidity	--				
Inorganics					
Aluminum	20900				
Antimony	0.31				
Arsenic	5.5				
Barium	130				
Beryllium	2.9				
Cadmium (Diet)	0.17				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil - mg/kg				
	Sample Results for: LE19SS0010006				
Chromium	2.9				
Cobalt	2.9				
Copper	8.9				
Iron	10800				
Lead	20				
Manganese (Diet)	394				
Manganese (Water)	--				
Mercury	0.103 UJ				
Nickel	2.9				
Selenium	0.17				
Silver	0.1 U				
Thallium	0.92 U				
Tin	1.4				
Vanadium	19				
Zinc	36				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000474 U				
4,4-DDE	0.000465 U				
4,4-DDT	0.000623 U				
Aldrin	0.000377 U				
alpha-BHC	0.000465 U				
alpha-Chlordane	0.000377 U				
beta-BHC	0.00057 U				
Chlordane	--				
delta-BHC	0.000518 U				
Dieldrin	0.000526 U				
Endosulfan I	0.000474 U				
Endosulfan II	0.000377 U				
Endosulfan Sulfate	0.000535 U				
Endrin	0.000605 U				
Endrin Aldehyde	0.000544 U				

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil - mg/kg			
	Sample Results for: LE19SS0010006			
gamma-BHC (Lindane)	0.000447 U			
gamma-Chlordane	0.000412 U			
Heptachlor	0.000535 U			
Heptachlor Epoxide	0.000412 U			
Methoxychlor	0.000667 U			
Toxaphene	0.00595 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00694 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.00694 UJ			
Aroclor 1232	0.00694 UJ			
Aroclor 1242	0.00694 UJ			
Aroclor 1248	0.00694 UJ			
Aroclor 1254	0.00694 UJ			
Aroclor 1260	0.00694 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0146 U			
1,2,4,5-Tetrachlorobenzene	0.0117 U			
2,3,4,6-Tetrachlorophenol	0.0693 U			
2,4,5-Trichlorophenol	0.12 U			
2,4,6-Trichlorophenol	0.0644 U			
2,4-Dichlorophenol	0.0751 U			
2,4-Dimethylphenol	0.144 U			
2,4-Dinitrophenol	0.0537 UJ			
2,4-Dinitrotoluene	0.0176 U			
2,6-Dichlorophenol	0.0458 U			
2,6-Dinitrotoluene	0.0146 U			
2-Chloronaphthalene	0.0078 U			
2-Chlorophenol	0.0488 U			
2-Methylnaphthalene	0.0166 U			
2-Methylphenol (o-Cresol)	0.0976 U			
2-Nitrophenol	0.0615 U			
3&4-Methylphenol	0.112 U			
3-Methylphenol	--			
3-Nitroaniline	0.0176 U			

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil - mg/kg			
	Sample Results for: LE19SS0010006			
4,6-Dinitro-2-Methylphenol	0.0654 U			
4-Bromophenylphenylether	0.0117 U			
4-Chloro-3-Methylphenol	0.0858 U			
4-Chloroaniline	0.0224 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0429 U			
4-Nitrophenol	0.115 U			
Acenaphthene	0.00976 U			
Acenaphthylene	0.00878 U			
Aniline	0.0195 U			
Anthracene	0.0117 U			
Atrazine	0.0254 U			
Benzo(g,h,i)perylene	0.0273 U			
Bis(2-ethylhexyl)phthalate	0.102 U			
Butylbenzylphthalate	0.0293 U			
Carbazole	0.0176 U			
Di-n-butylphthalate	0.0419 U			
Di-n-octylphthalate	0.0195 U			
Dibenzofuran	0.00976 U			
Diethylphthalate	0.0166 U			
Dimethylphthalate	0.0127 U			
Diphenylamine	0.0507 U			
Fluoranthene	0.0185 U			
Fluorene	0.0117 U			
Hexachlorobenzene	0.0107 U			
Hexachlorobutadiene	0.00976 U			
Hexachlorocyclopentadiene	0.0137 U			
Hexachloroethane	0.0107 U			
Naphthalene	0.00585 U			
Nitrobenzene	0.0146 U			
o-Toluidine	0.0176 U			
Pentachlorobenzene	0.0273 U			
Pentachloronitrobenzene	0.000439 UJ			
Pentachlorophenol	0.15 U			
Phenanthrene	0.0293 U			
Phenol	0.0332 U			

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil - mg/kg				
	Sample Results for: LE19SS0010006				
Pyrene	0.0176 U				
Total Carcinogenic PAHS (BaP TEQs)	0.0421887 U				
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--				
Tph (c08-c40)	--				
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0.000483 UJ				
1,1,1-Trichloroethane	0.000644 UJ				
1,1,2,2-Tetrachloroethane	0.000322 UJ				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00113 UJ				
1,1,2-Trichloroethane	0.00387 J				
1,1-Dichloroethane	0.00113 UJ				
1,1-Dichloroethene	0.000805 UJ				
1,2,3-Trichlorobenzene	0.000805 UJ				
1,2,3-Trichloropropane	--				
1,2,4-Trichlorobenzene	0.000483 UJ				
1,2,4-Trimethylbenzene	0.00201 J				
1,2-Dibromo-3-Chloropropane	0.000644 UJ				
1,2-Dibromoethane	0.000161 UJ				
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000965 UJ				
1,2-Dichlorobenzene	0.000161 UJ				
1,2-Dichloroethane	0.000322 UJ				
1,2-Dichloropropane	0.000483 UJ				
1,3,5-Trimethylbenzene	0.00301 J				
1,3-Butadiene	--				
1,3-Dichlorobenzene	0.00168 J				
1,3-Dichloropropane	0.00223 J				
1,4-Dichlorobenzene	0.00218 J				
2,2-Dichloropropane	0.000805 UJ				
2-Butanone (methyl ethyl ketone)	0.0029 UJ				
2-Chlorotoluene	0.000483 UJ				
2-Hexanone	0.00161 UJ				
4-Chlorotoluene	0.000322 UJ				
4-Isopropyltoluene	0.00212 J				
4-Methyl-2-Pentanone	0.000483 UJ				
Acetaldehyde	--				

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil - mg/kg			
	Sample Results for: LE19SS0010006			
Acetone	0.00963 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000483 UJ			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000644 UJ			
Bromodichloromethane	0.00228 J			
Bromoform	0.000322 UJ			
Bromomethane	0.00483 UJ			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000644 UJ			
Chlorobenzene	0.00179 J			
Chloroethane	0.000644 UJ			
Chloroform	0.00113 UJ			
Chloromethane	0.00145 UJ			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00113 UJ			
cis-1,3-Dichloropropene	0.00171 J			
Cyclohexane	--			
Dibromochloromethane	0.000161 UJ			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000483 UJ			
Ethylbenzene	0.00395 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00365 J			
m,p-Xylenes	0.00573 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000805 UJ			
Methylcyclohexane	--			
Methylene Chloride	0.00161 UJ			

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil - mg/kg				
	Sample Results for: LE19SS0010006				
n-Butylbenzene	0.00142 J				
n-Propylbenzene	0.00251 J				
o-Xylene	0.00284 J				
Pentachloroethane	--				
sec-Butylbenzene	0.00191 J				
Styrene	0.0035 J				
tert-Butylbenzene	0.00282 J				
Tetrachloroethene	0.00332 J				
Toluene	0.0115 J				
trans-1,2-Dichloroethene	0.000965 UJ				
trans-1,3-Dichloropropene	0.000483 UJ				
Trans-1,4-Dichloro-2-Butene	--				
Trichloroethene	0.000805 UJ				
Trichlorofluoromethane	0.00129 UJ				
Vinyl Acetate	--				
Vinyl Chloride	0.000644 UJ				
Xylenes, Total	--				

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

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< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE19SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.007184248				
Tridecane	0.004213085				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE19SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE19SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE19SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE19SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.54441613			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE19SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE19SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.005685086			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Tap Water - mg/L			
	Sample Results for: LE19TW001	Sample Results for: LE19TW002	Sample Results for: LE19TW003	
Alkane Hydrocarbon				
Octane	--	--	--	
Pentadecane	--	--	--	
Tridecane	--	--	--	
Undecane	--	--	--	
Anion				
Chloride	9.58 J	--	--	
Cyanide	0.004 U	--	--	
Fluoride	0.2 U	--	--	
Nitrate (measured as NO3-)	3.54	--	--	
Nitrite (measured as NO2-)	0.2 UJ	--	--	
Phosphate	0.4 UJ	--	--	
Sulfate	8.279999999999999	--	--	
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000084384	--	--	
Disinfectants				
Chlorine (as Cl2)	0.06	0.06	0.06	
Disinfection Byproducts				
Total Trihalomethanes	0.001858	--	--	
Field Parameters				
Dissolved Oxygen	8.99	8.24	8.26	
Oxidation Reduction Potential	305	312	321	
pH	7.13	7.13	7.12	
Salinity	--	--	--	
Specific Conductance	0.916	1.1	0.9	
Temperature	25.72	24.82	31.12	
Total Dissolved Solids	--	--	--	
Total Solids	--	--	--	
Turbidity	--	--	--	
Inorganics				
Aluminum	0.0022 U	--	--	
Antimony	0.00014 U	--	--	
Arsenic	0.00406	--	--	
Barium	0.0146	--	--	
Beryllium	0.000055 U	--	--	
Cadmium (Diet)	--	--	--	
Cadmium (Water)	0.00004 U	--	--	

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Tap Water - mg/L			
	Sample Results for: LE19TW001	Sample Results for: LE19TW002	Sample Results for: LE19TW003	
Chromium	0.000616	--	--	
Cobalt	0.000098	--	--	
Copper	0.0439	--	--	
Iron	0.0113	--	--	
Lead	0.00178	--	--	
Manganese (Diet)	--	--	--	
Manganese (Water)	0.000604	--	--	
Mercury	0.000015 U	--	--	
Nickel	0.0527	--	--	
Selenium	0.000301	--	--	
Silver	0.00012 U	--	--	
Thallium	0.00048 U	--	--	
Tin	0.0001 U	--	--	
Vanadium	0.00132	--	--	
Zinc	1.13	--	--	
Microorganisms				
Fecal Coliform	1 <	1 <	1 <	
Fecal Streptococcus	0	0	0	
Heterotrophic Plate Count	78	0	310	
Total Coliforms (including Fecal Coliform and E. Coli)	1	1 <	1 <	
Pesticides				
4,4-DDD	0.000003 U	--	--	
4,4-DDE	0.000002 UJ	--	--	
4,4-DDT	0.000006 U	--	--	
Aldrin	0.000002 UJ	--	--	
alpha-BHC	0.000003 UJ	--	--	
alpha-Chlordane	0.000003 UJ	--	--	
beta-BHC	0.000002 UJ	--	--	
Chlordane	--	--	--	
delta-BHC	0.000001 U	--	--	
Dieldrin	0.000003 UJ	--	--	
Endosulfan I	0.000003 UJ	--	--	
Endosulfan II	0.000002 UJ	--	--	
Endosulfan Sulfate	0.000007 UJ	--	--	
Endrin	0.000002 UJ	--	--	
Endrin Aldehyde	0.000002 UJ	--	--	

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Tap Water - mg/L			
	Sample Results for: LE19TW001	Sample Results for: LE19TW002	Sample Results for: LE19TW003	
gamma-BHC (Lindane)	0.000001 U	--	--	
gamma-Chlordane	0.000002 UJ	--	--	
Heptachlor	0.000004 UJ	--	--	
Heptachlor Epoxide	0.000004 UJ	--	--	
Methoxychlor	0.000003 UJ	--	--	
Toxaphene	0.00001 U	--	--	
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ	--	--	
Aroclor 1016/1260	--	--	--	
Aroclor 1221	0.00002 UJ	--	--	
Aroclor 1232	0.00002 UJ	--	--	
Aroclor 1242	0.00002 UJ	--	--	
Aroclor 1248	0.00002 UJ	--	--	
Aroclor 1254	0.00002 UJ	--	--	
Aroclor 1260	0.00002 UJ	--	--	
Radionuclides				
Uranium	0.00101	--	--	
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000195 U	--	--	
1,2,4,5-Tetrachlorobenzene	0.000195 U	--	--	
2,3,4,6-Tetrachlorophenol	0.000292 U	--	--	
2,4,5-Trichlorophenol	0.000486 U	--	--	
2,4,6-Trichlorophenol	0.000486 U	--	--	
2,4-Dichlorophenol	0.000681 U	--	--	
2,4-Dimethylphenol	0.000973 U	--	--	
2,4-Dinitrophenol	0.000292 U	--	--	
2,4-Dinitrotoluene	0.000973 U	--	--	
2,6-Dichlorophenol	0.000778 U	--	--	
2,6-Dinitrotoluene	0.0000973 U	--	--	
2-Chloronaphthalene	0.000195 U	--	--	
2-Chlorophenol	0.000876 U	--	--	
2-Methylnaphthalene	0.000195 U	--	--	
2-Methylphenol (o-Cresol)	0.000681 U	--	--	
2-Nitrophenol	0.000876 U	--	--	
3&4-Methylphenol	0.00117 U	--	--	
3-Methylphenol	--	--	--	
3-Nitroaniline	0.000973 U	--	--	

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Tap Water - mg/L			
	Sample Results for: LE19TW001	Sample Results for: LE19TW002	Sample Results for: LE19TW003	
4,6-Dinitro-2-Methylphenol	0.000195 U	--	--	
4-Bromophenylphenylether	0.0000973 U	--	--	
4-Chloro-3-Methylphenol	0.000584 U	--	--	
4-Chloroaniline	0.000973 U	--	--	
4-Methylphenol (p-Cresol)	--	--	--	
4-Nitroaniline	0.000973 U	--	--	
4-Nitrophenol	0.000292 U	--	--	
Acenaphthene	0.0000973 U	--	--	
Acenaphthylene	0.0000973 U	--	--	
Aniline	0.000973 U	--	--	
Anthracene	0.0000973 U	--	--	
Atrazine	0.0000973 U	--	--	
Benzo(g,h,i)perylene	0.0000973 U	--	--	
Bis(2-ethylhexyl)phthalate	0.00136 U	--	--	
Butylbenzylphthalate	0.0000973 U	--	--	
Carbazole	0.0000973 U	--	--	
Di-n-butylphthalate	0.00126 U	--	--	
Di-n-octylphthalate	0.000195 UJ	--	--	
Dibenzofuran	0.0000973 U	--	--	
Diethylphthalate	0.000195 U	--	--	
Dimethylphthalate	0.0000973 U	--	--	
Diphenylamine	0.0000973 U	--	--	
Fluoranthene	0.0000973 U	--	--	
Fluorene	0.0000973 U	--	--	
Hexachlorobenzene	0.0000973 U	--	--	
Hexachlorobutadiene	0.000195 U	--	--	
Hexachlorocyclopentadiene	0.000973 U	--	--	
Hexachloroethane	0.0000973 U	--	--	
Naphthalene	0.000195 U	--	--	
Nitrobenzene	0.000195 U	--	--	
o-Toluidine	0.000681 U	--	--	
Pentachlorobenzene	0.000195 U	--	--	
Pentachloronitrobenzene	0.000003 UJ	--	--	
Pentachlorophenol	0.000292 U	--	--	
Phenanthrene	0.0000973 U	--	--	
Phenol	0.000973 U	--	--	

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Tap Water - mg/L			
	Sample Results for: LE19TW001	Sample Results for: LE19TW002	Sample Results for: LE19TW003	
Pyrene	0.0000973 U	--	--	
Total Carcinogenic PAHS (BaP TEQs)	0.00011676 U	--	--	
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--	--	--	
Tph (c08-c40)	--	--	--	
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U	--	--	
1,1,1-Trichloroethane	0.00017 U	--	--	
1,1,2,2-Tetrachloroethane	0.00005 U	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U	--	--	
1,1,2-Trichloroethane	0.00011 U	--	--	
1,1-Dichloroethane	0.0001 U	--	--	
1,1-Dichloroethene	0.00013 U	--	--	
1,2,3-Trichlorobenzene	0.00012 U	--	--	
1,2,3-Trichloropropane	0.00013 U	--	--	
1,2,4-Trichlorobenzene	0.00013 U	--	--	
1,2,4-Trimethylbenzene	0.00006 U	--	--	
1,2-Dibromo-3-Chloropropane	0.00025 U	--	--	
1,2-Dibromoethane	0.00009 U	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	
1,2-Dichlorobenzene	0.00007 U	--	--	
1,2-Dichloroethane	0.00008 U	--	--	
1,2-Dichloropropane	0.00015 U	--	--	
1,3,5-Trimethylbenzene	0.00008 U	--	--	
1,3-Butadiene	--	--	--	
1,3-Dichlorobenzene	0.00013 U	--	--	
1,3-Dichloropropane	0.00011 U	--	--	
1,4-Dichlorobenzene	0.00007 U	--	--	
2,2-Dichloropropane	0.0001 U	--	--	
2-Butanone (methyl ethyl ketone)	0.0016 U	--	--	
2-Chlorotoluene	0.00012 U	--	--	
2-Hexanone	0.0002 U	--	--	
4-Chlorotoluene	0.00013 U	--	--	
4-Isopropyltoluene	0.0001 U	--	--	
4-Methyl-2-Pentanone	0.0001 U	--	--	

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Tap Water - mg/L			
	Sample Results for: LE19TW001	Sample Results for: LE19TW002	Sample Results for: LE19TW003	
Acetaldehyde	--	--	--	
Acetone	0.001 U	--	--	
Acetonitrile	--	--	--	
Acetophenone	--	--	--	
Acrolein	--	--	--	
Acrylonitrile	--	--	--	
Benzene	0.00005 U	--	--	
Bis(2-Chloroethyl)ether	--	--	--	
Bis(chloromethyl)ether	--	--	--	
Bromochloromethane	0.0001 U	--	--	
Bromodichloromethane	0.000411 J	--	--	
Bromoform	0.000577 J	--	--	
Bromomethane	0.00037 U	--	--	
Carbon Disulfide	--	--	--	
Carbon Tetrachloride	0.00008 U	--	--	
Chlorobenzene	0.00012 U	--	--	
Chloroethane	0.00018 U	--	--	
Chloroform	0.00023 J	--	--	
Chloromethane	0.00021 U	--	--	
Chloroprene	--	--	--	
cis-1,2-Dichloroethene	0.00013 U	--	--	
cis-1,3-Dichloropropene	0.00015 U	--	--	
Cyclohexane	--	--	--	
Dibromochloromethane	0.00064	--	--	
Dibromomethane	--	--	--	
Dichlorodifluoromethane (Freon 12)	0.00012 U	--	--	
Ethylbenzene	0.00005 U	--	--	
Formaldehyde	--	--	--	
Hexane	--	--	--	
Isobutyl Alcohol	--	--	--	
Isophorone	--	--	--	
Isopropylbenzene	0.00006 U	--	--	
m,p-Xylenes	0.00009 U	--	--	
Methyl Acetate	--	--	--	
Methyl tert-Butyl Ether	0.00011 U	--	--	
Methylcyclohexane	--	--	--	

Attachment C - Environmental Sampling Results For Location LE19

Chemical	Tap Water - mg/L				
	Sample Results for: LE19TW001	Sample Results for: LE19TW002	Sample Results for: LE19TW003		
Methylene Chloride	0.00069 U	--	--		
n-Butylbenzene	0.00005 U	--	--		
n-Propylbenzene	0.00007 U	--	--		
o-Xylene	0.00007 U	--	--		
Pentachloroethane	--	--	--		
sec-Butylbenzene	0.00004 U	--	--		
Styrene	0.00008 U	--	--		
tert-Butylbenzene	0.00019 U	--	--		
Tetrachloroethene	0.00007 U	--	--		
Toluene	0.00017 U	--	--		
trans-1,2-Dichloroethene	0.00015 U	--	--		
trans-1,3-Dichloropropene	0.00007 U	--	--		
Trans-1,4-Dichloro-2-Butene	--	--	--		
Trichloroethene	0.00013 U	--	--		
Trichlorofluoromethane	0.00019 U	--	--		
Vinyl Acetate	--	--	--		
Vinyl Chloride	0.00015 U	--	--		
Xylenes, Total	--	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Streptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil - mg/kg				
	Sample Results for: LE20SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.16 U				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000043513				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	77.09999999999999				
Turbidity	--				
Inorganics					
Aluminum	28800				
Antimony	0.363				
Arsenic	7.79				
Barium	188				
Beryllium	3.61				
Cadmium (Diet)	0.196				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil - mg/kg				
	Sample Results for: LE20SS0010006				
Chromium	4.57				
Cobalt	3.94				
Copper	14				
Iron	15100				
Lead	27.3				
Manganese (Diet)	508				
Manganese (Water)	--				
Mercury	0.109 U				
Nickel	4.15				
Selenium	0.0965				
Silver	0.114				
Thallium	0.954 U				
Tin	2.98				
Vanadium	28.4				
Zinc	53.5				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000458 UJ				
4,4-DDE	0.000449 UJ				
4,4-DDT	0.000602 UJ				
Aldrin	0.000364 UJ				
alpha-BHC	0.000449 UJ				
alpha-Chlordane	0.000364 UJ				
beta-BHC	0.000551 UJ				
Chlordane	--				
delta-BHC	0.0005 UJ				
Dieldrin	0.000508 UJ				
Endosulfan I	0.000458 UJ				
Endosulfan II	0.000364 UJ				
Endosulfan Sulfate	0.000517 UJ				
Endrin	0.000585 UJ				
Endrin Aldehyde	0.000525 UJ				

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil - mg/kg			
	Sample Results for: LE20SS0010006			
gamma-BHC (Lindane)	0.000432 UJ			
gamma-Chlordane	0.000398 UJ			
Heptachlor	0.000517 UJ			
Heptachlor Epoxide	0.000398 UJ			
Methoxychlor	0.000644 UJ			
Toxaphene	0.0066 UJ			
Polychlorinated bi-phenyls				
Aroclor 1016	0.0077 UJ			
Aroclor 1016/1260	--			
Aroclor 1221	0.0077 UJ			
Aroclor 1232	0.0077 UJ			
Aroclor 1242	0.0077 UJ			
Aroclor 1248	0.0077 UJ			
Aroclor 1254	0.0077 UJ			
Aroclor 1260	0.0077 UJ			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0176 U			
1,2,4,5-Tetrachlorobenzene	0.0141 U			
2,3,4,6-Tetrachlorophenol	0.0833 U			
2,4,5-Trichlorophenol	0.144 U			
2,4,6-Trichlorophenol	0.0775 U			
2,4-Dichlorophenol	0.0904 U			
2,4-Dimethylphenol	0.174 U			
2,4-Dinitrophenol	0.0645 UJ			
2,4-Dinitrotoluene	0.0211 U			
2,6-Dichlorophenol	0.0552 U			
2,6-Dinitrotoluene	0.0176 U			
2-Chloronaphthalene	0.00939 U			
2-Chlorophenol	0.0587 U			
2-Methylnaphthalene	0.0199 U			
2-Methylphenol (o-Cresol)	0.117 U			
2-Nitrophenol	0.0739 U			
3&4-Methylphenol	0.135 U			
3-Methylphenol	--			
3-Nitroaniline	0.0211 U			

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil - mg/kg			
	Sample Results for: LE20SS0010006			
4,6-Dinitro-2-Methylphenol	0.0786 U			
4-Bromophenylphenylether	0.0141 U			
4-Chloro-3-Methylphenol	0.103 U			
4-Chloroaniline	0.027 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0516 U			
4-Nitrophenol	0.138 U			
Acenaphthene	0.0117 U			
Acenaphthylene	0.0106 U			
Aniline	0.0235 U			
Anthracene	0.0141 U			
Atrazine	0.0305 U			
Benzo(g,h,i)perylene	0.0329 U			
Bis(2-ethylhexyl)phthalate	0.123 U			
Butylbenzylphthalate	0.0352 U			
Carbazole	0.0211 U			
Di-n-butylphthalate	0.0505 U			
Di-n-octylphthalate	0.0235 U			
Dibenzofuran	0.0117 U			
Diethylphthalate	0.0199 U			
Dimethylphthalate	0.0153 U			
Diphenylamine	0.061 U			
Fluoranthene	0.0223 U			
Fluorene	0.0141 U			
Hexachlorobenzene	0.0129 U			
Hexachlorobutadiene	0.0117 U			
Hexachlorocyclopentadiene	0.0164 U			
Hexachloroethane	0.0129 U			
Naphthalene	0.00704 U			
Nitrobenzene	0.0176 U			
o-Toluidine	0.0211 U			
Pentachlorobenzene	0.0329 U			
Pentachloronitrobenzene	0.000424 UJ			
Pentachlorophenol	0.181 U			
Phenanthrene	0.0352 U			
Phenol	0.0399 U			

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil - mg/kg			
	Sample Results for: LE20SS0010006			
Pyrene	0.0211 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0506163 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000574 U			
1,1,1-Trichloroethane	0.000766 U			
1,1,2,2-Tetrachloroethane	0.000383 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00134 U			
1,1,2-Trichloroethane	0.000574 U			
1,1-Dichloroethane	0.00134 U			
1,1-Dichloroethene	0.000957 U			
1,2,3-Trichlorobenzene	0.000957 U			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	0.000574 U			
1,2,4-Trimethylbenzene	0.00222 J			
1,2-Dibromo-3-Chloropropane	0.000766 U			
1,2-Dibromoethane	0.000191 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.00115 U			
1,2-Dichlorobenzene	0.000191 U			
1,2-Dichloroethane	0.000383 U			
1,2-Dichloropropane	0.000574 U			
1,3,5-Trimethylbenzene	0.00279 J			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000383 U			
1,3-Dichloropropane	0.00172 J			
1,4-Dichlorobenzene	0.000191 U			
2,2-Dichloropropane	0.000957 U			
2-Butanone (methyl ethyl ketone)	0.00345 U			
2-Chlorotoluene	0.000574 U			
2-Hexanone	0.00191 U			
4-Chlorotoluene	0.000383 U			
4-Isopropyltoluene	0.00192 J			
4-Methyl-2-Pentanone	0.000574 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil - mg/kg			
	Sample Results for: LE20SS0010006			
Acetone	0.0478			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000574 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000766 U			
Bromodichloromethane	0.000766 U			
Bromoform	0.000383 U			
Bromomethane	0.00574 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000766 U			
Chlorobenzene	0.00251 J			
Chloroethane	0.000766 U			
Chloroform	0.00134 U			
Chloromethane	0.00172 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00134 U			
cis-1,3-Dichloropropene	0.000191 U			
Cyclohexane	--			
Dibromochloromethane	0.000191 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000574 U			
Ethylbenzene	0.00284 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00296 J			
m,p-Xylenes	0.00522 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000957 U			
Methylcyclohexane	--			
Methylene Chloride	0.00191 U			

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil - mg/kg				
	Sample Results for: LE20SS0010006				
n-Butylbenzene	0.00136 J				
n-Propylbenzene	0.00274 J				
o-Xylene	0.00279 J				
Pentachloroethane	--				
sec-Butylbenzene	0.00212 J				
Styrene	0.00308 J				
tert-Butylbenzene	0.00192 J				
Tetrachloroethene	0.00115 U				
Toluene	0.00524 J				
trans-1,2-Dichloroethene	0.00115 U				
trans-1,3-Dichloropropene	0.000574 U				
Trans-1,4-Dichloro-2-Butene	--				
Trichloroethene	0.000957 U				
Trichlorofluoromethane	0.00153 U				
Vinyl Acetate	--				
Vinyl Chloride	0.000766 U				
Xylenes, Total	--				

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE20SG0010018				
Alkane Hydrocarbon					
Octane	0.001253153 U				
Pentadecane	0.001150963				
Tridecane	0.001005251 U				
Undecane	0.001007079 U				
Anion					
Chloride	--				
Cyanide	--				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	--				
Antimony	--				
Arsenic	--				
Barium	--				
Beryllium	--				
Cadmium (Diet)	--				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE20SG0010018				
Chromium	--				
Cobalt	--				
Copper	--				
Iron	--				
Lead	--				
Manganese (Diet)	--				
Manganese (Water)	--				
Mercury	--				
Nickel	--				
Selenium	--				
Silver	--				
Thallium	--				
Tin	--				
Vanadium	--				
Zinc	--				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	--				
4,4-DDE	--				
4,4-DDT	--				
Aldrin	--				
alpha-BHC	--				
alpha-Chlordane	--				
beta-BHC	--				
Chlordane	--				
delta-BHC	--				
Dieldrin	--				
Endosulfan I	--				
Endosulfan II	--				
Endosulfan Sulfate	--				
Endrin	--				
Endrin Aldehyde	--				

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil Gas - mg/m3				
	Sample Results for: LE20SG0010018				
gamma-BHC (Lindane)	--				
gamma-Chlordane	--				
Heptachlor	--				
Heptachlor Epoxide	--				
Methoxychlor	--				
Toxaphene	--				
Polychlorinated bi-phenyls					
Aroclor 1016	--				
Aroclor 1016/1260	--				
Aroclor 1221	--				
Aroclor 1232	--				
Aroclor 1242	--				
Aroclor 1248	--				
Aroclor 1254	--				
Aroclor 1260	--				
Radionuclides					
Uranium	--				
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--				
1,2,4,5-Tetrachlorobenzene	--				
2,3,4,6-Tetrachlorophenol	--				
2,4,5-Trichlorophenol	--				
2,4,6-Trichlorophenol	--				
2,4-Dichlorophenol	--				
2,4-Dimethylphenol	--				
2,4-Dinitrophenol	--				
2,4-Dinitrotoluene	--				
2,6-Dichlorophenol	--				
2,6-Dinitrotoluene	--				
2-Chloronaphthalene	--				
2-Chlorophenol	--				
2-Methylnaphthalene	0.0009436 U				
2-Methylphenol (o-Cresol)	--				
2-Nitrophenol	--				
3&4-Methylphenol	--				
3-Methylphenol	--				
3-Nitroaniline	--				

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE20SG0010018			
4,6-Dinitro-2-Methylphenol	--			
4-Bromophenylphenylether	--			
4-Chloro-3-Methylphenol	--			
4-Chloroaniline	--			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	--			
4-Nitrophenol	--			
Acenaphthene	0.001347673 U			
Acenaphthylene	0.003680355 U			
Aniline	--			
Anthracene	0.002090164 U			
Atrazine	--			
Benzo(g,h,i)perylene	--			
Bis(2-ethylhexyl)phthalate	--			
Butylbenzylphthalate	--			
Carbazole	--			
Di-n-butylphthalate	--			
Di-n-octylphthalate	--			
Dibenzofuran	--			
Diethylphthalate	--			
Dimethylphthalate	--			
Diphenylamine	--			
Fluoranthene	0.002090164 U			
Fluorene	0.002086228 U			
Hexachlorobenzene	--			
Hexachlorobutadiene	--			
Hexachlorocyclopentadiene	--			
Hexachloroethane	--			
Naphthalene	0.002138585 U			
Nitrobenzene	--			
o-Toluidine	--			
Pentachlorobenzene	--			
Pentachloronitrobenzene	--			
Pentachlorophenol	--			
Phenanthrene	0.002090164 U			
Phenol	--			

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE20SG0010018			
Pyrene	0.002090164 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	0.051012231			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000962858 U			
1,1,1-Trichloroethane	0.001786984 U			
1,1,2,2-Tetrachloroethane	0.002791239 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--			
1,1,2-Trichloroethane	0.00687281 U			
1,1-Dichloroethane	0.003956043 U			
1,1-Dichloroethene	0.005787206 U			
1,2,3-Trichlorobenzene	--			
1,2,3-Trichloropropane	--			
1,2,4-Trichlorobenzene	--			
1,2,4-Trimethylbenzene	0.001198904 U			
1,2-Dibromo-3-Chloropropane	--			
1,2-Dibromoethane	--			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--			
1,2-Dichlorobenzene	0.010181865 U			
1,2-Dichloroethane	0.000542267 U			
1,2-Dichloropropane	--			
1,3,5-Trimethylbenzene	0.000860297 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.001680145 U			
1,3-Dichloropropane	--			
1,4-Dichlorobenzene	0.001866344 U			
2,2-Dichloropropane	--			
2-Butanone (methyl ethyl ketone)	--			
2-Chlorotoluene	--			
2-Hexanone	--			
4-Chlorotoluene	--			
4-Isopropyltoluene	--			
4-Methyl-2-Pentanone	--			

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE20SG0010018			
Acetaldehyde	--			
Acetone	--			
Acetonitrile	--			
Acetophenone	--			
Acrolein	--			
Acrylonitrile	--			
Benzene	0.000642986 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	--			
Bromodichloromethane	--			
Bromoform	--			
Bromomethane	--			
Carbon Disulfide	--			
Carbon Tetrachloride	0.003514017 U			
Chlorobenzene	0.00221646 U			
Chloroethane	--			
Chloroform	0.003393123 U			
Chloromethane	--			
Chloroprene	--			
cis-1,2-Dichloroethene	0.001600686 U			
cis-1,3-Dichloropropene	--			
Cyclohexane	--			
Dibromochloromethane	--			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	--			
Ethylbenzene	0.001481989 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	--			
m,p-Xylenes	0.001643796 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.001078881 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Soil Gas - mg/m3			
	Sample Results for: LE20SG0010018			
Methylene Chloride	--			
n-Butylbenzene	--			
n-Propylbenzene	--			
o-Xylene	0.001322952 U			
Pentachloroethane	--			
sec-Butylbenzene	--			
Styrene	--			
tert-Butylbenzene	--			
Tetrachloroethene	0.077720561			
Toluene	0.000659774 U			
trans-1,2-Dichloroethene	0.001655093 U			
trans-1,3-Dichloropropene	--			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000634021 U			
Trichlorofluoromethane	--			
Vinyl Acetate	--			
Vinyl Chloride	0.008176523 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Tap Water - mg/L			
	Sample Results for: LE20TW001	Sample Results for: LE20TW001-D		
Alkane Hydrocarbon				
Octane	--	--		
Pentadecane	--	--		
Tridecane	--	--		
Undecane	--	--		
Anion				
Chloride	9.52	9.130000000000001		
Cyanide	0.004 U	0.004 U		
Fluoride	0.2 U	0.204		
Nitrate (measured as NO3-)	3.53	2.97		
Nitrite (measured as NO2-)	0.2 UJ	0.2 U		
Phosphate	0.4 UJ	0.4 U		
Sulfate	8.369999999999999	9.390000000000001		
Dioxins/Furans				
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000006841	0.000000000082		
Disinfectants				
Chlorine (as Cl2)	0.02	--		
Disinfection Byproducts				
Total Trihalomethanes	0.002489	0.00196		
Field Parameters				
Dissolved Oxygen	8.09	--		
Oxidation Reduction Potential	303	--		
pH	7.46	--		
Salinity	--	--		
Specific Conductance	0.82	--		
Temperature	26.2	--		
Total Dissolved Solids	--	--		
Total Solids	--	--		
Turbidity	--	--		
Inorganics				
Aluminum	0.0022 U	0.0022 U		
Antimony	0.00014 U	0.00014 U		
Arsenic	0.00411	0.00428		
Barium	0.0156	0.0153		
Beryllium	0.000032 U	0.000035 U		
Cadmium (Diet)	--	--		
Cadmium (Water)	0.00004 U	0.00004 U		

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Tap Water - mg/L			
	Sample Results for: LE20TW001	Sample Results for: LE20TW001-D		
Chromium	0.000728	0.000787		
Cobalt	0.00007	0.0000834		
Copper	0.0216 J	0.0428 J		
Iron	0.00479	0.0144		
Lead	0.00104	0.002		
Manganese (Diet)	--	--		
Manganese (Water)	0.000281	0.000347		
Mercury	0.000015 U	0.000015 U		
Nickel	0.0098	0.0244		
Selenium	0.000294	0.0002 U		
Silver	0.00012 U	0.00012 U		
Thallium	0.00017 U	0.000035 U		
Tin	0.0001 U	0.0001 U		
Vanadium	0.00146	0.00196		
Zinc	1.26	1.26		
Microorganisms				
Fecal Coliform	1 <	1 <		
Fecal Streptococcus	0	0		
Heterotrophic Plate Count	9	104		
Total Coliforms (including Fecal Coliform and E. Coli)	1 <	1 <		
Pesticides				
4,4-DDD	0.000003 U	0.000003 U		
4,4-DDE	0.000002 U	0.000002 UJ		
4,4-DDT	0.000006 U	0.000006 U		
Aldrin	0.000002 U	0.000002 UJ		
alpha-BHC	0.000003 U	0.000003 UJ		
alpha-Chlordane	0.000003 U	0.000003 UJ		
beta-BHC	0.000002 U	0.000002 UJ		
Chlordane	--	--		
delta-BHC	0.000001 U	0.000001 U		
Dieldrin	0.000003 U	0.000003 UJ		
Endosulfan I	0.000003 U	0.000003 UJ		
Endosulfan II	0.000002 U	0.000002 UJ		
Endosulfan Sulfate	0.000007 UJ	0.000007 UJ		
Endrin	0.000002 U	0.000002 UJ		
Endrin Aldehyde	0.000002 U	0.000002 UJ		

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Tap Water - mg/L			
	Sample Results for: LE20TW001	Sample Results for: LE20TW001-D		
gamma-BHC (Lindane)	0.000001 U	0.000001 U		
gamma-Chlordane	0.000002 U	0.000002 UJ		
Heptachlor	0.000004 U	0.000004 UJ		
Heptachlor Epoxide	0.000004 U	0.000004 UJ		
Methoxychlor	0.000003 U	0.000003 UJ		
Toxaphene	0.00001 U	0.00001 U		
Polychlorinated bi-phenyls				
Aroclor 1016	0.00002 UJ	0.00002 UJ		
Aroclor 1016/1260	--	--		
Aroclor 1221	0.00002 UJ	0.00002 UJ		
Aroclor 1232	0.00002 UJ	0.00002 UJ		
Aroclor 1242	0.00002 UJ	0.00002 UJ		
Aroclor 1248	0.00002 UJ	0.00002 UJ		
Aroclor 1254	0.00002 UJ	0.00002 UJ		
Aroclor 1260	0.00002 UJ	0.00002 UJ		
Radionuclides				
Uranium	0.000986	0.000979		
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.00022 U	0.000209 U		
1,2,4,5-Tetrachlorobenzene	0.00022 U	0.000209 U		
2,3,4,6-Tetrachlorophenol	0.00033 U	0.000313 U		
2,4,5-Trichlorophenol	0.000549 U	0.000522 U		
2,4,6-Trichlorophenol	0.000549 U	0.000522 U		
2,4-Dichlorophenol	0.000769 U	0.000731 U		
2,4-Dimethylphenol	0.0011 U	0.00104 U		
2,4-Dinitrophenol	0.00033 U	0.000313 U		
2,4-Dinitrotoluene	0.0011 U	0.00104 U		
2,6-Dichlorophenol	0.000879 U	0.000835 U		
2,6-Dinitrotoluene	0.00011 U	0.000104 U		
2-Chloronaphthalene	0.00022 U	0.000209 U		
2-Chlorophenol	0.000989 U	0.000939 U		
2-Methylnaphthalene	0.00022 U	0.000209 U		
2-Methylphenol (o-Cresol)	0.000769 U	0.000731 U		
2-Nitrophenol	0.000989 U	0.000939 U		
3&4-Methylphenol	0.00132 U	0.00125 U		
3-Methylphenol	--	--		
3-Nitroaniline	0.0011 U	0.00104 U		

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Tap Water - mg/L			
	Sample Results for: LE20TW001	Sample Results for: LE20TW001-D		
4,6-Dinitro-2-Methylphenol	0.00022 U	0.000209 U		
4-Bromophenylphenylether	0.00011 U	0.000104 U		
4-Chloro-3-Methylphenol	0.000659 U	0.000626 U		
4-Chloroaniline	0.0011 U	0.00104 U		
4-Methylphenol (p-Cresol)	--	--		
4-Nitroaniline	0.0011 U	0.00104 U		
4-Nitrophenol	0.00033 U	0.000313 U		
Acenaphthene	0.00011 U	0.000104 U		
Acenaphthylene	0.00011 U	0.000104 U		
Aniline	0.0011 U	0.00104 U		
Anthracene	0.00011 U	0.000104 U		
Atrazine	0.00011 U	0.000104 U		
Benzo(g,h,i)perylene	0.00011 U	0.000104 U		
Bis(2-ethylhexyl)phthalate	0.00154 U	0.00146 U		
Butylbenzylphthalate	0.00011 U	0.000104 U		
Carbazole	0.00011 U	0.000104 U		
Di-n-butylphthalate	0.00143 U	0.00136 U		
Di-n-octylphthalate	0.00022 UJ	0.000209 UJ		
Dibenzofuran	0.00011 U	0.000104 U		
Diethylphthalate	0.00022 U	0.000209 U		
Dimethylphthalate	0.00011 U	0.000104 U		
Diphenylamine	0.00011 U	0.000104 U		
Fluoranthene	0.00011 U	0.000104 U		
Fluorene	0.00011 U	0.000104 U		
Hexachlorobenzene	0.00011 U	0.000104 U		
Hexachlorobutadiene	0.00022 U	0.000209 U		
Hexachlorocyclopentadiene	0.0011 U	0.00104 U		
Hexachloroethane	0.00011 U	0.000104 U		
Naphthalene	0.00022 U	0.000209 U		
Nitrobenzene	0.00022 U	0.000209 U		
o-Toluidine	0.000769 U	0.000731 U		
Pentachlorobenzene	0.00022 U	0.000209 U		
Pentachloronitrobenzene	0.000003 U	0.000003 UJ		
Pentachlorophenol	0.00033 U	0.000313 U		
Phenanthrene	0.00011 U	0.000104 U		
Phenol	0.0011 U	0.00104 U		

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Tap Water - mg/L			
	Sample Results for: LE20TW001	Sample Results for: LE20TW001-D		
Pyrene	0.00011 U	0.000104 U		
Total Carcinogenic PAHS (BaP TEQs)	0.000132 U	0.0001248 U		
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--	--		
Tph (c08-c40)	--	--		
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U	0.00011 U		
1,1,1-Trichloroethane	0.00017 U	0.00017 U		
1,1,2,2-Tetrachloroethane	0.00005 U	0.00005 U		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U	0.0002 U		
1,1,2-Trichloroethane	0.00011 U	0.00011 U		
1,1-Dichloroethane	0.0001 U	0.0001 U		
1,1-Dichloroethene	0.00013 U	0.00013 U		
1,2,3-Trichlorobenzene	0.00012 U	0.00012 U		
1,2,3-Trichloropropane	0.00013 U	0.00013 U		
1,2,4-Trichlorobenzene	0.00013 U	0.00013 U		
1,2,4-Trimethylbenzene	0.00006 U	0.00006 U		
1,2-Dibromo-3-Chloropropane	0.00025 U	0.00025 U		
1,2-Dibromoethane	0.00009 U	0.00009 U		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--		
1,2-Dichlorobenzene	0.00007 U	0.00007 U		
1,2-Dichloroethane	0.00008 U	0.00008 U		
1,2-Dichloropropane	0.00015 U	0.00015 U		
1,3,5-Trimethylbenzene	0.00008 U	0.00008 U		
1,3-Butadiene	--	--		
1,3-Dichlorobenzene	0.00013 U	0.00013 U		
1,3-Dichloropropane	0.00011 U	0.00011 U		
1,4-Dichlorobenzene	0.00007 U	0.00007 U		
2,2-Dichloropropane	0.0001 U	0.0001 U		
2-Butanone (methyl ethyl ketone)	0.0016 U	0.0016 U		
2-Chlorotoluene	0.00012 U	0.00012 U		
2-Hexanone	0.0002 U	0.0002 U		
4-Chlorotoluene	0.00013 U	0.00013 U		
4-Isopropyltoluene	0.0001 U	0.0001 U		
4-Methyl-2-Pentanone	0.0001 U	0.0001 U		

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Tap Water - mg/L			
	Sample Results for: LE20TW001	Sample Results for: LE20TW001-D		
Acetaldehyde	--	--		
Acetone	0.001 U	0.001 U		
Acetonitrile	--	--		
Acetophenone	--	--		
Acrolein	--	--		
Acrylonitrile	--	--		
Benzene	0.00005 U	0.00005 U		
Bis(2-Chloroethyl)ether	--	--		
Bis(chloromethyl)ether	--	--		
Bromochloromethane	0.0001 U	0.0001 U		
Bromodichloromethane	0.000694	0.000467 J		
Bromoform	0.000519 J	0.00042 J		
Bromomethane	0.00037 U	0.00037 U		
Carbon Disulfide	--	--		
Carbon Tetrachloride	0.00008 U	0.00008 U		
Chlorobenzene	0.00012 U	0.00012 U		
Chloroethane	0.00018 U	0.00018 U		
Chloroform	0.0004	0.00034		
Chloromethane	0.00021 U	0.00021 U		
Chloroprene	--	--		
cis-1,2-Dichloroethene	0.00013 U	0.00013 U		
cis-1,3-Dichloropropene	0.00015 U	0.00015 U		
Cyclohexane	--	--		
Dibromochloromethane	0.000876	0.000733		
Dibromomethane	--	--		
Dichlorodifluoromethane (Freon 12)	0.00012 U	0.00012 U		
Ethylbenzene	0.00005 U	0.00005 U		
Formaldehyde	--	--		
Hexane	--	--		
Isobutyl Alcohol	--	--		
Isophorone	--	--		
Isopropylbenzene	0.00006 U	0.00006 U		
m,p-Xylenes	0.00009 U	0.00009 U		
Methyl Acetate	--	--		
Methyl tert-Butyl Ether	0.00011 U	0.00011 U		
Methylcyclohexane	--	--		

Attachment C - Environmental Sampling Results For Location LE20

Chemical	Tap Water - mg/L			
	Sample Results for: LE20TW001	Sample Results for: LE20TW001-D		
Methylene Chloride	0.00069 U	0.00069 U		
n-Butylbenzene	0.00005 U	0.00005 U		
n-Propylbenzene	0.00007 U	0.00007 U		
o-Xylene	0.00007 U	0.00007 U		
Pentachloroethane	--	--		
sec-Butylbenzene	0.00004 U	0.00004 U		
Styrene	0.00008 U	0.00008 U		
tert-Butylbenzene	0.00019 U	0.00019 U		
Tetrachloroethene	0.00007 U	0.00007 U		
Toluene	0.00017 U	0.00017 U		
trans-1,2-Dichloroethene	0.00015 U	0.00015 U		
trans-1,3-Dichloropropene	0.00007 U	0.00007 U		
Trans-1,4-Dichloro-2-Butene	--	--		
Trichloroethene	0.00013 U	0.00013 U		
Trichlorofluoromethane	0.00019 U	0.00019 U		
Vinyl Acetate	--	--		
Vinyl Chloride	0.00015 U	0.00015 U		
Xylenes, Total	--	--		

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE21

Chemical	Soil - mg/kg				
	Sample Results for: LE21SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.161 UJ				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000028857				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	41300				
Antimony	0.565				
Arsenic	10				
Barium	328				
Beryllium	4.19				
Cadmium (Diet)	0.265				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE21

Chemical	Soil - mg/kg				
	Sample Results for: LE21SS0010006				
Chromium	5.11				
Cobalt	4.58				
Copper	30				
Iron	21100				
Lead	42.7				
Manganese (Diet)	712				
Manganese (Water)	--				
Mercury	0.105 U				
Nickel	5.5				
Selenium	0.659				
Silver	0.206				
Thallium	2.53				
Tin	3.57				
Vanadium	34.8				
Zinc	64.2				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.00047 U				
4,4-DDE	0.000461 U				
4,4-DDT	0.000617 U				
Aldrin	0.000374 U				
alpha-BHC	0.000461 U				
alpha-Chlordane	0.000374 U				
beta-BHC	0.000565 U				
Chlordane	--				
delta-BHC	0.000513 U				
Dieldrin	0.000522 U				
Endosulfan I	0.00047 U				
Endosulfan II	0.000374 U				
Endosulfan Sulfate	0.00053 U				
Endrin	0.0006 U				
Endrin Aldehyde	0.000539 U				

Attachment C - Environmental Sampling Results For Location LE21

Chemical	Soil - mg/kg			
	Sample Results for: LE21SS0010006			
gamma-BHC (Lindane)	0.000443 U			
gamma-Chlordane	0.000409 U			
Heptachlor	0.00053 U			
Heptachlor Epoxide	0.000409 U			
Methoxychlor	0.000661 U			
Toxaphene	0.00682 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00796 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00796 U			
Aroclor 1232	0.00796 U			
Aroclor 1242	0.00796 U			
Aroclor 1248	0.00796 U			
Aroclor 1254	0.00796 U			
Aroclor 1260	0.00796 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0171 U			
1,2,4,5-Tetrachlorobenzene	0.0136 U			
2,3,4,6-Tetrachlorophenol	0.0807 U			
2,4,5-Trichlorophenol	0.14 U			
2,4,6-Trichlorophenol	0.075 U			
2,4-Dichlorophenol	0.0875 U			
2,4-Dimethylphenol	0.168 U			
2,4-Dinitrophenol	0.0625 U			
2,4-Dinitrotoluene	0.0205 U			
2,6-Dichlorophenol	0.0534 U			
2,6-Dinitrotoluene	0.0171 U			
2-Chloronaphthalene	0.0091 U			
2-Chlorophenol	0.0568 U			
2-Methylnaphthalene	0.0193 U			
2-Methylphenol (o-Cresol)	0.114 U			
2-Nitrophenol	0.0716 U			
3&4-Methylphenol	0.131 U			
3-Methylphenol	--			
3-Nitroaniline	0.0205 U			

Attachment C - Environmental Sampling Results For Location LE21

Chemical	Soil - mg/kg			
	Sample Results for: LE21SS0010006			
4,6-Dinitro-2-Methylphenol	0.0762 U			
4-Bromophenylphenylether	0.0136 U			
4-Chloro-3-Methylphenol	0.1 U			
4-Chloroaniline	0.0262 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.05 U			
4-Nitrophenol	0.134 U			
Acenaphthene	0.0114 U			
Acenaphthylene	0.0102 U			
Aniline	0.0227 U			
Anthracene	0.0136 U			
Atrazine	0.0296 U			
Benzo(g,h,i)perylene	0.0318 U			
Bis(2-ethylhexyl)phthalate	0.119 U			
Butylbenzylphthalate	0.0341 U			
Carbazole	0.0205 U			
Di-n-butylphthalate	0.0489 U			
Di-n-octylphthalate	0.0227 U			
Dibenzofuran	0.0114 U			
Diethylphthalate	0.0193 U			
Dimethylphthalate	0.0148 U			
Diphenylamine	0.0591 U			
Fluoranthene	0.0216 U			
Fluorene	0.0136 U			
Hexachlorobenzene	0.0125 U			
Hexachlorobutadiene	0.0114 U			
Hexachlorocyclopentadiene	0.0159 U			
Hexachloroethane	0.0125 U			
Naphthalene	0.00682 U			
Nitrobenzene	0.0171 U			
o-Toluidine	0.0205 U			
Pentachlorobenzene	0.0318 U			
Pentachloronitrobenzene	0.000435 U			
Pentachlorophenol	0.175 U			
Phenanthrene	0.0341 U			
Phenol	0.0387 U			

Attachment C - Environmental Sampling Results For Location LE21

Chemical	Soil - mg/kg			
	Sample Results for: LE21SS0010006			
Pyrene	0.0205 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0491098 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000395 U			
1,1,1-Trichloroethane	0.000526 U			
1,1,2,2-Tetrachloroethane	0.000263 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.000921 U			
1,1,2-Trichloroethane	0.000395 U			
1,1-Dichloroethane	0.000921 U			
1,1-Dichloroethene	0.000658 U			
1,2,3-Trichlorobenzene	0.000658 U			
1,2,3-Trichloropropane	0.000395 U			
1,2,4-Trichlorobenzene	0.000395 U			
1,2,4-Trimethylbenzene	0.000526 U			
1,2-Dibromo-3-Chloropropane	0.000526 U			
1,2-Dibromoethane	0.000132 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000789 U			
1,2-Dichlorobenzene	0.000132 U			
1,2-Dichloroethane	0.000263 U			
1,2-Dichloropropane	0.000395 U			
1,3,5-Trimethylbenzene	0.000263 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000263 U			
1,3-Dichloropropane	0.000263 U			
1,4-Dichlorobenzene	0.000132 U			
2,2-Dichloropropane	0.000658 U			
2-Butanone (methyl ethyl ketone)	0.00237 U			
2-Chlorotoluene	0.000395 U			
2-Hexanone	0.00132 U			
4-Chlorotoluene	0.000263 U			
4-Isopropyltoluene	0.000696 J			
4-Methyl-2-Pentanone	0.000395 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location LE21

Chemical	Soil - mg/kg			
	Sample Results for: LE21SS0010006			
Acetone	0.00763 U			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.00671 U			
Acrylonitrile	--			
Benzene	0.000395 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000526 U			
Bromodichloromethane	0.000526 U			
Bromoform	0.000263 U			
Bromomethane	0.00395 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000526 U			
Chlorobenzene	0.000263 U			
Chloroethane	0.000526 U			
Chloroform	0.000921 U			
Chloromethane	0.00118 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.000921 U			
cis-1,3-Dichloropropene	0.000132 U			
Cyclohexane	--			
Dibromochloromethane	0.000132 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000395 U			
Ethylbenzene	0.00124 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000711 J			
m,p-Xylenes	0.00138 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000658 U			
Methylcyclohexane	--			
Methylene Chloride	0.00132 U			

Attachment C - Environmental Sampling Results For Location LE21

Chemical	Soil - mg/kg			
	Sample Results for: LE21SS0010006			
n-Butylbenzene	0.000263 U			
n-Propylbenzene	0.000756 J			
o-Xylene	0.000263 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000734 J			
Styrene	0.000263 U			
tert-Butylbenzene	0.000526 U			
Tetrachloroethene	0.000789 U			
Toluene	0.00455 J			
trans-1,2-Dichloroethene	0.000789 U			
trans-1,3-Dichloropropene	0.000395 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.000658 U			
Trichlorofluoromethane	0.00105 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000526 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE22

Chemical	Soil - mg/kg				
	Sample Results for: LE22SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.167 UJ				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000057199				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	35000				
Antimony	0.613				
Arsenic	9.390000000000001				
Barium	289				
Beryllium	3.72				
Cadmium (Diet)	0.278				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE22

Chemical	Soil - mg/kg				
	Sample Results for: LE22SS0010006				
Chromium	4.34				
Cobalt	4.43				
Copper	16.2				
Iron	18200				
Lead	35.7				
Manganese (Diet)	614				
Manganese (Water)	--				
Mercury	0.11 U				
Nickel	5.71				
Selenium	0.177				
Silver	0.11				
Thallium	1.54 U				
Tin	3.26				
Vanadium	34				
Zinc	49.2				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.000474 U				
4,4-DDE	0.000465 U				
4,4-DDT	0.000623 U				
Aldrin	0.000377 U				
alpha-BHC	0.000465 U				
alpha-Chlordane	0.000377 U				
beta-BHC	0.00057 U				
Chlordane	--				
delta-BHC	0.000518 U				
Dieldrin	0.000526 U				
Endosulfan I	0.000474 U				
Endosulfan II	0.000377 U				
Endosulfan Sulfate	0.000535 U				
Endrin	0.000605 U				
Endrin Aldehyde	0.000544 U				

Attachment C - Environmental Sampling Results For Location LE22

Chemical	Soil - mg/kg			
	Sample Results for: LE22SS0010006			
gamma-BHC (Lindane)	0.000447 U			
gamma-Chlordane	0.000412 U			
Heptachlor	0.000535 U			
Heptachlor Epoxide	0.000412 U			
Methoxychlor	0.000667 U			
Toxaphene	0.00734 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.00856 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.00856 U			
Aroclor 1232	0.00856 U			
Aroclor 1242	0.00856 U			
Aroclor 1248	0.00856 U			
Aroclor 1254	0.00856 U			
Aroclor 1260	0.00856 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0205 U			
1,2,4,5-Tetrachlorobenzene	0.0164 U			
2,3,4,6-Tetrachlorophenol	0.0968 U			
2,4,5-Trichlorophenol	0.168 U			
2,4,6-Trichlorophenol	0.09 U			
2,4-Dichlorophenol	0.105 U			
2,4-Dimethylphenol	0.202 U			
2,4-Dinitrophenol	0.075 U			
2,4-Dinitrotoluene	0.0246 U			
2,6-Dichlorophenol	0.0641 U			
2,6-Dinitrotoluene	0.0205 U			
2-Chloronaphthalene	0.0109 U			
2-Chlorophenol	0.0682 U			
2-Methylnaphthalene	0.0232 U			
2-Methylphenol (o-Cresol)	0.136 U			
2-Nitrophenol	0.0859 U			
3&4-Methylphenol	0.157 U			
3-Methylphenol	--			
3-Nitroaniline	0.0246 U			

Attachment C - Environmental Sampling Results For Location LE22

Chemical	Soil - mg/kg			
	Sample Results for: LE22SS0010006			
4,6-Dinitro-2-Methylphenol	0.0914 U			
4-Bromophenylphenylether	0.0164 U			
4-Chloro-3-Methylphenol	0.12 U			
4-Chloroaniline	0.0314 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.06 U			
4-Nitrophenol	0.161 U			
Acenaphthene	0.0136 U			
Acenaphthylene	0.0123 U			
Aniline	0.0273 U			
Anthracene	0.0164 U			
Atrazine	0.0355 U			
Benzo(g,h,i)perylene	0.0382 U			
Bis(2-ethylhexyl)phthalate	0.143 U			
Butylbenzylphthalate	0.0409 U			
Carbazole	0.0246 U			
Di-n-butylphthalate	0.0587 U			
Di-n-octylphthalate	0.0273 U			
Dibenzofuran	0.0136 U			
Diethylphthalate	0.0232 U			
Dimethylphthalate	0.0177 U			
Diphenylamine	0.0709 U			
Fluoranthene	0.0259 U			
Fluorene	0.0164 U			
Hexachlorobenzene	0.015 U			
Hexachlorobutadiene	0.0136 U			
Hexachlorocyclopentadiene	0.0191 U			
Hexachloroethane	0.015 U			
Naphthalene	0.00818 U			
Nitrobenzene	0.0205 U			
o-Toluidine	0.0246 U			
Pentachlorobenzene	0.0382 U			
Pentachloronitrobenzene	0.000439 U			
Pentachlorophenol	0.21 U			
Phenanthrene	0.0409 U			
Phenol	0.0464 U			

Attachment C - Environmental Sampling Results For Location LE22

Chemical	Soil - mg/kg			
	Sample Results for: LE22SS0010006			
Pyrene	0.0246 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0589737 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000492 U			
1,1,1-Trichloroethane	0.000656 U			
1,1,2,2-Tetrachloroethane	0.000328 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00115 U			
1,1,2-Trichloroethane	0.000492 U			
1,1-Dichloroethane	0.00115 U			
1,1-Dichloroethene	0.00082 U			
1,2,3-Trichlorobenzene	0.00082 U			
1,2,3-Trichloropropane	0.000492 U			
1,2,4-Trichlorobenzene	0.000492 U			
1,2,4-Trimethylbenzene	0.000656 U			
1,2-Dibromo-3-Chloropropane	0.000656 U			
1,2-Dibromoethane	0.000164 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.000984 U			
1,2-Dichlorobenzene	0.000164 U			
1,2-Dichloroethane	0.000328 U			
1,2-Dichloropropane	0.000492 U			
1,3,5-Trimethylbenzene	0.000328 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.000328 U			
1,3-Dichloropropane	0.000328 U			
1,4-Dichlorobenzene	0.000164 U			
2,2-Dichloropropane	0.00082 U			
2-Butanone (methyl ethyl ketone)	0.00295 U			
2-Chlorotoluene	0.000492 U			
2-Hexanone	0.00164 U			
4-Chlorotoluene	0.000328 U			
4-Isopropyltoluene	0.000531 J			
4-Methyl-2-Pentanone	0.000492 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location LE22

Chemical	Soil - mg/kg			
	Sample Results for: LE22SS0010006			
Acetone	0.0265			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.00836 U			
Acrylonitrile	--			
Benzene	0.000492 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.000656 U			
Bromodichloromethane	0.000656 U			
Bromoform	0.000328 U			
Bromomethane	0.00492 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.000656 U			
Chlorobenzene	0.000328 U			
Chloroethane	0.000656 U			
Chloroform	0.00115 U			
Chloromethane	0.00148 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00115 U			
cis-1,3-Dichloropropene	0.000164 U			
Cyclohexane	--			
Dibromochloromethane	0.000164 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000492 U			
Ethylbenzene	0.000993 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.000328 U			
m,p-Xylenes	0.00138 J			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00082 U			
Methylcyclohexane	--			
Methylene Chloride	0.00175 J			

Attachment C - Environmental Sampling Results For Location LE22

Chemical	Soil - mg/kg			
	Sample Results for: LE22SS0010006			
n-Butylbenzene	0.000328 U			
n-Propylbenzene	0.000492 J			
o-Xylene	0.000328 U			
Pentachloroethane	--			
sec-Butylbenzene	0.000421 J			
Styrene	0.000752 J			
tert-Butylbenzene	0.000656 U			
Tetrachloroethene	0.000984 U			
Toluene	0.00423 J			
trans-1,2-Dichloroethene	0.000984 U			
trans-1,3-Dichloropropene	0.000492 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00082 U			
Trichlorofluoromethane	0.00131 U			
Vinyl Acetate	--			
Vinyl Chloride	0.000656 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LE23

Chemical	Soil - mg/kg				
	Sample Results for: LE23SS0010006				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	--				
Cyanide	0.162 UJ				
Fluoride	--				
Nitrate (measured as NO3-)	--				
Nitrite (measured as NO2-)	--				
Phosphate	--				
Sulfate	--				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000001944				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	--				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	53600				
Antimony	0.602				
Arsenic	18.4				
Barium	365				
Beryllium	5.35				
Cadmium (Diet)	0.333				
Cadmium (Water)	--				

Attachment C - Environmental Sampling Results For Location LE23

Chemical	Soil - mg/kg				
	Sample Results for: LE23SS0010006				
Chromium	5.15				
Cobalt	5.61				
Copper	16.2				
Iron	23900				
Lead	36.8				
Manganese (Diet)	771				
Manganese (Water)	--				
Mercury	0.106 U				
Nickel	5.75				
Selenium	0.138				
Silver	0.096 U				
Thallium	1.87 U				
Tin	3.41				
Vanadium	45.4				
Zinc	56.2				
Microorganisms					
Fecal Coliform	--				
Fecal Streptococcus	--				
Heterotrophic Plate Count	--				
Total Coliforms (including Fecal Coliform and E. Coli)	--				
Pesticides					
4,4-DDD	0.00045 U				
4,4-DDE	0.000442 U				
4,4-DDT	0.000592 U				
Aldrin	0.000358 U				
alpha-BHC	0.000442 U				
alpha-Chlordane	0.000358 U				
beta-BHC	0.000542 U				
Chlordane	--				
delta-BHC	0.000492 U				
Dieldrin	0.0005 U				
Endosulfan I	0.00045 U				
Endosulfan II	0.000358 U				
Endosulfan Sulfate	0.000508 U				
Endrin	0.000575 U				
Endrin Aldehyde	0.000517 U				

Attachment C - Environmental Sampling Results For Location LE23

Chemical	Soil - mg/kg			
	Sample Results for: LE23SS0010006			
gamma-BHC (Lindane)	0.000425 U			
gamma-Chlordane	0.000392 U			
Heptachlor	0.000508 U			
Heptachlor Epoxide	0.000392 U			
Methoxychlor	0.000633 U			
Toxaphene	0.00695 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.0081 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.0081 U			
Aroclor 1232	0.0081 U			
Aroclor 1242	0.0081 U			
Aroclor 1248	0.0081 U			
Aroclor 1254	0.0081 U			
Aroclor 1260	0.0081 U			
Radionuclides				
Uranium	--			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.0197 U			
1,2,4,5-Tetrachlorobenzene	0.0158 U			
2,3,4,6-Tetrachlorophenol	0.0934 U			
2,4,5-Trichlorophenol	0.162 U			
2,4,6-Trichlorophenol	0.0868 U			
2,4-Dichlorophenol	0.101 U			
2,4-Dimethylphenol	0.195 U			
2,4-Dinitrophenol	0.0724 U			
2,4-Dinitrotoluene	0.0237 U			
2,6-Dichlorophenol	0.0618 U			
2,6-Dinitrotoluene	0.0197 U			
2-Chloronaphthalene	0.0105 J			
2-Chlorophenol	0.0658 U			
2-Methylnaphthalene	0.0224 J			
2-Methylphenol (o-Cresol)	0.132 U			
2-Nitrophenol	0.0829 U			
3&4-Methylphenol	0.151 U			
3-Methylphenol	--			
3-Nitroaniline	0.0237 U			

Attachment C - Environmental Sampling Results For Location LE23

Chemical	Soil - mg/kg			
	Sample Results for: LE23SS0010006			
4,6-Dinitro-2-Methylphenol	0.0881 U			
4-Bromophenylphenylether	0.0158 U			
4-Chloro-3-Methylphenol	0.116 U			
4-Chloroaniline	0.0303 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.0579 U			
4-Nitrophenol	0.155 U			
Acenaphthene	0.0132 U			
Acenaphthylene	0.0118 U			
Aniline	0.0263 U			
Anthracene	0.0158 U			
Atrazine	0.0342 U			
Benzo(g,h,i)perylene	0.0368 U			
Bis(2-ethylhexyl)phthalate	0.138 U			
Butylbenzylphthalate	0.0395 U			
Carbazole	0.0237 U			
Di-n-butylphthalate	0.0566 U			
Di-n-octylphthalate	0.0263 U			
Dibenzofuran	0.0132 U			
Diethylphthalate	0.0224 U			
Dimethylphthalate	0.0171 U			
Diphenylamine	0.0684 U			
Fluoranthene	0.025 U			
Fluorene	0.0158 U			
Hexachlorobenzene	0.0145 U			
Hexachlorobutadiene	0.0132 U			
Hexachlorocyclopentadiene	0.0184 U			
Hexachloroethane	0.0145 J			
Naphthalene	0.00899 J			
Nitrobenzene	0.0197 U			
o-Toluidine	0.0237 U			
Pentachlorobenzene	0.0368 U			
Pentachloronitrobenzene	0.000417 U			
Pentachlorophenol	0.203 U			
Phenanthrene	0.0395 U			
Phenol	0.0473 J			

Attachment C - Environmental Sampling Results For Location LE23

Chemical	Soil - mg/kg			
	Sample Results for: LE23SS0010006			
Pyrene	0.0237 U			
Total Carcinogenic PAHS (BaP TEQs)	0.0568741 U			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.000435 U			
1,1,1-Trichloroethane	0.00058 U			
1,1,2,2-Tetrachloroethane	0.00029 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00102 U			
1,1,2-Trichloroethane	0.000435 U			
1,1-Dichloroethane	0.00102 U			
1,1-Dichloroethene	0.000725 U			
1,2,3-Trichlorobenzene	0.000725 U			
1,2,3-Trichloropropane	0.000435 U			
1,2,4-Trichlorobenzene	0.000435 U			
1,2,4-Trimethylbenzene	0.00058 U			
1,2-Dibromo-3-Chloropropane	0.00058 U			
1,2-Dibromoethane	0.000145 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.00087 U			
1,2-Dichlorobenzene	0.000145 U			
1,2-Dichloroethane	0.00029 U			
1,2-Dichloropropane	0.000435 U			
1,3,5-Trimethylbenzene	0.00029 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00029 U			
1,3-Dichloropropane	0.00029 U			
1,4-Dichlorobenzene	0.000145 U			
2,2-Dichloropropane	0.000725 U			
2-Butanone (methyl ethyl ketone)	0.00261 U			
2-Chlorotoluene	0.000435 U			
2-Hexanone	0.00145 U			
4-Chlorotoluene	0.00029 U			
4-Isopropyltoluene	0.00029 U			
4-Methyl-2-Pentanone	0.000435 U			
Acetaldehyde	--			

Attachment C - Environmental Sampling Results For Location LE23

Chemical	Soil - mg/kg			
	Sample Results for: LE23SS0010006			
Acetone	0.00841 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0074 U			
Acrylonitrile	--			
Benzene	0.000435 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.00058 U			
Bromodichloromethane	0.00058 U			
Bromoform	0.00029 U			
Bromomethane	0.00435 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00058 U			
Chlorobenzene	0.00029 U			
Chloroethane	0.00058 U			
Chloroform	0.00102 U			
Chloromethane	0.00131 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00102 U			
cis-1,3-Dichloropropene	0.000145 U			
Cyclohexane	--			
Dibromochloromethane	0.000145 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.000435 U			
Ethylbenzene	0.00048 J			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00029 U			
m,p-Xylenes	0.00087 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.000725 U			
Methylcyclohexane	--			
Methylene Chloride	0.00145 U			

Attachment C - Environmental Sampling Results For Location LE23

Chemical	Soil - mg/kg				
	Sample Results for: LE23SS0010006				
n-Butylbenzene	0.00029 U				
n-Propylbenzene	0.000435 J				
o-Xylene	0.000332 J				
Pentachloroethane	--				
sec-Butylbenzene	0.000318 J				
Styrene	0.00029 U				
tert-Butylbenzene	0.00058 J				
Tetrachloroethene	0.00087 U				
Toluene	0.00155 J				
trans-1,2-Dichloroethene	0.00087 U				
trans-1,3-Dichloropropene	0.000435 U				
Trans-1,4-Dichloro-2-Butene	--				
Trichloroethene	0.000725 U				
Trichlorofluoromethane	0.00116 U				
Vinyl Acetate	--				
Vinyl Chloride	0.00058 U				
Xylenes, Total	--				

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

Attachment C - Environmental Sampling Results For Location LEIW01

Chemical	Irrigation Water - mg/L				
	Sample Results for: LE01IW001				
Alkane Hydrocarbon					
Octane	--				
Pentadecane	--				
Tridecane	--				
Undecane	--				
Anion					
Chloride	66.90000000000001				
Cyanide	0.004 U				
Fluoride	0.918				
Nitrate (measured as NO3-)	293 J				
Nitrite (measured as NO2-)	0.2 UJ				
Phosphate	0.4 UJ				
Sulfate	136				
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000068				
Disinfectants					
Chlorine (as Cl2)	--				
Disinfection Byproducts					
Total Trihalomethanes	0.000148				
Field Parameters					
Dissolved Oxygen	--				
Oxidation Reduction Potential	--				
pH	--				
Salinity	--				
Specific Conductance	--				
Temperature	--				
Total Dissolved Solids	--				
Total Solids	--				
Turbidity	--				
Inorganics					
Aluminum	0.00357				
Antimony	0.000226				
Arsenic	0.00511				
Barium	0.00453				
Beryllium	0.0000879				
Cadmium (Diet)	--				
Cadmium (Water)	0.00004 U				

Attachment C - Environmental Sampling Results For Location LEIW01

Chemical	Irrigation Water - mg/L			
	Sample Results for: LE01IW001			
Chromium	0.00902			
Cobalt	0.000168			
Copper	0.00401			
Iron	0.135			
Lead	0.00232			
Manganese (Diet)	--			
Manganese (Water)	0.00331			
Mercury	0.000015 U			
Nickel	0.0105			
Selenium	0.000784			
Silver	0.00012 U			
Thallium	0.000484 U			
Tin	0.000155 U			
Vanadium	0.0132			
Zinc	12.4			
Microorganisms				
Fecal Coliform	144.5			
Fecal Streptococcus	1781			
Heterotrophic Plate Count	17500			
Total Coliforms (including Fecal Coliform and E. Coli)	200.5			
Pesticides				
4,4-DDD	0.00000306 U			
4,4-DDE	0.00000204 U			
4,4-DDT	0.00000612 U			
Aldrin	0.00000204 U			
alpha-BHC	0.00000306 U			
alpha-Chlordane	0.00000306 U			
beta-BHC	0.00000204 U			
Chlordane	--			
delta-BHC	0.00000102 U			
Dieldrin	0.00000306 U			
Endosulfan I	0.00000306 U			
Endosulfan II	0.00000204 U			
Endosulfan Sulfate	0.00000714 U			
Endrin	0.00000204 U			
Endrin Aldehyde	0.00000204 U			

Attachment C - Environmental Sampling Results For Location LEIW01

Chemical	Irrigation Water - mg/L			
	Sample Results for: LE01IW001			
gamma-BHC (Lindane)	0.00000102 U			
gamma-Chlordane	0.00000204 U			
Heptachlor	0.00000408 U			
Heptachlor Epoxide	0.00000408 U			
Methoxychlor	0.00000306 U			
Toxaphene	0.0000102 U			
Polychlorinated bi-phenyls				
Aroclor 1016	0.0000204 U			
Aroclor 1016/1260	--			
Aroclor 1221	0.0000204 U			
Aroclor 1232	0.0000204 U			
Aroclor 1242	0.0000204 U			
Aroclor 1248	0.0000204 U			
Aroclor 1254	0.0000204 U			
Aroclor 1260	0.0000204 U			
Radionuclides				
Uranium	0.0317			
Semi-Volatile Organic Compounds				
1,1'-Biphenyl	0.000198 U			
1,2,4,5-Tetrachlorobenzene	0.000198 U			
2,3,4,6-Tetrachlorophenol	0.000297 U			
2,4,5-Trichlorophenol	0.000495 U			
2,4,6-Trichlorophenol	0.000495 U			
2,4-Dichlorophenol	0.000693 U			
2,4-Dimethylphenol	0.00099 U			
2,4-Dinitrophenol	0.000297 U			
2,4-Dinitrotoluene	0.00099 U			
2,6-Dichlorophenol	0.000792 U			
2,6-Dinitrotoluene	0.00099 U			
2-Chloronaphthalene	0.000198 U			
2-Chlorophenol	0.000891 U			
2-Methylnaphthalene	0.000198 U			
2-Methylphenol (o-Cresol)	0.000693 U			
2-Nitrophenol	0.000891 U			
3&4-Methylphenol	0.00119 U			
3-Methylphenol	--			
3-Nitroaniline	0.00099 U			

Attachment C - Environmental Sampling Results For Location LEIW01

Chemical	Irrigation Water - mg/L			
	Sample Results for: LE01IW001			
4,6-Dinitro-2-Methylphenol	0.000198 U			
4-Bromophenylphenylether	0.000099 U			
4-Chloro-3-Methylphenol	0.000594 U			
4-Chloroaniline	0.00099 U			
4-Methylphenol (p-Cresol)	--			
4-Nitroaniline	0.00099 U			
4-Nitrophenol	0.000297 U			
Acenaphthene	0.000099 U			
Acenaphthylene	0.000099 U			
Aniline	0.00099 U			
Anthracene	0.000099 U			
Atrazine	0.000099 U			
Benzo(g,h,i)perylene	0.000099 U			
Bis(2-ethylhexyl)phthalate	0.027			
Butylbenzylphthalate	0.000145 J			
Carbazole	0.000099 U			
Di-n-butylphthalate	0.00129 U			
Di-n-octylphthalate	0.000198 U			
Dibenzofuran	0.000099 U			
Diethylphthalate	0.000198 U			
Dimethylphthalate	0.000099 U			
Diphenylamine	0.000099 U			
Fluoranthene	0.000099 U			
Fluorene	0.000099 U			
Hexachlorobenzene	0.000099 U			
Hexachlorobutadiene	0.000198 U			
Hexachlorocyclopentadiene	0.00099 U			
Hexachloroethane	0.000099 U			
Naphthalene	0.000198 U			
Nitrobenzene	0.000198 U			
o-Toluidine	0.000693 U			
Pentachlorobenzene	0.000198 U			
Pentachloronitrobenzene	0.00000306 U			
Pentachlorophenol	0.000297 U			
Phenanthrene	0.000099 U			
Phenol	0.00099 U			

Attachment C - Environmental Sampling Results For Location LEIW01

Chemical	Irrigation Water - mg/L			
	Sample Results for: LE01IW001			
Pyrene	0.000099 U			
Total Carcinogenic PAHS (BaP TEQs)	--			
Total Petroleum Hydrocarbon				
Tph (c03-c20)	--			
Tph (c08-c40)	--			
Volatile Organic Compounds				
1,1,1,2-Tetrachloroethane	0.00011 U			
1,1,1-Trichloroethane	0.00017 U			
1,1,2,2-Tetrachloroethane	0.00005 U			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0002 U			
1,1,2-Trichloroethane	0.00011 U			
1,1-Dichloroethane	0.0001 U			
1,1-Dichloroethene	0.00013 U			
1,2,3-Trichlorobenzene	0.00012 U			
1,2,3-Trichloropropane	0.00013 U			
1,2,4-Trichlorobenzene	0.00013 U			
1,2,4-Trimethylbenzene	0.00006 U			
1,2-Dibromo-3-Chloropropane	0.00025 U			
1,2-Dibromoethane	0.00009 U			
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	0.0004 U			
1,2-Dichlorobenzene	0.00007 U			
1,2-Dichloroethane	0.00008 U			
1,2-Dichloropropane	0.00015 U			
1,3,5-Trimethylbenzene	0.00008 U			
1,3-Butadiene	--			
1,3-Dichlorobenzene	0.00013 U			
1,3-Dichloropropane	0.00011 U			
1,4-Dichlorobenzene	0.00007 U			
2,2-Dichloropropane	0.0001 U			
2-Butanone (methyl ethyl ketone)	0.0016 U			
2-Chlorotoluene	0.00012 U			
2-Hexanone	0.0002 U			
4-Chlorotoluene	0.00013 U			
4-Isopropyltoluene	0.0001 U			
4-Methyl-2-Pentanone	0.0001 U			

Attachment C - Environmental Sampling Results For Location LEIW01

Chemical	Irrigation Water - mg/L			
	Sample Results for: LE01IW001			
Acetaldehyde	--			
Acetone	0.00277 J			
Acetonitrile	--			
Acetophenone	--			
Acrolein	0.0004 U			
Acrylonitrile	--			
Benzene	0.00005 U			
Bis(2-Chloroethyl)ether	--			
Bis(chloromethyl)ether	--			
Bromochloromethane	0.0001 U			
Bromodichloromethane	0.00012 U			
Bromoform	0.00006 U			
Bromomethane	0.00037 U			
Carbon Disulfide	--			
Carbon Tetrachloride	0.00008 U			
Chlorobenzene	0.00012 U			
Chloroethane	0.00018 U			
Chloroform	0.000148 J			
Chloromethane	0.00021 U			
Chloroprene	--			
cis-1,2-Dichloroethene	0.00013 U			
cis-1,3-Dichloropropene	0.00015 U			
Cyclohexane	--			
Dibromochloromethane	0.00014 U			
Dibromomethane	--			
Dichlorodifluoromethane (Freon 12)	0.00012 U			
Ethylbenzene	0.00005 U			
Formaldehyde	--			
Hexane	--			
Isobutyl Alcohol	--			
Isophorone	--			
Isopropylbenzene	0.00006 U			
m,p-Xylenes	0.00009 U			
Methyl Acetate	--			
Methyl tert-Butyl Ether	0.00011 U			
Methylcyclohexane	--			

Attachment C - Environmental Sampling Results For Location LEIW01

Chemical	Irrigation Water - mg/L			
	Sample Results for: LE01IW001			
Methylene Chloride	0.00069 U			
n-Butylbenzene	0.00005 U			
n-Propylbenzene	0.00007 U			
o-Xylene	0.00007 U			
Pentachloroethane	--			
sec-Butylbenzene	0.00004 U			
Styrene	0.00008 U			
tert-Butylbenzene	0.00019 U			
Tetrachloroethene	0.00111			
Toluene	0.00017 U			
trans-1,2-Dichloroethene	0.00015 U			
trans-1,3-Dichloropropene	0.00007 U			
Trans-1,4-Dichloro-2-Butene	--			
Trichloroethene	0.00013 U			
Trichlorofluoromethane	0.00019 U			
Vinyl Acetate	--			
Vinyl Chloride	0.00015 U			
Xylenes, Total	--			

-- = The chemical was not analyzed or no value was available.

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E.Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Data Qualifiers:

Blank (i.e., no qualifier) = The chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

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Attachment D
Comparison of Environmental Sampling Results
to
Screening Concentrations

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Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000010257	--	0.000072	0.0000045	0.001	0.02
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	90	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	39600	86900	77000	--	0.5	--
Antimony	0.44	42.8	31	--	0.01	--
Arsenic	12	164	22	0.39	0.5	30.8
Barium	315	1813	15000	--	0.02	--
Beryllium	4.9	--	160	1400	0.03	0.004
Cadmium (Diet)	0.082	10.6	70	1800	0.001	0.00005

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	6.4	579	--	--	--	--
Cobalt	5.3	36.6	--	--	--	--
Copper	38	3965	3100	--	0.01	--
Iron	19000	154600	55000	--	0.3	--
Lead	47	2052	400	--	0.1	--
Manganese (Diet)	598	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	6.2	689	1600	--	0.004	--
Selenium	--	1.9	390	--	--	--
Silver	0.27	8.132	390	--	0.0007	--
Thallium	2.2	69	5.1	--	0.4	--
Tin	5.8	--	47000	--	0.0001	--
Vanadium	38	187	550	--	0.07	--
Zinc	56	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00242	--	43000	--	0.0000006	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	0.00165	--	67	--	0.00002	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	0.00101	--	2000	--	0.0000005	--
1,2-Dichloroethane	0.00216	--	13000	0.45	0.0000002	0.005
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	0.00122	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	0.000941	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	0.000993	--	10000	2.6	0.00000010	0.0004
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	0.00169	--	1600	--	0.000001	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	0.00176	--	5500	--	0.0000003	--
4-Isopropyltoluene	0.00132	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0226	--	61000	--	0.0000004	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	0.000546	--	90	1.1	0.000006	0.0005
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	0.00154	--	1600	10	0.0000010	0.0002
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	0.00133	--	310	--	0.000004	--
Chloroethane	--	--	15000	--	--	--
Chloroform	0.000907	--	220	0.3	0.000004	0.003
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	0.00106	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00248	--	3600	5.7	0.0000007	0.0004
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.00184	--	2200	--	0.0000008	--
m,p-Xylenes	0.0041	--	600	--	0.000007	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.000874	--	--	--	--	--
n-Propylbenzene	0.00175	--	--	--	--	--
o-Xylene	0.00197	--	5300	--	0.0000004	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.0015	--	--	--	--	--
Styrene	0.00225	--	6500	--	0.0000003	--
tert-Butylbenzene	0.00158	--	--	--	--	--
Tetrachloroethene	0.00213	--	380	0.57	0.000006	0.004
Toluene	0.014	--	5000	--	0.000003	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.1	30.8
BACKGROUND RISK					2.1	30.8
INCREMENTAL RISK					0.03	0.04

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.012113517	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.453732807	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.005325415	2.8	0.0041	0.002	1.3
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.002	1.3
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.002	1.3

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	9.66	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.53	44.3	--	--	255.2	0.08	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	8.94	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000036	0.00000003	--	--	0.000000037	0.0000000005	0.001	--	--	0.0010	0.07
Disinfectants											
Chlorine (as Cl2)	0.04	4.01	--	--	--	--	0.010	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.00271	0.0807	--	--	--	--	0.03	--	--	--	--
Field Parameters											
Dissolved Oxygen	9.01	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	324	--	--	--	--	--	--	--	--	--	--
pH	6.97	--	--	--	--	--	--	--	--	--	--
Salinity	0.1	--	--	--	--	--	--	--	--	--	--
Specific Conductance	1.15	--	--	--	--	--	--	--	--	--	--
Temperature	26.18	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	0.0101	--	--	--	37	--	--	--	--	0.0003	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--
Arsenic	0.00418	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	92.9
Barium	0.0154	2	--	--	7.3	--	0.008	--	--	0.002	--
Beryllium	0.0000836	0.004	--	--	0.073	--	0.02	--	--	0.001	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.0000646	0.005	--	--	0.018	--	0.01	--	--	0.004	--	
Chromium	0.000969	0.1	--	--	--	--	0.010	--	--	--	--	
Cobalt	0.000112	--	--	--	--	--	--	--	--	--	--	
Copper	0.138	--	--	--	1.5	--	--	--	--	0.09	--	
Iron	0.0218	--	--	--	26	--	--	--	--	0.0008	--	
Lead	0.0023	--	--	--	0.02	--	--	--	--	0.1	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00205	--	--	--	0.88	--	--	--	--	0.002	--	
Mercury	0.00002	0.002	0.00063	--	--	--	0.010	0.03	--	--	--	
Nickel	0.0205	--	--	--	0.73	--	--	--	--	0.03	--	
Selenium	0.000318	0.05	--	--	0.18	--	0.006	--	--	0.002	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	1.79	--	--	--	11	--	--	--	--	0.2	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	128	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	--	0.00028	--	--	--	--	
4,4-DDE	--	--	--	--	--	--	0.0002	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	--	0.0002	--	--	--	--	
Aldrin	--	--	--	--	0.0011	--	0.000004	--	--	--	--	
alpha-BHC	--	--	--	--	--	--	0.000011	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	--	0.000037	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	--	0.00019	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	--	0.0000042	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.000829	0.03	--	--	0.11	--	0.03	--	--	0.008	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000494	--	--	--	0.73	0.0011	--	--	--	0.0007	0.4
Bromoform	0.000906	--	--	--	0.73	0.0085	--	--	--	0.001	0.1
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.0003	--	0.2	0.00021	0.37	0.0022	--	0.002	1.4	0.0008	0.1
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.00101	--	--	--	0.73	0.0008	--	--	--	0.001	1.3
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE01

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	0.0000981	--	0.21	--	7.3	--	--	0.0005	--	0.00001	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	0.000123	--	6.3	0.019	--	0.037	--	0.00002	0.006	--	0.003	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	0.00251	0.005	0.57	0.00082	0.37	0.00012	0.5	0.004	3.1	0.007	20.9	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK								0.04	4.5	0.8	115.8	
BACKGROUND RISK								0.03	0	0.6	92.9	
INCREMENTAL RISK								0.006	4.5	0.2	22.9	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.001505672	--	--	--	--
Tridecane	0.001163452	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.141740762	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.098215192	2.8	0.0041	0.04	24.0
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.04	24.0
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.04	24.0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	11.8	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.79	44.3	--	--	255.2	0.09	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.1	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	0.00000003	--	--	0.000000037	0.0000000005	--	--	--	--	--
Disinfectants											
Chlorine (as Cl2)	0.06	4.01	--	--	--	--	0.01	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.00214	0.0807	--	--	--	--	0.03	--	--	--	--
Field Parameters											
Dissolved Oxygen	8.57	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	297	--	--	--	--	--	--	--	--	--	--
pH	7.35	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.87	--	--	--	--	--	--	--	--	--	--
Temperature	23.79	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	--	--	--	--	37	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--
Arsenic	0.00353	0.01	--	--	0.011	0.000045	0.4	--	--	0.3	78.4
Barium	0.016	2	--	--	7.3	--	0.008	--	--	0.002	--
Beryllium	0.0000629	0.004	--	--	0.073	--	0.02	--	--	0.0009	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	
Chromium	0.000681	0.1	--	--	--	--	0.007	--	--	--	--	
Cobalt	0.0000832	--	--	--	--	--	--	--	--	--	--	
Copper	0.046	--	--	--	1.5	--	--	--	0.03	--	--	
Iron	0.123	--	--	--	26	--	--	--	0.005	--	--	
Lead	0.00167	--	--	--	0.02	--	--	--	0.08	--	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00105	--	--	--	0.88	--	--	--	0.001	--	--	
Mercury	0.000016	0.002	0.00063	--	--	--	0.008	0.03	--	--	--	
Nickel	0.0458	--	--	--	0.73	--	--	--	0.06	--	--	
Selenium	--	0.05	--	--	0.18	--	--	--	--	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	0.0011	--	--	--	0.26	--	--	--	0.004	--	--	
Zinc	1.45	--	--	--	11	--	--	--	0.1	--	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	370	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00101	0.03	--	--	0.11	--	0.03	--	--	0.009	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.00038	--	--	--	0.73	0.0011	--	--	--	0.0005	0.3
Bromoform	0.000895	--	--	--	0.73	0.0085	--	--	--	0.001	0.1
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000275	--	0.2	0.00021	0.37	0.0022	--	0.001	1.3	0.0007	0.1
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.00059	--	--	--	0.73	0.0008	--	--	--	0.0008	0.7
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE03

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--
Toluene	--	1	10	--	2.9	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--
TOTAL RISK							0.03	1.3	0.7	79.8	
BACKGROUND RISK							0.03	0	0.5	78.4	
INCREMENTAL RISK							0.001	1.3	0.1	1.3	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000666	--	0.000072	0.0000045	0.0009	0.01
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	83	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	30600	86900	77000	--	0.4	--
Antimony	0.387	42.8	31	--	0.01	--
Arsenic	8.57	164	22	0.39	0.4	22.0
Barium	224	1813	15000	--	0.01	--
Beryllium	3.61	--	160	1400	0.02	0.003
Cadmium (Diet)	0.219	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.91	579	--	--	--	--
Cobalt	4.29	36.6	--	--	--	--
Copper	11.9	3965	3100	--	0.004	--
Iron	14900	154600	55000	--	0.3	--
Lead	26.9	2052	400	--	0.07	--
Manganese (Diet)	472	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.37	689	1600	--	0.003	--
Selenium	0.0814	1.9	390	--	0.0002	--
Silver	0.11	8.132	390	--	0.0003	--
Thallium	--	69	5.1	--	--	--
Tin	2.36	--	47000	--	0.00005	--
Vanadium	32.1	187	550	--	0.06	--
Zinc	43.6	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	0.00622	--	67	--	0.00009	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	0.0058	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	0.00434	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	0.00373	--	10000	2.6	0.0000004	0.001
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	0.0113	--	1600	--	0.000007	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	0.00623	--	5500	--	0.000001	--
4-Isopropyltoluene	0.00514	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0193	--	61000	--	0.0000003	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	0.0025	--	310	--	0.000008	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00597	--	3600	5.7	0.000002	0.001
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.00732	--	2200	--	0.000003	--
m,p-Xylenes	0.0105	--	600	--	0.00002	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.00313	--	--	--	--	--
n-Propylbenzene	0.00622	--	--	--	--	--
o-Xylene	0.00403	--	5300	--	0.0000008	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.00472	--	--	--	--	--
Styrene	0.00586	--	6500	--	0.0000009	--
tert-Butylbenzene	0.00446	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00976	--	5000	--	0.000002	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.2	22.0
BACKGROUND RISK					1.2	22.0
INCREMENTAL RISK					0.02	0.02

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.008011979	--	--	--	--
Tridecane	0.002147883	--	--	--	--
Undecane	0.001075894	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.717626123	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.704052092	2.8	0.0041	0.3	171.7
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.3	171.7
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.3	171.7

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	11.6	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.33	44.3	--	--	255.2	0.08	--	--	0.01	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	9.42	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000034	0.00000003	--	--	0.000000037	0.0000000005	0.001	--	--	0.0009	0.07	--
Disinfectants												
Chlorine (as Cl2)	0.04	4.01	--	--	--	--	0.010	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.00221	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.609999999999	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	294	--	--	--	--	--	--	--	--	--	--	--
pH	7.25	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.97	--	--	--	--	--	--	--	--	--	--	--
Temperature	24.54	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--	--
Arsenic	0.00406	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	90.2	--
Barium	0.015	2	--	--	7.3	--	0.008	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.0000631	0.005	--	--	0.018	--	0.01	--	--	0.004	--	
Chromium	0.000761	0.1	--	--	--	--	0.008	--	--	--	--	
Cobalt	0.000155	--	--	--	--	--	--	--	--	--	--	
Copper	0.0879	--	--	--	1.5	--	--	--	--	0.06	--	
Iron	0.0919	--	--	--	26	--	--	--	--	0.004	--	
Lead	0.0027	--	--	--	0.02	--	--	--	--	0.1	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00231	--	--	--	0.88	--	--	--	--	0.003	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.141	--	--	--	0.73	--	--	--	--	0.2	--	
Selenium	0.000259	0.05	--	--	0.18	--	0.005	--	--	0.001	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000108	--	--	--	22	--	--	--	--	0.000005	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	1.94	--	--	--	11	--	--	--	--	0.2	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	81	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00098	0.03	--	--	0.11	--	0.03	--	--	0.009	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	0.000143	--	--	--	7.3	--	--	--	--	0.00002	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000538	--	--	--	0.73	0.0011	--	--	--	0.0007	0.5
Bromoform	0.000608	--	--	--	0.73	0.0085	--	--	--	0.0008	0.07
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000277	--	0.2	0.00021	0.37	0.0022	--	0.001	1.3	0.0007	0.1
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000787	--	--	--	0.73	0.0008	--	--	--	0.001	1.0
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE07

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.001	1.3	1.0	92.0		
BACKGROUND RISK							0	0	0.8	90.2		
INCREMENTAL RISK							0.001	1.3	0.2	1.7		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	0.172	--	1600	--	0.0001	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000294	--	0.000072	0.0000045	0.0004	0.007
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	22800	86900	77000	--	0.3	--
Antimony	0.293	42.8	31	--	0.009	--
Arsenic	5.64	164	22	0.39	0.3	14.5
Barium	134	1813	15000	--	0.009	--
Beryllium	2.7	--	160	1400	0.02	0.002
Cadmium (Diet)	0.115	10.6	70	1800	0.002	0.00006

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	3.8	579	--	--	--	--
Cobalt	3.24	36.6	--	--	--	--
Copper	8.91	3965	3100	--	0.003	--
Iron	12800	154600	55000	--	0.2	--
Lead	19.2	2052	400	--	0.05	--
Manganese (Diet)	422	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	7.45	689	1600	--	0.005	--
Selenium	0.0888	1.9	390	--	0.0002	--
Silver	--	8.132	390	--	--	--
Thallium	--	69	5.1	--	--	--
Tin	2.02	--	47000	--	0.00004	--
Vanadium	30.4	187	550	--	0.06	--
Zinc	35.2	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.000646	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0255	--	61000	--	0.0000004	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.000494	--	3600	5.7	0.0000001	0.00009
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.000329	--	--	--	--	--
Styrene	0.00111	--	6500	--	0.0000002	--
tert-Butylbenzene	0.000659	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00233	--	5000	--	0.0000005	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
				TOTAL RISK	0.9	14.5
				BACKGROUND RISK	0.9	14.5
				INCREMENTAL RISK	0.02	0.009

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	0.001276534	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.287835583	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	0.009935611	1	0.0011	0.010	9.0
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.003546405	2.8	0.0041	0.001	0.9
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.01	9.9
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.01	9.9

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	12.7	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.9	44.3	--	--	255.2	0.09	--	--	0.02	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	9.949999999999999	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	0.00000003	--	--	0.000000037	0.0000000005	--	--	--	--	--	--
Disinfectants												
Chlorine (as Cl2)	0.4	4.01	--	--	--	--	0.10	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.001981	0.0807	--	--	--	--	0.02	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.84	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	321	--	--	--	--	--	--	--	--	--	--	--
pH	7.39	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.9	--	--	--	--	--	--	--	--	--	--	--
Temperature	25.74	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	4	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--	--
Arsenic	0.00379	0.01	--	--	0.011	0.000045	0.4	--	--	0.3	84.2	--
Barium	0.0175	2	--	--	7.3	--	0.009	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000048	0.005	--	--	0.018	--	0.010	--	--	0.003	--	
Chromium	0.000818	0.1	--	--	--	--	0.008	--	--	--	--	
Cobalt	0.000162	--	--	--	--	--	--	--	--	--	--	
Copper	0.128	--	--	--	1.5	--	--	--	--	0.09	--	
Iron	0.109	--	--	--	26	--	--	--	--	0.004	--	
Lead	0.00403	--	--	--	0.02	--	--	--	--	0.2	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00403	--	--	--	0.88	--	--	--	--	0.005	--	
Mercury	0.000023	0.002	0.00063	--	--	--	0.01	0.04	--	--	--	
Nickel	0.0494	--	--	--	0.73	--	--	--	--	0.07	--	
Selenium	0.000238	0.05	--	--	0.18	--	0.005	--	--	0.001	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	0.00215	--	--	--	0.26	--	--	--	--	0.008	--	
Zinc	1.96	--	--	--	11	--	--	--	--	0.2	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	1230	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	--	0.00028	--	--	--	--	--
4,4-DDE	--	--	--	--	--	--	0.0002	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	--	0.0002	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	--	0.000004	--	--	--	--	--
alpha-BHC	--	--	--	--	--	--	0.000011	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	--	0.000037	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	--	0.00019	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	--	0.0000042	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.000972	0.03	--	--	0.11	--	0.03	--	--	0.009	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--		
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--		
Phenanthrene	--	--	--	--	--	--	--	--	--	--		
Phenol	--	--	--	--	11	--	--	--	--	--		
Pyrene	--	--	--	--	1.1	--	--	--	--	--		
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--		
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--		
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--		
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--		
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--		
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--		
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--		
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--		
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--		
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--		
1,2,3-Trichloropropane	--	--	--	--	0.22	0.000096	--	--	--	--		
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--		
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--		
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.0000032	0.0073	0.000027	--	--	--	--		
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--		
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--		
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--		
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--		
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--		
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--		
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--		
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--		
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--		
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--		
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--		
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--		

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000307	--	--	--	0.73	0.0011	--	--	--	0.0004	0.3
Bromoform	0.000982	--	--	--	0.73	0.0085	--	--	--	0.001	0.1
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000157	--	0.2	0.00021	0.37	0.0022	--	0.0008	0.7	0.0004	0.07
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000535	--	--	--	0.73	0.0008	--	--	--	0.0007	0.7
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE08

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.04	0.7	0.9	85.4		
BACKGROUND RISK							0.04	0	0.6	84.2		
INCREMENTAL RISK							0.0008	0.7	0.3	1.1		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	--	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	--	2.8	0.0041	--	--
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
			TOTAL RISK	0	0
			BACKGROUND RISK	0	0
			INCREMENTAL RISK	0	0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	11.9	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.62	44.3	--	--	255.2	0.08	--	--	0.01	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	9.949999999999999	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	0.00000003	--	--	0.000000037	0.0000000005	--	--	--	--	--	--
Disinfectants												
Chlorine (as Cl2)	0.06	4.01	--	--	--	--	0.01	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.002447	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.539999999999999	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	297	--	--	--	--	--	--	--	--	--	--	--
pH	7.25	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.85	--	--	--	--	--	--	--	--	--	--	--
Temperature	23.95	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	0.00252	--	--	--	37	--	--	--	0.00007	--	--	--
Antimony	0.000362	0.006	--	--	0.015	0.06	--	--	0.02	--	--	--
Arsenic	0.00328	0.01	--	--	0.011	0.000045	0.3	--	0.3	72.9	--	--
Barium	0.0153	2	--	--	7.3	0.008	--	--	0.002	--	--	--
Beryllium	0.0000675	0.004	--	--	0.073	0.02	--	--	0.0009	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	0.000142	0.005	--	--	0.018	--	0.03	--	--	0.008	--	
Chromium	0.000691	0.1	--	--	--	--	0.007	--	--	--	--	
Cobalt	0.0001	--	--	--	--	--	--	--	--	--	--	
Copper	0.433	--	--	--	1.5	--	--	--	--	0.3	--	
Iron	0.0185	--	--	--	26	--	--	--	--	0.0007	--	
Lead	0.00619	--	--	--	0.02	--	--	--	--	0.3	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.00353	--	--	--	0.88	--	--	--	--	0.004	--	
Mercury	0.000015	0.002	0.00063	--	--	--	0.008	0.02	--	--	--	
Nickel	0.068	--	--	--	0.73	--	--	--	--	0.09	--	
Selenium	0.000218	0.05	--	--	0.18	--	0.004	--	--	0.001	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	--	--	--	--	0.26	--	--	--	--	--	--	
Zinc	2.13	--	--	--	11	--	--	--	--	0.2	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	132	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	--	0.00028	--	--	--	--	
4,4-DDE	--	--	--	--	--	--	0.0002	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	--	0.0002	--	--	--	--	
Aldrin	--	--	--	--	0.0011	--	0.000004	--	--	--	--	
alpha-BHC	--	--	--	--	--	--	0.000011	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	--	0.000037	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	--	0.00019	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	--	0.0000042	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.000978	0.03	--	--	0.11	--	0.03	--	--	0.009	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000542	--	--	--	0.73	0.0011	--	--	--	0.0007	0.5
Bromoform	0.000857	--	--	--	0.73	0.0085	--	--	--	0.001	0.1
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000216	--	0.2	0.00021	0.37	0.0022	--	0.001	1.0	0.0006	0.10
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000832	--	--	--	0.73	0.0008	--	--	--	0.001	1.0
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE10

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.02	1.0	1.3	74.6		
BACKGROUND RISK							0.02	0	0.6	72.9		
INCREMENTAL RISK							0.001	1.0	0.6	1.7		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000002622	--	0.000072	0.0000045	0.004	0.06
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	59800	86900	77000	--	0.8	--
Antimony	0.58	42.8	31	--	0.02	--
Arsenic	21	164	22	0.39	1.0	53.8
Barium	426	1813	15000	--	0.03	--
Beryllium	7.9	--	160	1400	0.05	0.006
Cadmium (Diet)	0.4	10.6	70	1800	0.006	0.0002

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	6.1	579	--	--	--	--
Cobalt	6.9	36.6	--	--	--	--
Copper	28	3965	3100	--	0.009	--
Iron	27200	154600	55000	--	0.5	--
Lead	45	2052	400	--	0.1	--
Manganese (Diet)	851	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	0.14	2.66	6.7	--	0.02	--
Nickel	6.5	689	1600	--	0.004	--
Selenium	0.19	1.9	390	--	0.0005	--
Silver	0.13	8.132	390	--	0.0003	--
Thallium	2	69	5.1	--	0.4	--
Tin	3.9	--	47000	--	0.00008	--
Vanadium	54	187	550	--	0.10	--
Zinc	72	3211	23000	--	0.003	--

Microorganisms

Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--

Pesticides

4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00451	--	43000	--	0.000001	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0218	--	61000	--	0.0000004	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.000703	--	5000	--	0.0000001	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					3.0	53.9
BACKGROUND RISK					2.9	53.8
INCREMENTAL RISK					0.05	0.06

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.004003854	--	--	--	--
Tridecane	0.003756793	--	--	--	--
Undecane	0.002822717	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.35178779	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.040132512	2.8	0.0041	0.01	9.8
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.01	9.8
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.01	9.8

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	9.84	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.47	44.3	--	--	255.2	0.08	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	10.2	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000182	0.00000003	--	--	0.000000037	0.0000000005	0.006	--	--	0.005	0.4
Disinfectants											
Chlorine (as Cl2)	0.02	4.01	--	--	--	--	0.005	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.001984	0.0807	--	--	--	--	0.02	--	--	--	--
Field Parameters											
Dissolved Oxygen	9.6	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	301	--	--	--	--	--	--	--	--	--	--
pH	7.43	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.82	--	--	--	--	--	--	--	--	--	--
Temperature	28	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	17	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	0.0118	--	--	--	37	--	--	--	--	0.0003	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--
Arsenic	0.00532	0.01	--	--	0.011	0.000045	0.5	--	--	0.5	118.2
Barium	0.0174	2	--	--	7.3	--	0.009	--	--	0.002	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	
Chromium	0.000769	0.1	--	--	--	--	0.008	--	--	--	--	
Cobalt	0.0000722	--	--	--	--	--	--	--	--	--	--	
Copper	0.0206	--	--	--	1.5	--	--	--	0.01	--	--	
Iron	0.0135	--	--	--	26	--	--	--	0.0005	--	--	
Lead	0.00083	--	--	--	0.02	--	--	--	0.04	--	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.000369	--	--	--	0.88	--	--	--	0.0004	--	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.00196	--	--	--	0.73	--	--	--	0.003	--	--	
Selenium	0.000209	0.05	--	--	0.18	--	0.004	--	0.001	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	0.000123	--	--	--	22	--	--	--	0.000006	--	--	
Vanadium	0.0023	--	--	--	0.26	--	--	--	0.009	--	--	
Zinc	1.32	--	--	--	11	--	--	--	0.1	--	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	9	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.0009	0.03	--	--	0.11	--	0.03	--	--	0.008	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--
Total Petroleum Hydrocarbon											
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000381	--	--	--	0.73	0.0011	--	--	--	0.0005	0.3
Bromoform	0.000787	--	--	--	0.73	0.0085	--	--	--	0.001	0.09
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000237	--	0.2	0.00021	0.37	0.0022	--	0.001	1.1	0.0006	0.1
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000579	--	--	--	0.73	0.0008	--	--	--	0.0008	0.7
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE11

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--
Toluene	--	1	10	--	2.9	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--
TOTAL RISK							0.001	1.1	0.7	119.8	
BACKGROUND RISK							0	0	0.6	118.2	
INCREMENTAL RISK							0.001	1.1	0.08	1.6	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000000542	--	0.000072	0.0000045	0.0008	0.01
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	52400	86900	77000	--	0.7	--
Antimony	0.68	42.8	31	--	0.02	--
Arsenic	14.6	164	22	0.39	0.7	37.4
Barium	413	1813	15000	--	0.03	--
Beryllium	5.85	--	160	1400	0.04	0.004
Cadmium (Diet)	0.235	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.84	579	--	--	--	--
Cobalt	6.08	36.6	--	--	--	--
Copper	57.8	3965	3100	--	0.02	--
Iron	24100	154600	55000	--	0.4	--
Lead	70.7	2052	400	--	0.2	--
Manganese (Diet)	779	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	0.137	2.66	6.7	--	0.02	--
Nickel	6.18	689	1600	--	0.004	--
Selenium	0.183	1.9	390	--	0.0005	--
Silver	0.323	8.132	390	--	0.0008	--
Thallium	1.78	69	5.1	--	0.3	--
Tin	7.6	--	47000	--	0.0002	--
Vanadium	58	187	550	--	0.1	--
Zinc	61.4	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00453	--	43000	--	0.000001	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	--	--	3600	5.7	--	--
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00406	--	5000	--	0.0000008	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.6	37.5
BACKGROUND RISK					2.5	37.4
INCREMENTAL RISK					0.04	0.02

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	10.8	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.5	44.3	--	--	255.2	0.08	--	--	0.01	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	9.34	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	0.00000003	--	--	0.000000037	0.0000000005	--	--	--	--	--	--
Disinfectants												
Chlorine (as Cl2)	0.06	4.01	--	--	--	--	0.01	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.001556	0.0807	--	--	--	--	0.02	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	7.61	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	311	--	--	--	--	--	--	--	--	--	--	--
pH	7.45	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.82	--	--	--	--	--	--	--	--	--	--	--
Temperature	26.97	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--	--
Arsenic	0.00405	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	90.0	--
Barium	0.0171	2	--	--	7.3	--	0.009	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--
Chromium	0.000671	0.1	--	--	--	--	0.007	--	--	--	--
Cobalt	0.000121	--	--	--	--	--	--	--	--	--	--
Copper	0.0403	--	--	--	1.5	--	--	--	0.03	--	--
Iron	0.0223	--	--	--	26	--	--	--	0.0009	--	--
Lead	0.00207	--	--	--	0.02	--	--	--	0.1	--	--
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--
Manganese (Water)	0.000716	--	--	--	0.88	--	--	--	0.0008	--	--
Mercury	0.000025	0.002	0.00063	--	--	--	0.01	0.04	--	--	--
Nickel	0.0251	--	--	--	0.73	--	--	--	0.03	--	--
Selenium	0.000215	0.05	--	--	0.18	--	0.004	--	0.001	--	--
Silver	--	--	--	--	0.18	--	--	--	--	--	--
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--
Tin	--	--	--	--	22	--	--	--	--	--	--
Vanadium	0.00193	--	--	--	0.26	--	--	--	0.007	--	--
Zinc	1.63	--	--	--	11	--	--	--	0.1	--	--
Microorganisms											
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	29	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--
Pesticides											
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00111	0.03	--	--	0.11	--	0.04	--	--	0.01	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--
Total Petroleum Hydrocarbon											
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000186	--	--	--	0.73	0.0011	--	--	--	0.0003	0.2
Bromoform	0.000867	--	--	--	0.73	0.0085	--	--	--	0.001	0.1
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000131	--	0.2	0.00021	0.37	0.0022	--	0.0007	0.6	0.0004	0.06
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000372	--	--	--	0.73	0.0008	--	--	--	0.0005	0.5
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE12

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--
Toluene	--	1	10	--	2.9	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--
TOTAL RISK							0.04	0.6	0.7	90.8	
BACKGROUND RISK							0.04	0	0.6	90.0	
INCREMENTAL RISK							0.0007	0.6	0.2	0.8	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000002007	--	0.000072	0.0000045	0.003	0.04
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	82.59999999999999	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	22100	86900	77000	--	0.3	--
Antimony	0.328	42.8	31	--	0.01	--
Arsenic	6.16	164	22	0.39	0.3	15.8
Barium	158	1813	15000	--	0.01	--
Beryllium	3.25	--	160	1400	0.02	0.002
Cadmium (Diet)	0.187	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	2.82	579	--	--	--	--
Cobalt	3.64	36.6	--	--	--	--
Copper	13.7	3965	3100	--	0.004	--
Iron	12500	154600	55000	--	0.2	--
Lead	25	2052	400	--	0.06	--
Manganese (Diet)	440	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	3.51	689	1600	--	0.002	--
Selenium	--	1.9	390	--	--	--
Silver	--	8.132	390	--	--	--
Thallium	--	69	5.1	--	--	--
Tin	2.27	--	47000	--	0.00005	--
Vanadium	22.5	187	550	--	0.04	--
Zinc	38.8	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.00684	--	43000	--	0.000002	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	0.00425	--	67	--	0.00006	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	0.00483	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	0.003	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	0.00279	--	10000	2.6	0.000003	0.001
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	0.00342	--	1600	--	0.000002	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	0.00373	--	5500	--	0.0000007	--
4-Isopropyltoluene	0.00427	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0122	--	61000	--	0.0000002	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.0042	--	3600	5.7	0.000001	0.0007
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.00319	--	2200	--	0.000001	--
m,p-Xylenes	0.00678	--	600	--	0.00001	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.00324	--	--	--	--	--
n-Propylbenzene	0.00467	--	--	--	--	--
o-Xylene	0.00343	--	5300	--	0.0000006	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.00351	--	--	--	--	--
Styrene	0.00338	--	6500	--	0.0000005	--
tert-Butylbenzene	0.00439	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00439	--	5000	--	0.0000009	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.0	15.8
BACKGROUND RISK					0.9	15.8
INCREMENTAL RISK					0.02	0.05

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.023900771	--	--	--	--
Tridecane	0.006407414	--	--	--	--
Undecane	0.001069844	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.765448648	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.003602536	2.8	0.0041	0.001	0.9
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.001	0.9
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.001	0.9

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	11.3	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.77	44.3	--	--	255.2	0.09	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	9.710000000000	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	0.00000003	--	--	0.000000037	0.0000000005	--	--	--	--	--
Disinfectants											
Chlorine (as Cl2)	0.12	4.01	--	--	--	--	0.03	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.001993	0.0807	--	--	--	--	0.02	--	--	--	--
Field Parameters											
Dissolved Oxygen	9.029999999999	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	309	--	--	--	--	--	--	--	--	--	--
pH	7.16	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.94	--	--	--	--	--	--	--	--	--	--
Temperature	23.98	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	--	--	--	--	37	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--
Arsenic	0.00442	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	98.2
Barium	0.0168	2	--	--	7.3	--	0.008	--	--	0.002	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	
Chromium	0.000579	0.1	--	--	--	0.006	--	--	--	--	--	
Cobalt	0.000101	--	--	--	--	--	--	--	--	--	--	
Copper	0.0513	--	--	--	1.5	--	--	--	0.03	--	--	
Iron	0.0162	--	--	--	26	--	--	--	0.0006	--	--	
Lead	0.0016	--	--	--	0.02	--	--	--	0.08	--	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.000945	--	--	--	0.88	--	--	--	0.001	--	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.0127	--	--	--	0.73	--	--	--	0.02	--	--	
Selenium	0.000304	0.05	--	--	0.18	0.006	--	--	0.002	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	0.00192	--	--	--	0.26	--	--	--	0.007	--	--	
Zinc	2	--	--	--	11	--	--	--	0.2	--	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	58	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.00103	0.03	--	--	0.11	--	0.03	--	--	0.009	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--
Total Petroleum Hydrocarbon											
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000476	--	--	--	0.73	0.0011	--	--	--	0.0007	0.4
Bromoform	0.000593	--	--	--	0.73	0.0085	--	--	--	0.0008	0.07
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000288	--	0.2	0.00021	0.37	0.0022	--	0.001	1.4	0.0008	0.1
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.000636	--	--	--	0.73	0.0008	--	--	--	0.0009	0.8
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE15

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.001	1.4	0.8	99.7		
BACKGROUND RISK							0	0	0.6	98.2		
INCREMENTAL RISK							0.001	1.4	0.1	1.4		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000005303	--	0.000072	0.0000045	0.0007	0.01
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	88.5	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	20900	86900	77000	--	0.3	--
Antimony	0.31	42.8	31	--	0.010	--
Arsenic	5.5	164	22	0.39	0.3	14.1
Barium	130	1813	15000	--	0.009	--
Beryllium	2.9	--	160	1400	0.02	0.002
Cadmium (Diet)	0.17	10.6	70	1800	0.002	0.00009

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	2.9	579	--	--	--	--
Cobalt	2.9	36.6	--	--	--	--
Copper	8.9	3965	3100	--	0.003	--
Iron	10800	154600	55000	--	0.2	--
Lead	20	2052	400	--	0.05	--
Manganese (Diet)	394	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	2.9	689	1600	--	0.002	--
Selenium	0.17	1.9	390	--	0.0004	--
Silver	--	8.132	390	--	--	--
Thallium	--	69	5.1	--	--	--
Tin	1.4	--	47000	--	0.00003	--
Vanadium	19	187	550	--	0.03	--
Zinc	36	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	0.00387	--	310	1.1	0.00001	0.004
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	0.00201	--	67	--	0.00003	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	0.00301	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	0.00168	--	--	--	--	--
1,3-Dichloropropane	0.00223	--	1600	--	0.000001	--
1,4-Dichlorobenzene	0.00218	--	10000	2.6	0.0000002	0.0008
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.00212	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.00963	--	61000	--	0.0000002	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	0.00228	--	1600	10	0.000001	0.0002
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	0.00179	--	310	--	0.000006	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	0.00171	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00395	--	3600	5.7	0.000001	0.0007
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.00365	--	2200	--	0.000002	--
m,p-Xylenes	0.00573	--	600	--	0.000010	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.00142	--	--	--	--	--
n-Propylbenzene	0.00251	--	--	--	--	--
o-Xylene	0.00284	--	5300	--	0.0000005	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.00191	--	--	--	--	--
Styrene	0.0035	--	6500	--	0.0000005	--
tert-Butylbenzene	0.00282	--	--	--	--	--
Tetrachloroethene	0.00332	--	380	0.57	0.000009	0.006
Toluene	0.0115	--	5000	--	0.000002	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					0.8	14.1
BACKGROUND RISK					0.8	14.1
INCREMENTAL RISK					0.02	0.02

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.007184248	--	--	--	--
Tridecane	0.004213085	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.54441613	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.005685086	2.8	0.0041	0.002	1.4
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.002	1.4
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.002	1.4

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Alkane Hydrocarbon											
Octane	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--
Anion											
Chloride	9.58	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--
Fluoride	--	4	--	--	--	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.54	44.3	--	--	255.2	0.08	--	--	0.01	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--
Sulfate	8.279999999999999	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans											
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.000000000843	0.00000003	--	--	0.000000037	0.0000000005	0.03	--	--	0.02	1.6
Disinfectants											
Chlorine (as Cl2)	0.06	4.01	--	--	--	--	0.01	--	--	--	--
Disinfection Byproducts											
Total Trihalomethanes	0.001858	0.0807	--	--	--	--	0.02	--	--	--	--
Field Parameters											
Dissolved Oxygen	8.99	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	321	--	--	--	--	--	--	--	--	--	--
pH	7.13	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	1.1	--	--	--	--	--	--	--	--	--	--
Temperature	31.12	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--
Inorganics											
Aluminum	--	--	--	--	37	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--
Arsenic	0.00406	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	90.2
Barium	0.0146	2	--	--	7.3	--	0.007	--	--	0.002	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	
Chromium	0.000616	0.1	--	--	--	0.006	--	--	--	--	--	
Cobalt	0.000098	--	--	--	--	--	--	--	--	--	--	
Copper	0.0439	--	--	--	1.5	--	--	--	0.03	--	--	
Iron	0.0113	--	--	--	26	--	--	--	0.0004	--	--	
Lead	0.00178	--	--	--	0.02	--	--	--	0.09	--	--	
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	
Manganese (Water)	0.000604	--	--	--	0.88	--	--	--	0.0007	--	--	
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	
Nickel	0.0527	--	--	--	0.73	--	--	--	0.07	--	--	
Selenium	0.000301	0.05	--	--	0.18	0.006	--	--	0.002	--	--	
Silver	--	--	--	--	0.18	--	--	--	--	--	--	
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	
Tin	--	--	--	--	22	--	--	--	--	--	--	
Vanadium	0.00132	--	--	--	0.26	--	--	--	0.005	--	--	
Zinc	1.13	--	--	--	11	--	--	--	0.1	--	--	
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	
Heterotrophic Plate Count	310	--	--	--	--	--	--	--	--	--	--	
Total Coliforms (including Fecal Coliform and E. Coli)	1	0	--	--	--	> MCL	--	--	--	--	--	
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--		
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--		
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--		
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--		
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--		
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--		
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--		
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--		
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--		
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--		
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--		
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--		
Radionuclides												
Uranium	0.00101	0.03	--	--	0.11	--	0.03	--	--	0.009	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	--	--	64	--	33	--	--	--	--	--	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	0.000411	--	--	--	0.73	0.0011	--	--	--	0.0006	0.4
Bromoform	0.000577	--	--	--	0.73	0.0085	--	--	--	0.0008	0.07
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.00023	--	0.2	0.00021	0.37	0.0022	--	0.001	1.1	0.0006	0.1
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	0.00064	--	--	--	0.73	0.0008	--	--	--	0.0009	0.8
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE19

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.001	1.1	0.7	93.2		
BACKGROUND RISK							0	0	0.6	90.2		
INCREMENTAL RISK							0.001	1.1	0.2	3.0		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000043513	--	0.000072	0.0000045	0.006	0.10
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	77.09999999999999	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	28800	86900	77000	--	0.4	--
Antimony	0.363	42.8	31	--	0.01	--
Arsenic	7.79	164	22	0.39	0.4	20.0
Barium	188	1813	15000	--	0.01	--
Beryllium	3.61	--	160	1400	0.02	0.003
Cadmium (Diet)	0.196	10.6	70	1800	0.003	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	4.57	579	--	--	--	--
Cobalt	3.94	36.6	--	--	--	--
Copper	14	3965	3100	--	0.005	--
Iron	15100	154600	55000	--	0.3	--
Lead	27.3	2052	400	--	0.07	--
Manganese (Diet)	508	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	4.15	689	1600	--	0.003	--
Selenium	0.0965	1.9	390	--	0.0002	--
Silver	0.114	8.132	390	--	0.0003	--
Thallium	--	69	5.1	--	--	--
Tin	2.98	--	47000	--	0.00006	--
Vanadium	28.4	187	550	--	0.05	--
Zinc	53.5	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	0.00222	--	67	--	0.00003	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	0.00279	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	0.00172	--	1600	--	0.000001	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.00192	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0478	--	61000	--	0.0000008	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	0.00251	--	310	--	0.0000008	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00284	--	3600	5.7	0.0000008	0.0005
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.00296	--	2200	--	0.000001	--
m,p-Xylenes	0.00522	--	600	--	0.000009	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	0.00136	--	--	--	--	--
n-Propylbenzene	0.00274	--	--	--	--	--
o-Xylene	0.00279	--	5300	--	0.0000005	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.00212	--	--	--	--	--
Styrene	0.00308	--	6500	--	0.0000005	--
tert-Butylbenzene	0.00192	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00524	--	5000	--	0.000001	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					1.2	20.1
BACKGROUND RISK					1.2	20.0
INCREMENTAL RISK					0.03	0.10

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon					
Octane	--	--	--	--	--
Pentadecane	0.001150963	--	--	--	--
Tridecane	--	--	--	--	--
Undecane	--	--	--	--	--
Anion					
Chloride	--	--	--	--	--
Cyanide	--	--	--	--	--
Fluoride	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	--	--	--
Nitrite (measured as NO2-)	--	--	--	--	--
Phosphate	--	--	--	--	--
Sulfate	--	--	--	--	--
Dioxins/Furans					
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	--	--	0.00000000064	--	--
Disinfectants					
Chlorine (as Cl2)	--	--	--	--	--
Disinfection Byproducts					
Total Trihalomethanes	--	--	--	--	--
Field Parameters					
Dissolved Oxygen	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--
pH	--	--	--	--	--
Salinity	--	--	--	--	--
Specific Conductance	--	--	--	--	--
Temperature	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--
Total Solids	--	--	--	--	--
Turbidity	--	--	--	--	--
Inorganics					
Aluminum	--	0.052	--	--	--
Antimony	--	--	--	--	--
Arsenic	--	0.00031	0.0000057	--	--
Barium	--	0.0052	--	--	--
Beryllium	--	0.00021	0.00001	--	--
Cadmium (Diet)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	0.000014	--	--
Chromium	--	--	--	--	--
Cobalt	--	--	--	--	--
Copper	--	--	--	--	--
Iron	--	--	--	--	--
Lead	--	0.017	--	--	--
Manganese (Diet)	--	--	--	--	--
Manganese (Water)	--	0.00052	--	--	--
Mercury	--	0.0031	--	--	--
Nickel	--	--	--	--	--
Selenium	--	--	--	--	--
Silver	--	--	--	--	--
Thallium	--	--	--	--	--
Tin	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	--	--	--	--
Microorganisms					
Fecal Coliform	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--
Pesticides					
4,4-DDD	--	--	--	--	--
4,4-DDE	--	--	--	--	--
4,4-DDT	--	--	0.00025	--	--
Aldrin	--	--	0.000005	--	--
alpha-BHC	--	--	0.000014	--	--
alpha-Chlordane	--	--	--	--	--
beta-BHC	--	--	0.000046	--	--
Chlordane	--	0.0073	0.00024	--	--
delta-BHC	--	--	--	--	--
Dieldrin	--	--	0.0000053	--	--
Endosulfan I	--	--	--	--	--
Endosulfan II	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Endrin	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--
gamma-BHC (Lindane)	--	--	0.000078	--	--
gamma-Chlordane	--	0.0073	0.00024	--	--
Heptachlor	--	--	0.000019	--	--
Heptachlor Epoxide	--	--	0.0000094	--	--
Methoxychlor	--	--	--	--	--
Toxaphene	--	--	0.000076	--	--
Polychlorinated bi-phenyls					
Aroclor 1016	--	--	0.0012	--	--
Aroclor 1016/1260	--	--	0.000043	--	--
Aroclor 1221	--	--	0.000043	--	--
Aroclor 1232	--	--	0.000043	--	--
Aroclor 1242	--	--	0.000043	--	--
Aroclor 1248	--	--	0.000043	--	--
Aroclor 1254	--	--	0.000043	--	--
Aroclor 1260	--	--	0.000043	--	--
Radionuclides					
Uranium	--	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0078	--	--
2,4-Dichlorophenol	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	--
2-Chlorophenol	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	--
3-Methylphenol	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--
4-Chloroaniline	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aniline	--	0.01	--	--	--
Anthracene	--	--	--	--	--
Atrazine	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	--
Carbazole	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenzofuran	--	--	--	--	--
Diethylphthalate	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--
Diphenylamine	--	--	--	--	--
Fluoranthene	--	--	--	--	--
Fluorene	--	--	--	--	--
Hexachlorobenzene	--	--	0.000053	--	--
Hexachlorobutadiene	--	--	0.0011	--	--
Hexachlorocyclopentadiene	--	0.0021	--	--	--
Hexachloroethane	--	--	0.0061	--	--
Naphthalene	--	0.031	0.00072	--	--
Nitrobenzene	--	0.021	--	--	--
o-Toluidine	--	--	0.00048	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Phenol	--	2.1	--	--	--
Pyrene	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	0.0000087	--	--
Total Petroleum Hydrocarbon					
Tph (c03-c20)	0.051012231	--	--	--	--
Tph (c08-c40)	--	--	--	--	--
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	--	--	0.0033	--	--
1,1,1-Trichloroethane	--	52	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.00042	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	310	--	--	--
1,1,2-Trichloroethane	--	--	0.0015	--	--
1,1-Dichloroethane	--	5.2	0.015	--	--
1,1-Dichloroethene	--	2.1	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	0.073	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0021	0.0000016	--	--
1,2-Dibromoethane	--	0.094	0.000041	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--
1,2-Dichlorobenzene	--	2.1	--	--	--
1,2-Dichloroethane	--	25	0.00094	--	--
1,2-Dichloropropane	--	0.042	0.0024	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Butadiene	--	0.021	0.00081	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--
1,4-Dichlorobenzene	--	8.299999999999999	0.0022	--	--
2,2-Dichloropropane	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	52	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	--	--	--
2-Hexanone	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--
4-Methyl-2-Pentanone	--	31	--	--	--
Acetaldehyde	--	0.094	0.011	--	--
Acetone	--	320	--	--	--
Acetonitrile	--	0.63	--	--	--
Acetophenone	--	--	--	--	--
Acrolein	--	0.00021	--	--	--
Acrylonitrile	--	0.021	0.00036	--	--
Benzene	--	0.31	0.0031	--	--
Bis(2-Chloroethyl)ether	--	--	0.000074	--	--
Bis(chloromethyl)ether	--	--	0.00000039	--	--
Bromochloromethane	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--
Bromoform	--	--	0.022	--	--
Bromomethane	--	0.052	--	--	--
Carbon Disulfide	--	7.3	--	--	--
Carbon Tetrachloride	--	2	0.0016	--	--
Chlorobenzene	--	0.52	--	--	--
Chloroethane	--	100	--	--	--
Chloroform	--	1	0.0011	--	--
Chloromethane	--	0.94	0.014	--	--
Chloroprene	--	0.073	--	--	--
cis-1,2-Dichloroethene	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--
Cyclohexane	--	63	--	--	--
Dibromochloromethane	--	--	--	--	--
Dibromomethane	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	2.1	--	--	--
Ethylbenzene	--	10	0.0097	--	--
Formaldehyde	--	0.1	0.0019	--	--
Hexane	--	7.3	--	--	--
Isobutyl Alcohol	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Soil Gas - mg/m3				
	Maximum Detected Concentration	USEPA RSL		USEPA RSL	
		30-Year Exposure		30-Year Exposure	
		NonCancer	Cancer	NCEF	CEF
Isophorone	--	21	--	--	--
Isopropylbenzene	--	4.2	--	--	--
m,p-Xylenes	--	1	--	--	--
Methyl Acetate	--	--	--	--	--
Methyl tert-Butyl Ether	--	31	0.094	--	--
Methylcyclohexane	--	31	--	--	--
Methylene Chloride	--	11	0.052	--	--
n-Butylbenzene	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--
o-Xylene	--	7.3	--	--	--
Pentachloroethane	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Styrene	--	10	--	--	--
tert-Butylbenzene	--	--	--	--	--
Tetrachloroethene	0.077720561	2.8	0.0041	0.03	19.0
Toluene	--	52	--	--	--
trans-1,2-Dichloroethene	--	0.63	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--
Trichloroethene	--	--	0.012	--	--
Trichlorofluoromethane	--	7.3	--	--	--
Vinyl Acetate	--	2.1	--	--	--
Vinyl Chloride	--	1	0.0016	--	--
Xylenes, Total	--	1	--	--	--
TOTAL RISK				0.03	19.0
BACKGROUND RISK				0	0
INCREMENTAL RISK				0.03	19.0

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = None of the volatile organic chemicals tested for in the soil gas samples are naturally occurring. Therefore, the background risk is zero.

Incremental Risk = The Total Risk. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	9.52	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	0.204	4	--	--	--	0.05	--	--	--	--	--	--
Nitrate (measured as NO3-)	3.53	44.3	--	--	255.2	0.08	--	--	0.01	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	9.390000000000	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000684	0.00000003	--	--	0.000000037	0.000000005	0.02	--	--	0.02	1.3	--
Disinfectants												
Chlorine (as Cl2)	0.02	4.01	--	--	--	--	0.005	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.002489	0.0807	--	--	--	--	0.03	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	8.09	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	303	--	--	--	--	--	--	--	--	--	--	--
pH	7.46	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	0.82	--	--	--	--	--	--	--	--	--	--	--
Temperature	26.2	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	--	--	--	--	37	--	--	--	--	--	--	--
Antimony	--	0.006	--	--	0.015	--	--	--	--	--	--	--
Arsenic	0.00428	0.01	--	--	0.011	0.000045	0.4	--	--	0.4	95.1	--
Barium	0.0156	2	--	--	7.3	--	0.008	--	--	0.002	--	--
Beryllium	--	0.004	--	--	0.073	--	--	--	--	--	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--	--
Chromium	0.000787	0.1	--	--	--	--	0.008	--	--	--	--	--
Cobalt	0.0000834	--	--	--	--	--	--	--	--	--	--	--
Copper	0.0428	--	--	--	1.5	--	--	--	--	0.03	--	--
Iron	0.0144	--	--	--	26	--	--	--	--	0.0006	--	--
Lead	0.002	--	--	--	0.02	--	--	--	--	0.1	--	--
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--	--
Manganese (Water)	0.000347	--	--	--	0.88	--	--	--	--	0.0004	--	--
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--	--
Nickel	0.0244	--	--	--	0.73	--	--	--	--	0.03	--	--
Selenium	0.000294	0.05	--	--	0.18	--	0.006	--	--	0.002	--	--
Silver	--	--	--	--	0.18	--	--	--	--	--	--	--
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--	--
Tin	--	--	--	--	22	--	--	--	--	--	--	--
Vanadium	0.00196	--	--	--	0.26	--	--	--	--	0.008	--	--
Zinc	1.26	--	--	--	11	--	--	--	--	0.1	--	--
Microorganisms												
Fecal Coliform	--	0	--	--	--	--	--	--	--	--	--	--
Fecal Streptococcus	0	--	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	104	--	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	0	--	--	--	--	--	--	--	--	--	--
Pesticides												
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--	
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--	
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--	
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--	
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--	
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--	
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--	
Polychlorinated bi-phenyls												
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--	
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--	
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--	
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--	
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--	
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--	
Radionuclides												
Uranium	0.000986	0.03	--	--	0.11	--	0.03	--	--	0.009	--	
Semi-Volatile Organic Compounds												
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--	
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--	
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--	
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--	
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--	
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--	
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--	
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--	
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--	
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--	
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--	
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--	
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--	
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Tap Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	0.006	--	--	0.73	0.0048	--	--	--	--	--
Butylbenzylphthalate	--	--	--	--	7.3	--	--	--	--	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--	
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--	
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--	
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--	
Phenol	--	--	--	--	11	--	--	--	--	--	--	
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--	
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--	
Total Petroleum Hydrocarbon												
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--	
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--	
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--	
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--	
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--	
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--	
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--	
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--	
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--	
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--	
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--	
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--	
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--	
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--	
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--	
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--	
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--	
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--	
Acetone	--	--	64	--	33	--	--	--	--	--	--	
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--	
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--	
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--	
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--	
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--	
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--	
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.000000031	--	--	--	--	--	
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--	
Bromodichloromethane	0.000694	--	--	--	0.73	0.0011	--	--	--	0.0010	0.6	
Bromoform	0.000519	--	--	--	0.73	0.0085	--	--	--	0.0007	0.06	
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--	
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--	
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--	
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--	
Chloroethane	--	--	21	--	--	--	--	--	--	--	--	
Chloroform	0.0004	--	0.2	0.00021	0.37	0.0022	--	0.002	1.9	0.001	0.2	
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--	
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--	
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--	
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--	
Dibromochloromethane	0.000876	--	--	--	0.73	0.0008	--	--	--	0.001	1.1	
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--	
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--	
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--	
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--	
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--	
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--	

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE20

Chemical	Tap Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	--	0.005	0.57	0.00082	0.37	0.00012	--	--	--	--	--	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK							0.002	1.9	0.7	98.4		
BACKGROUND RISK							0	0	0.5	95.1		
INCREMENTAL RISK							0.002	1.9	0.2	3.3		

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000028857	--	0.000072	0.0000045	0.04	0.6
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	41300	86900	77000	--	0.5	--
Antimony	0.565	42.8	31	--	0.02	--
Arsenic	10	164	22	0.39	0.5	25.6
Barium	328	1813	15000	--	0.02	--
Beryllium	4.19	--	160	1400	0.03	0.003
Cadmium (Diet)	0.265	10.6	70	1800	0.004	0.0001

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.11	579	--	--	--	--
Cobalt	4.58	36.6	--	--	--	--
Copper	30	3965	3100	--	0.010	--
Iron	21100	154600	55000	--	0.4	--
Lead	42.7	2052	400	--	0.1	--
Manganese (Diet)	712	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	5.5	689	1600	--	0.003	--
Selenium	0.659	1.9	390	--	0.002	--
Silver	0.206	8.132	390	--	0.0005	--
Thallium	2.53	69	5.1	--	0.5	--
Tin	3.57	--	47000	--	0.00008	--
Vanadium	34.8	187	550	--	0.06	--
Zinc	64.2	3211	23000	--	0.003	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.000696	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	--	--	61000	--	--	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00124	--	3600	5.7	0.0000003	0.0002
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE21

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	0.000711	--	2200	--	0.0000003	--
m,p-Xylenes	0.00138	--	600	--	0.000002	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	0.000756	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.000734	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00455	--	5000	--	0.0000009	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.2	26.3
BACKGROUND RISK					2.1	25.6
INCREMENTAL RISK					0.07	0.6

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE22

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000057199	--	0.000072	0.0000045	0.008	0.1
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	35000	86900	77000	--	0.5	--
Antimony	0.613	42.8	31	--	0.02	--
Arsenic	9.390000000000001	164	22	0.39	0.4	24.1
Barium	289	1813	15000	--	0.02	--
Beryllium	3.72	--	160	1400	0.02	0.003
Cadmium (Diet)	0.278	10.6	70	1800	0.004	0.0002

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE22

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	4.34	579	--	--	--	--
Cobalt	4.43	36.6	--	--	--	--
Copper	16.2	3965	3100	--	0.005	--
Iron	18200	154600	55000	--	0.3	--
Lead	35.7	2052	400	--	0.09	--
Manganese (Diet)	614	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	5.71	689	1600	--	0.004	--
Selenium	0.177	1.9	390	--	0.0005	--
Silver	0.11	8.132	390	--	0.0003	--
Thallium	--	69	5.1	--	--	--
Tin	3.26	--	47000	--	0.00007	--
Vanadium	34	187	550	--	0.06	--
Zinc	49.2	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE22

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	--	--	6300	--	--	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	--	--	310	--	--	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE22

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	--	--	61	35	--	--
Naphthalene	--	--	150	3.9	--	--
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE22

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	--	--	18000	--	--	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE22

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	0.000531	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.0265	--	61000	--	0.0000004	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.000993	--	3600	5.7	0.0000003	0.0002
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE22

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	0.00138	--	600	--	0.000002	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	0.00175	--	1700	11	0.000001	0.0002
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	0.000492	--	--	--	--	--
o-Xylene	--	--	5300	--	--	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.000421	--	--	--	--	--
Styrene	0.000752	--	6500	--	0.0000001	--
tert-Butylbenzene	--	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00423	--	5000	--	0.0000008	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
			TOTAL RISK		1.4	24.2
			BACKGROUND RISK		1.4	24.1
			INCREMENTAL RISK		0.03	0.1

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE23

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Alkane Hydrocarbon						
Octane	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--
Undecane	--	--	--	--	--	--
Anion						
Chloride	--	--	--	--	--	--
Cyanide	--	--	1600	--	--	--
Fluoride	--	--	--	--	--	--
Nitrate (measured as NO3-)	--	--	572000	--	--	--
Nitrite (measured as NO2-)	--	--	25740	--	--	--
Phosphate	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--
Dioxins/Furans						
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.0000001944	--	0.000072	0.0000045	0.003	0.04
Disinfectants						
Chlorine (as Cl2)	--	--	--	--	--	--
Disinfection Byproducts						
Total Trihalomethanes	--	--	--	--	--	--
Field Parameters						
Dissolved Oxygen	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--
pH	--	--	--	--	--	--
Salinity	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--
Temperature	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--
Inorganics						
Aluminum	53600	86900	77000	--	0.7	--
Antimony	0.602	42.8	31	--	0.02	--
Arsenic	18.4	164	22	0.39	0.8	47.2
Barium	365	1813	15000	--	0.02	--
Beryllium	5.35	--	160	1400	0.03	0.004
Cadmium (Diet)	0.333	10.6	70	1800	0.005	0.0002

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE23

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Cadmium (Water)	--	--	--	--	--	--
Chromium	5.15	579	--	--	--	--
Cobalt	5.61	36.6	--	--	--	--
Copper	16.2	3965	3100	--	0.005	--
Iron	23900	154600	55000	--	0.4	--
Lead	36.8	2052	400	--	0.09	--
Manganese (Diet)	771	5923	--	--	--	--
Manganese (Water)	--	--	1800	--	--	--
Mercury	--	2.66	6.7	--	--	--
Nickel	5.75	689	1600	--	0.004	--
Selenium	0.138	1.9	390	--	0.0004	--
Silver	--	8.132	390	--	--	--
Thallium	--	69	5.1	--	--	--
Tin	3.41	--	47000	--	0.00007	--
Vanadium	45.4	187	550	--	0.08	--
Zinc	56.2	3211	23000	--	0.002	--
Microorganisms						
Fecal Coliform	--	--	--	--	--	--
Fecal Streptococcus	--	--	--	--	--	--
Heterotrophic Plate Count	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	--	--	--	--	--	--
Pesticides						
4,4-DDD	--	--	--	2	--	--
4,4-DDE	--	--	--	1.4	--	--
4,4-DDT	--	--	36	1.7	--	--
Aldrin	--	--	1.8	0.029	--	--
alpha-BHC	--	--	--	0.077	--	--
alpha-Chlordane	--	--	--	--	--	--
beta-BHC	--	--	--	0.27	--	--
Chlordane	--	--	35	1.6	--	--
delta-BHC	--	--	--	--	--	--
Dieldrin	--	--	3.1	0.03	--	--
Endosulfan I	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE23

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Endrin	--	--	18	--	--	--
Endrin Aldehyde	--	--	--	--	--	--
gamma-BHC (Lindane)	--	--	21	0.52	--	--
gamma-Chlordane	--	--	35	1.6	--	--
Heptachlor	--	--	31	0.11	--	--
Heptachlor Epoxide	--	--	0.79	0.053	--	--
Methoxychlor	--	--	310	--	--	--
Toxaphene	--	--	--	0.44	--	--
Polychlorinated bi-phenyls						
Aroclor 1016	--	--	3.9	6.3	--	--
Aroclor 1016/1260	--	--	3.9	0.22	--	--
Aroclor 1221	--	--	--	0.17	--	--
Aroclor 1232	--	--	--	0.17	--	--
Aroclor 1242	--	--	--	0.22	--	--
Aroclor 1248	--	--	--	0.22	--	--
Aroclor 1254	--	--	1.1	0.22	--	--
Aroclor 1260	--	--	--	0.22	--	--
Radionuclides						
Uranium	--	--	230	--	--	--
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	--	--	3900	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	18	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	1800	--	--	--
2,4,5-Trichlorophenol	--	--	6100	--	--	--
2,4,6-Trichlorophenol	--	--	61	44	--	--
2,4-Dichlorophenol	--	--	180	--	--	--
2,4-Dimethylphenol	--	--	1200	--	--	--
2,4-Dinitrophenol	--	--	120	--	--	--
2,4-Dinitrotoluene	--	--	120	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	61	--	--	--
2-Chloronaphthalene	0.0105	--	6300	--	0.000002	--
2-Chlorophenol	--	--	390	--	--	--
2-Methylnaphthalene	0.0224	--	310	--	0.00007	--
2-Methylphenol (o-Cresol)	--	--	3100	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE23

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Nitrophenol	--	--	--	--	--	--
3&4-Methylphenol	--	--	310	--	--	--
3-Methylphenol	--	--	3100	--	--	--
3-Nitroaniline	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--
4-Chloroaniline	--	--	240	--	--	--
4-Methylphenol (p-Cresol)	--	--	310	--	--	--
4-Nitroaniline	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--
Acenaphthene	--	--	3400	--	--	--
Acenaphthylene	--	--	--	--	--	--
Aniline	--	--	430	85	--	--
Anthracene	--	--	17000	--	--	--
Atrazine	--	--	2100	2.1	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	1200	35	--	--
Butylbenzylphthalate	--	--	12000	--	--	--
Carbazole	--	--	--	24	--	--
Di-n-butylphthalate	--	--	6100	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--
Diethylphthalate	--	--	49000	--	--	--
Dimethylphthalate	--	--	--	--	--	--
Diphenylamine	--	--	1500	--	--	--
Fluoranthene	--	--	2300	--	--	--
Fluorene	--	--	2300	--	--	--
Hexachlorobenzene	--	--	49	0.3	--	--
Hexachlorobutadiene	--	--	61	6.2	--	--
Hexachlorocyclopentadiene	--	--	370	--	--	--
Hexachloroethane	0.0145	--	61	35	0.0002	0.0004
Naphthalene	0.00899	--	150	3.9	0.00006	0.002
Nitrobenzene	--	--	31	--	--	--
o-Toluidine	--	--	--	2.7	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE23

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Pentachlorobenzene	--	--	49	--	--	--
Pentachloronitrobenzene	--	--	180	1.9	--	--
Pentachlorophenol	--	--	1400	3	--	--
Phenanthrene	--	--	--	--	--	--
Phenol	0.0473	--	18000	--	0.000003	--
Pyrene	--	--	1700	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	--	--	0.015	--	--
Total Petroleum Hydrocarbon						
Tph (c03-c20)	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	--	--	2300	2	--	--
1,1,1-Trichloroethane	--	--	9000	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.59	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	43000	--	--	--
1,1,2-Trichloroethane	--	--	310	1.1	--	--
1,1-Dichloroethane	--	--	1100	3.4	--	--
1,1-Dichloroethene	--	--	250	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	470	0.091	--	--
1,2,4-Trichlorobenzene	--	--	780	180	--	--
1,2,4-Trimethylbenzene	--	--	67	--	--	--
1,2-Dibromo-3-Chloropropane	--	--	5.1	0.0056	--	--
1,2-Dibromoethane	--	--	79	0.034	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	2000	--	--	--
1,2-Dichloroethane	--	--	13000	0.45	--	--
1,2-Dichloropropane	--	--	17	0.93	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--
1,3-Butadiene	--	--	2	0.077	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--
1,3-Dichloropropane	--	--	1600	--	--	--
1,4-Dichlorobenzene	--	--	10000	2.6	--	--
2,2-Dichloropropane	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	28000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE23

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
2-Chlorotoluene	--	--	1600	--	--	--
2-Hexanone	--	--	--	--	--	--
4-Chlorotoluene	--	--	5500	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	5300	--	--	--
Acetaldehyde	--	--	89	11	--	--
Acetone	0.00841	--	61000	--	0.0000001	--
Acetonitrile	--	--	870	--	--	--
Acetophenone	--	--	7800	--	--	--
Acrolein	--	--	0.16	--	--	--
Acrylonitrile	--	--	14	0.24	--	--
Benzene	--	--	90	1.1	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.19	--	--
Bis(chloromethyl)ether	--	--	--	0.00027	--	--
Bromochloromethane	--	--	--	--	--	--
Bromodichloromethane	--	--	1600	10	--	--
Bromoform	--	--	1200	61	--	--
Bromomethane	--	--	7.9	--	--	--
Carbon Disulfide	--	--	670	--	--	--
Carbon Tetrachloride	--	--	47	0.25	--	--
Chlorobenzene	--	--	310	--	--	--
Chloroethane	--	--	15000	--	--	--
Chloroform	--	--	220	0.3	--	--
Chloromethane	--	--	120	1.7	--	--
Chloroprene	--	--	8.6	--	--	--
cis-1,2-Dichloroethene	--	--	780	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Cyclohexane	--	--	7200	--	--	--
Dibromochloromethane	--	--	1200	5.8	--	--
Dibromomethane	--	--	780	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	190	--	--	--
Ethylbenzene	0.00048	--	3600	5.7	0.0000001	0.00008
Formaldehyde	--	--	12000	250000	--	--
Hexane	--	--	570	--	--	--
Isobutyl Alcohol	--	--	23000	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LE23

Chemical	Soil - mg/kg					
	Maximum Detected Concentration	Naples, Italy Background (Maximum)	USEPA RSL		USEPA RSL	
			30-Year Exposure		30-Year Exposure	
			NonCancer	Cancer	NCEF	CEF
Isophorone	--	--	12000	510	--	--
Isopropylbenzene	--	--	2200	--	--	--
m,p-Xylenes	--	--	600	--	--	--
Methyl Acetate	--	--	78000	--	--	--
Methyl tert-Butyl Ether	--	--	15000	39	--	--
Methylcyclohexane	--	--	3400	--	--	--
Methylene Chloride	--	--	1700	11	--	--
n-Butylbenzene	--	--	--	--	--	--
n-Propylbenzene	0.000435	--	--	--	--	--
o-Xylene	0.000332	--	5300	--	0.0000006	--
Pentachloroethane	--	--	--	--	--	--
sec-Butylbenzene	0.000318	--	--	--	--	--
Styrene	--	--	6500	--	--	--
tert-Butylbenzene	0.00058	--	--	--	--	--
Tetrachloroethene	--	--	380	0.57	--	--
Toluene	0.00155	--	5000	--	0.0000003	--
trans-1,2-Dichloroethene	--	--	110	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--
Trichloroethene	--	--	--	2.8	--	--
Trichlorofluoromethane	--	--	800	--	--	--
Vinyl Acetate	--	--	990	--	--	--
Vinyl Chloride	--	--	74	0.06	--	--
Xylenes, Total	--	--	600	--	--	--
TOTAL RISK					2.2	47.2
BACKGROUND RISK					2.2	47.2
INCREMENTAL RISK					0.04	0.05

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

Naples, Italy Background (Maximum) = Cicchella, Domencio, et al. *Background and baseline concentration values of elements harmful to human health in the volcanic soils of the metropolitan and provincial areas of Napoli (Italy)*.

Geochemistry: Exploration, Environment, Analysis Vol. 5 2005, pp.29-40.

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL.

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are present at concentrations less than or equal to the Naples, Italy Background (Maximum) concentrations.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location (i.e., Acceptable or Unacceptable) is based on this risk.

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LEIW01

Chemical	Irrigation Well Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Alkane Hydrocarbon												
Octane	--	--	--	--	--	--	--	--	--	--	--	--
Pentadecane	--	--	--	--	--	--	--	--	--	--	--	--
Tridecane	--	--	--	--	--	--	--	--	--	--	--	--
Undecane	--	--	--	--	--	--	--	--	--	--	--	--
Anion												
Chloride	66.900000000000	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	0.2	--	--	0.73	--	--	--	--	--	--	--
Fluoride	0.918	4	--	--	--	0.2	--	--	--	--	--	--
Nitrate (measured as NO3-)	293	44.3	--	--	255.2	6.6	--	--	1.1	--	--	--
Nitrite (measured as NO2-)	--	3.29	--	--	12.21	--	--	--	--	--	--	--
Phosphate	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	136	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans												
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0.00000000068	0.00000003	--	--	0.000000037	0.0000000005	0.02	--	--	0.02	1.3	--
Disinfectants												
Chlorine (as Cl2)	--	4.01	--	--	--	--	--	--	--	--	--	--
Disinfection Byproducts												
Total Trihalomethanes	0.000148	0.0807	--	--	--	--	0.002	--	--	--	--	--
Field Parameters												
Dissolved Oxygen	--	--	--	--	--	--	--	--	--	--	--	--
Oxidation Reduction Potential	--	--	--	--	--	--	--	--	--	--	--	--
pH	--	--	--	--	--	--	--	--	--	--	--	--
Salinity	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance	--	--	--	--	--	--	--	--	--	--	--	--
Temperature	--	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics												
Aluminum	0.00357	--	--	--	37	--	--	--	--	0.00010	--	--
Antimony	0.000226	0.006	--	--	0.015	--	0.04	--	--	0.02	--	--
Arsenic	0.00511	0.01	--	--	0.011	0.000045	0.5	--	--	0.5	113.6	--
Barium	0.00453	2	--	--	7.3	--	0.002	--	--	0.0006	--	--
Beryllium	0.0000879	0.004	--	--	0.073	--	0.02	--	--	0.001	--	--
Cadmium (Diet)	--	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LEIW01

Chemical	Irrigation Well Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Cadmium (Water)	--	0.005	--	--	0.018	--	--	--	--	--	--
Chromium	0.00902	0.1	--	--	--	0.09	--	--	--	--	--
Cobalt	0.000168	--	--	--	--	--	--	--	--	--	--
Copper	0.00401	--	--	--	1.5	--	--	--	0.003	--	--
Iron	0.135	--	--	--	26	--	--	--	0.005	--	--
Lead	0.00232	--	--	--	0.02	--	--	--	0.1	--	--
Manganese (Diet)	--	--	--	--	--	--	--	--	--	--	--
Manganese (Water)	0.00331	--	--	--	0.88	--	--	--	0.004	--	--
Mercury	--	0.002	0.00063	--	--	--	--	--	--	--	--
Nickel	0.0105	--	--	--	0.73	--	--	--	0.01	--	--
Selenium	0.000784	0.05	--	--	0.18	0.02	--	--	0.004	--	--
Silver	--	--	--	--	0.18	--	--	--	--	--	--
Thallium	--	0.002	--	--	0.0024	--	--	--	--	--	--
Tin	--	--	--	--	22	--	--	--	--	--	--
Vanadium	0.0132	--	--	--	0.26	--	--	--	0.05	--	--
Zinc	12.4	--	--	--	11	--	--	--	1.1	--	--
Microorganisms											
Fecal Coliform	144.5	0	--	--	--	--	> MCL	--	--	--	--
Fecal Streptococcus	1781	--	--	--	--	--	--	--	--	--	--
Heterotrophic Plate Count	17500	--	--	--	--	--	--	--	--	--	--
Total Coliforms (including Fecal Coliform and E. Coli)	200.5	0	--	--	--	--	> MCL	--	--	--	--
Pesticides											
4,4-DDD	--	--	--	--	--	0.00028	--	--	--	--	--
4,4-DDE	--	--	--	--	--	0.0002	--	--	--	--	--
4,4-DDT	--	--	--	--	0.018	0.0002	--	--	--	--	--
Aldrin	--	--	--	--	0.0011	0.000004	--	--	--	--	--
alpha-BHC	--	--	--	--	--	0.000011	--	--	--	--	--
alpha-Chlordane	--	0.002	--	--	--	--	--	--	--	--	--
beta-BHC	--	--	--	--	--	0.000037	--	--	--	--	--
Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--
delta-BHC	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	0.0018	0.0000042	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LEIW01

Chemical	Irrigation Well Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Endrin	--	0.002	--	--	0.011	--	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC (Lindane)	--	0.0002	--	--	0.011	0.000061	--	--	--	--	--
gamma-Chlordane	--	0.002	--	--	0.018	0.00019	--	--	--	--	--
Heptachlor	--	0.0004	--	--	0.018	0.000015	--	--	--	--	--
Heptachlor Epoxide	--	0.0002	--	--	0.00047	0.0000074	--	--	--	--	--
Methoxychlor	--	0.04	--	--	0.18	--	--	--	--	--	--
Toxaphene	--	0.003	--	--	--	0.000061	--	--	--	--	--
Polychlorinated bi-phenyls											
Aroclor 1016	--	--	--	--	0.0026	0.00096	--	--	--	--	--
Aroclor 1016/1260	--	--	--	--	0.0026	0.000034	--	--	--	--	--
Aroclor 1221	--	--	--	0.0000085	--	0.000034	--	--	--	--	--
Aroclor 1232	--	--	--	0.0000085	--	0.000034	--	--	--	--	--
Aroclor 1242	--	--	--	--	--	0.000034	--	--	--	--	--
Aroclor 1248	--	--	--	--	--	0.000034	--	--	--	--	--
Aroclor 1254	--	--	--	--	0.00073	0.000034	--	--	--	--	--
Aroclor 1260	--	--	--	--	--	0.000034	--	--	--	--	--
Radionuclides											
Uranium	0.0317	0.03	--	--	0.11	1.1	--	--	0.3	--	--
Semi-Volatile Organic Compounds											
1,1'-Biphenyl	--	--	--	--	1.8	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	--	--	--	--	0.011	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	--	--	--	--	1.1	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	--	--	3.7	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	--	--	0.037	0.0061	--	--	--	--	--
2,4-Dichlorophenol	--	--	--	--	0.11	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	--	0.73	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	--	--	0.073	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	--	--	0.073	--	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	--	--	0.037	--	--	--	--	--	--
2-Chloronaphthalene	--	--	--	--	2.9	--	--	--	--	--	--
2-Chlorophenol	--	--	--	--	0.18	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	0.15	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	--	--	--	--	1.8	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LEIW01

Chemical	Irrigation Well Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
2-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	--	--	--	--	0.18	--	--	--	--	--	--	--
3-Methylphenol	--	--	--	--	1.8	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenylether	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	--	--	--	--	0.15	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	--	--	--	--	0.18	--	--	--	--	--	--	--
4-Nitroaniline	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	2.2	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	--	--	--	--	0.26	0.012	--	--	--	--	--	--
Anthracene	--	--	--	--	11	--	--	--	--	--	--	--
Atrazine	--	0.003	--	--	1.3	0.00029	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	0.027	0.006	--	--	0.73	0.0048	4.5	--	--	0.04	5.6	--
Butylbenzylphthalate	0.000145	--	--	--	7.3	--	--	--	--	0.00002	--	--
Carbazole	--	--	--	--	--	0.0034	--	--	--	--	--	--
Di-n-butylphthalate	--	--	--	--	3.7	--	--	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	29	--	--	--	--	--	--	--
Dimethylphthalate	--	--	--	--	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	0.91	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	1.5	--	--	--	--	--	--	--
Fluorene	--	--	--	--	1.5	--	--	--	--	--	--	--
Hexachlorobenzene	--	0.001	--	--	0.029	0.000042	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	0.037	0.00086	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	0.05	--	--	0.22	--	--	--	--	--	--	--
Hexachloroethane	--	--	--	--	0.037	0.0048	--	--	--	--	--	--
Naphthalene	--	--	0.0063	0.00014	0.73	--	--	--	--	--	--	--
Nitrobenzene	--	--	0.0042	--	0.018	--	--	--	--	--	--	--
o-Toluidine	--	--	--	--	--	0.00037	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LEIW01

Chemical	Irrigation Well Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
Pentachlorobenzene	--	--	--	--	0.029	--	--	--	--	--	--
Pentachloronitrobenzene	--	--	--	--	0.11	0.00026	--	--	--	--	--
Pentachlorophenol	--	0.001	--	--	1.1	0.00056	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	11	--	--	--	--	--	--
Pyrene	--	--	--	--	1.1	--	--	--	--	--	--
Total Carcinogenic PAHS (BaP TEQs)	--	0.0002	--	--	--	0.0000029	--	--	--	--	--
Total Petroleum Hydrocarbon											
Tph (c03-c20)	--	--	--	--	--	--	--	--	--	--	--
Tph (c08-c40)	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	--	--	--	0.00066	1.1	0.0026	--	--	--	--	--
1,1,1-Trichloroethane	--	0.2	10	--	73	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	0.000084	--	0.00034	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	--	63	--	1100	--	--	--	--	--	--
1,1,2-Trichloroethane	--	0.005	--	0.0003	0.15	0.0012	--	--	--	--	--
1,1-Dichloroethane	--	--	1	0.003	7.3	0.012	--	--	--	--	--
1,1-Dichloroethene	--	0.007	0.42	--	1.8	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	0.22	0.0000096	--	--	--	--	--
1,2,4-Trichlorobenzene	--	0.07	--	--	0.37	0.019	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.015	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane	--	0.0002	0.00042	0.00000032	0.0073	0.000027	--	--	--	--	--
1,2-Dibromoethane	--	0.00005	0.019	0.0000081	0.33	0.000034	--	--	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	0.6	0.42	--	3.3	--	--	--	--	--	--
1,2-Dichloroethane	--	0.005	5.1	0.00019	--	0.00074	--	--	--	--	--
1,2-Dichloropropane	--	0.005	0.0083	0.00049	--	0.0019	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	--	--	0.0042	0.00016	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	0.73	--	--	--	--	--	--
1,4-Dichlorobenzene	--	0.075	1.7	0.00044	--	0.012	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	--	10	--	22	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LEIW01

Chemical	Irrigation Well Water - mg/L										
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL			
			30-Year Exposure					30-Year Exposure			
			Inhalation		Ingestion			Inhalation		Ingestion	
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF
2-Chlorotoluene	--	--	--	--	0.73	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	2.6	--	--	--	--	--	--
4-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	6.3	--	2.9	--	--	--	--	--	--
Acetaldehyde	--	--	0.019	0.0022	--	--	--	--	--	--	--
Acetone	0.00277	--	64	--	33	--	--	0.00004	--	0.00008	--
Acetonitrile	--	--	0.13	--	--	--	--	--	--	--	--
Acetophenone	--	--	--	--	3.7	--	--	--	--	--	--
Acrolein	--	--	0.000042	--	0.018	--	--	--	--	--	--
Acrylonitrile	--	--	0.0042	0.000072	0.037	0.00012	--	--	--	--	--
Benzene	--	0.005	0.063	0.00062	0.15	0.0012	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	--	0.000015	--	0.000061	--	--	--	--	--
Bis(chloromethyl)ether	--	--	--	0.000000078	--	0.00000031	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	0.73	0.0011	--	--	--	--	--
Bromoform	--	--	--	--	0.73	0.0085	--	--	--	--	--
Bromomethane	--	--	0.01	--	0.051	--	--	--	--	--	--
Carbon Disulfide	--	--	1.5	--	3.7	--	--	--	--	--	--
Carbon Tetrachloride	--	0.005	0.39	0.00032	0.026	0.00052	--	--	--	--	--
Chlorobenzene	--	0.1	0.1	--	0.73	--	--	--	--	--	--
Chloroethane	--	--	21	--	--	--	--	--	--	--	--
Chloroform	0.000148	--	0.2	0.00021	0.37	0.0022	--	0.0007	0.7	0.0004	0.07
Chloromethane	--	--	0.19	0.0027	--	0.0052	--	--	--	--	--
Chloroprene	--	--	0.015	--	0.73	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	0.07	--	--	0.37	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	--	--	13	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	0.73	0.0008	--	--	--	--	--
Dibromomethane	--	--	--	--	0.37	--	--	--	--	--	--
Dichlorodifluoromethane (Freon 12)	--	--	0.42	--	7.3	--	--	--	--	--	--
Ethylbenzene	--	0.7	2.1	0.0019	3.7	0.0061	--	--	--	--	--
Formaldehyde	--	--	--	--	7.3	--	--	--	--	--	--
Hexane	--	--	1.5	--	2.2	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	11	--	--	--	--	--	--

Attachment D - Comparison of Environmental Sampling Results to Screening Concentrations For Location LEIW01

Chemical	Irrigation Well Water - mg/L											
	Maximum Detected Concentration	USEPA MCL	USEPA RSL				USEPA MCL EF	USEPA RSL				
			30-Year Exposure					30-Year Exposure				
			Inhalation		Ingestion			Inhalation		Ingestion		
			NonCancer	Cancer	NonCancer	Cancer		NCEF	CEF	NCEF	CEF	
Isophorone	--	--	--	--	7.3	0.071	--	--	--	--	--	
Isopropylbenzene	--	--	0.83	--	3.7	--	--	--	--	--	--	
m,p-Xylenes	--	--	0.21	--	7.3	--	--	--	--	--	--	
Methyl Acetate	--	--	--	--	37	--	--	--	--	--	--	
Methyl tert-Butyl Ether	--	--	6.3	0.019	--	0.037	--	--	--	--	--	
Methylcyclohexane	--	--	6.3	--	--	--	--	--	--	--	--	
Methylene Chloride	--	0.005	2.2	0.01	2.2	0.009	--	--	--	--	--	
n-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
n-Propylbenzene	--	--	--	--	--	--	--	--	--	--	--	
o-Xylene	--	--	1.5	--	73	--	--	--	--	--	--	
Pentachloroethane	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Styrene	--	0.1	2.1	--	7.3	--	--	--	--	--	--	
tert-Butylbenzene	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	0.00111	0.005	0.57	0.00082	0.37	0.00012	0.2	0.002	1.4	0.003	9.3	
Toluene	--	1	10	--	2.9	--	--	--	--	--	--	
trans-1,2-Dichloroethene	--	0.1	0.13	--	0.73	--	--	--	--	--	--	
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--	--	
Trans-1,4-Dichloro-2-Butene	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	--	0.005	--	0.0024	--	0.0052	--	--	--	--	--	
Trichlorofluoromethane	--	--	1.5	--	11	--	--	--	--	--	--	
Vinyl Acetate	--	--	0.42	--	37	--	--	--	--	--	--	
Vinyl Chloride	--	0.002	0.21	0.00032	0.11	0.000017	--	--	--	--	--	
Xylenes, Total	--	10	0.21	--	7.3	--	--	--	--	--	--	
TOTAL RISK								0.003	2.1	3.3	129.8	
BACKGROUND RISK								0	0	1.7	113.6	
INCREMENTAL RISK								0.003	2.1	1.6	16.3	

-- = The chemical was not analyzed, not detected or no value was available.

CEF = Cancer exceedance factor. CEFs were calculated by dividing detected concentrations by cancer-based USEPA RSLs.

A CEF of 1 corresponds to a cancer risk of 1×10^{-6} (one in a million).

NCEF = Noncancer exceedance factor. NCEFs were calculated by dividing detected concentrations by noncancer-based USEPA RSLs.

An NCEF of 1 corresponds to a Hazard Index of 1.

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

USEPA MCL EF = USEPA Maximum Contaminant Level Exceedance Factor. USEPA MCL EFs were calculated by dividing detected concentrations by the USEPA MCLs.

USEPA MCL = USEPA Maximum Contaminant Levels (<http://www.epa.gov/ogwdw/contaminants/index.html>).

Fecal Coliform, Fecal Steptococcus and Total Coliforms (including Fecal Coliform and E. Coli) are reported in CFU/100 mL (CFU = colony forming units).

Heterotrophic Plate Count is reported in CFU/1 mL.

Risk calculations may appear to not add correctly due to rounding.

Total Risk = The risk for all chemicals.

Background Risk = The risk for chemicals (i.e., inorganic elements) that are naturally occurring in the environment but does not include lead, copper and thallium.

Incremental Risk = The risk for chemicals that are not naturally occurring in the environment. The risk management category for this location

(i.e., Acceptable or Unacceptable) is based on this risk. This includes lead, copper and thallium.

The ingestion exceedance factors are presented for informational purposes only. The risk-management decision (i.e., Acceptable or Unacceptable) will be made

based on inhalation because the Navy leadership has stated that all personnel should be using bottled water for drinking, cooking, and brushing teeth.

Attachment E
Chemical Fact Sheets

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to allow for double-sided printing.**

This fact sheet answers the most frequently asked health questions (FAQs) about arsenic. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to higher than average levels of arsenic occur mostly in the workplace, near hazardous waste sites, or in areas with high natural levels. At high levels, inorganic arsenic can cause death. Exposure to lower levels for a long time can cause a discoloration of the skin and the appearance of small corns or warts. Arsenic has been found in at least 1,149 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is arsenic?

Arsenic is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds.

Inorganic arsenic compounds are mainly used to preserve wood. Copper chromated arsenate (CCA) is used to make "pressure-treated" lumber. CCA is no longer used in the U.S. for residential uses; it is still used in industrial applications. Organic arsenic compounds are used as pesticides, primarily on cotton fields and orchards.

What happens to arsenic when it enters the environment?

- Arsenic occurs naturally in soil and minerals and may enter the air, water, and land from wind-blown dust and may get into water from runoff and leaching.
- Arsenic cannot be destroyed in the environment. It can only change its form.
- Rain and snow remove arsenic dust particles from the air.
- Many common arsenic compounds can dissolve in water. Most of the arsenic in water will ultimately end up in soil or sediment.
- Fish and shellfish can accumulate arsenic; most of this arsenic is in an organic form called arsenobetaine that is much less harmful.

How might I be exposed to arsenic?

- Ingesting small amounts present in your food and water or breathing air containing arsenic.
- Breathing sawdust or burning smoke from wood treated with arsenic.
- Living in areas with unusually high natural levels of arsenic in rock.
- Working in a job that involves arsenic production or use, such as copper or lead smelting, wood treating, or pesticide application.

How can arsenic affect my health?

Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs.

Ingesting very high levels of arsenic can result in death. Exposure to lower levels can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Ingesting or breathing low levels of inorganic arsenic for a long time can cause a darkening of the skin and the appearance of small "corns" or "warts" on the palms, soles, and torso.

Skin contact with inorganic arsenic may cause redness and swelling.

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Almost nothing is known regarding health effects of organic arsenic compounds in humans. Studies in animals show that some simple organic arsenic compounds are less toxic than inorganic forms. Ingestion of methyl and dimethyl compounds can cause diarrhea and damage to the kidneys

How likely is arsenic to cause cancer?

Several studies have shown that ingestion of inorganic arsenic can increase the risk of skin cancer and cancer in the liver, bladder, and lungs. Inhalation of inorganic arsenic can cause increased risk of lung cancer. The Department of Health and Human Services (DHHS) and the EPA have determined that inorganic arsenic is a known human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic arsenic is carcinogenic to humans.

How can arsenic affect children?

There is some evidence that long-term exposure to arsenic in children may result in lower IQ scores. There is also some evidence that exposure to arsenic in the womb and early childhood may increase mortality in young adults.

There is some evidence that inhaled or ingested arsenic can injure pregnant women or their unborn babies, although the studies are not definitive. Studies in animals show that large doses of arsenic that cause illness in pregnant females, can also cause low birth weight, fetal malformations, and even fetal death. Arsenic can cross the placenta and has been found in fetal tissues. Arsenic is found at low levels in breast milk.

How can families reduce the risks of exposure to arsenic?

If you use arsenic-treated wood in home projects, you should wear dust masks, gloves, and protective clothing to decrease exposure to sawdust.

- If you live in an area with high levels of arsenic in water or soil, you should use cleaner sources of water and limit contact with soil.
- If you work in a job that may expose you to arsenic, be aware that you may carry arsenic home on your clothing, skin, hair, or tools. Be sure to shower and change clothes before going home.

Is there a medical test to determine whether I've been exposed to arsenic?

There are tests available to measure arsenic in your blood, urine, hair, and fingernails. The urine test is the most reliable test for arsenic exposure within the last few days. Tests on hair and fingernails can measure exposure to high levels of arsenic over the past 6-12 months. These tests can determine if you have been exposed to above-average levels of arsenic. They cannot predict whether the arsenic levels in your body will affect your health.

Has the federal government made recommendations to protect human health?

The EPA has set limits on the amount of arsenic that industrial sources can release to the environment and has restricted or cancelled many of the uses of arsenic in pesticides. EPA has set a limit of 0.01 parts per million (ppm) for arsenic in drinking water.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit (PEL) of 10 micrograms of arsenic per cubic meter of workplace air (10 µg/m³) for 8 hour shifts and 40 hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Arsenic (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about bromoform and dibromochloromethane. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because these substances may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Bromoform and dibromochloromethane are formed as by-products when chlorine is added to water supply systems. High levels of bromoform or dibromochloromethane can damage the liver and kidneys and affect the brain. Bromoform has been found in at least 140 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA). Dibromochloromethane has been found in at least 174 NPL sites.

What are bromoform and dibromochloromethane?

Bromoform and dibromochloromethane are colorless to yellow, heavy, nonflammable, liquids with a sweet odor. Small amounts are formed naturally by plants in the ocean. They are somewhat soluble in water and readily evaporate into the air. Most of the bromoform and dibromochloromethane that enters the environment is formed as byproducts when chlorine is added to drinking water to kill bacteria.

Only small quantities of bromoform and dibromochloromethane currently are produced in the United States. These chemicals were used in the past as solvents and flame retardants, or to make other chemicals, but now they are used mainly as laboratory reagents.

What happens to bromoform and dibromochloromethane when they enter the environment?

- When released to air, bromoform and dibromochloromethane are slowly broken down by reactions with other chemicals and sunlight or can be removed by rain.
- In water, these chemicals will evaporate to the air and/or be broken down slowly by bacteria.
- When released to soil, most will evaporate to the air, some will be broken down by bacteria, and some may filter into the groundwater.
- Bromoform and dibromomethane do not build up in the food chain.

How might I be exposed to bromoform and dibromochloromethane?

- The most likely way people are exposed to bromoform and dibromochloromethane is by drinking chlorinated water.
- You may breathe vapors released from chlorinated water in a swimming pool or during showering and bathing.
- Very small amounts of bromoform and dibromochloromethane may enter your body directly through your skin while bathing or swimming.
- People that live near a waste site containing bromoform or dibromochloromethane could be exposed by drinking contaminated groundwater or breathing vapors released to the air.
- Exposure could occur by breathing bromoform and dibromochloromethane in the air in or near a laboratory or factory that makes or uses these chemicals; however, this is unlikely for most people.

How can bromoform and dibromochloromethane affect my health?

Eating or breathing a large amount of bromoform slows down the normal brain activities and causes sleepiness; this tends to go away within a day. Exposure to very high amounts may cause unconsciousness and even death. No studies are available about health effects in people exposed to dibromochloromethane.

Animals exposed to high amounts of bromoform or dibromochloromethane developed liver and kidney injuries. Exposure to low levels of bromoform or

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dibromochloromethane do not appear to seriously affect the brain, liver, or kidneys. We do not know if bromoform or dibromochloromethane affect fertility in humans, but studies in animals suggest that the risk of doing so is low.

How likely are bromoform and dibromochloromethane to cause cancer?

There is no conclusive evidence that bromoform or dibromochloromethane cause cancer in humans because no cancer studies of humans exposed exclusively to these chemicals are available. Studies in animals indicate that long-term intake of either bromoform or dibromochloromethane can cause liver and kidney cancer.

The International Agency for Research on Cancer (IARC) concluded that bromoform and dibromochloromethane are not classifiable as to human carcinogenicity. The EPA classified bromoform as a probable human carcinogen and dibromochloromethane as a possible human carcinogen.

How can bromoform and dibromochloromethane affect children?

The only information regarding effects of bromoform on the health of children is that from the early 1900s when this chemical was used as a sedative to treat children with whooping cough. In some cases of overdosing with extremely high doses, children appeared drowsy, then lifeless, just before dying. We do not know whether children are more susceptible to the effects of bromoform and dibromochloromethane than adults.

How can families reduce the risks of exposure to bromoform and dibromochloromethane?

- Families can reduce their exposure to bromoform and dibromochloromethane from tap water by installing commercially available filter systems at home.
- While bromoform is no longer used as a medicine, keeping children away from, or supervising children with, chemicals brought into the home, will reduce the potential for accidental exposures.

- Families can reduce their exposure by taking shorter baths or showers in water in which these chemicals are present and opening bathroom windows or using ceiling ventilation fans whenever possible.

Is there a medical test to determine whether I've been exposed to bromoform and dibromochloromethane?

Tests are available to measure levels of these chemicals and their breakdown products in samples of your blood, breath, or fat. These tests are not routinely available in a doctor's office because they require special equipment. Because bromoform and dibromochloromethane are eliminated from the body fairly quickly, these tests are only effective in detecting recent exposures (within 1 or 2 days at the most).

Has the federal government made recommendations to protect human health?

The EPA recommends that drinking water contain no more than 0.7 parts per million (0.7 ppm) of bromoform and 0.7 ppm of dibromochloromethane.

The Occupational Safety and Health Administration (OSHA) set a limit of 0.5 ppm for the level of bromoform in workplace air during an 8-hour workday, 40-hour work week. Because dibromochloromethane has such a limited use, OSHA has not set limits of exposure for workplace air.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Bromoform and Dibromochloromethane (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about chloroform. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to chloroform can occur when breathing contaminated air or when drinking or touching the substance or water containing it. Breathing chloroform can cause dizziness, fatigue, and headaches. Breathing chloroform or ingesting chloroform over long periods of time may damage your liver and kidneys. It can cause sores if large amounts touch your skin. This substance has been found in at least 717 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is chloroform?

(Pronounced klôr'ə-fôrm')

Chloroform is a colorless liquid with a pleasant, nonirritating odor and a slightly sweet taste. It will burn only when it reaches very high temperatures.

In the past, chloroform was used as an inhaled anesthetic during surgery, but it isn't used that way today. Today, chloroform is used to make other chemicals and can also be formed in small amounts when chlorine is added to water.

Other names for chloroform are trichloromethane and methyl trichloride.

What happens to chloroform when it enters the environment?

- Chloroform evaporates easily into the air.
- Most of the chloroform in air breaks down eventually, but it is a slow process.
- The breakdown products in air include phosgene and hydrogen chloride, which are both toxic.
- It doesn't stick to soil very well and can travel through soil to groundwater.

- Chloroform dissolves easily in water and some of it may break down to other chemicals.
- Chloroform lasts a long time in groundwater.
- Chloroform doesn't appear to build up in great amounts in plants and animals.

How might I be exposed to chloroform?

- Drinking water or beverages made using water containing chloroform.
- Breathing indoor or outdoor air containing it, especially in the workplace.
- Eating food that contains it.
- Skin contact with chloroform or water that contains it, such as in swimming pools.

How can chloroform affect my health?

Breathing about 900 parts of chloroform per million parts air (900 ppm) for a short time can cause dizziness, fatigue, and headache. Breathing air, eating food, or drinking water containing high levels of chloroform for long periods of time may damage your liver and kidneys. Large amounts of chloroform can cause sores when chloroform touches your skin.

ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>

It isn't known whether chloroform causes reproductive effects or birth defects in people.

Animal studies have shown that miscarriages occurred in rats and mice that breathed air containing 30 to 300 ppm chloroform during pregnancy and also in rats that ate chloroform during pregnancy. Offspring of rats and mice that breathed chloroform during pregnancy had birth defects. Abnormal sperm were found in mice that breathed air containing 400 ppm chloroform for a few days.

How likely is chloroform to cause cancer?

The Department of Health and Human Services (DHHS) has determined that chloroform may reasonably be anticipated to be a carcinogen.

Rats and mice that ate food or drank water with chloroform developed cancer of the liver and kidneys.

Is there a medical test to show whether I've been exposed to chloroform?

Although the amounts of chloroform in the air that you exhale and in blood, urine, and body tissues can be measured, there is no reliable test to determine how much chloroform you have been exposed to or whether you will experience any harmful effects.

The measurement of chloroform in body fluids and tissues may help to determine if you have come into contact with large amounts of chloroform, but these tests are useful for only a short time after you are exposed. Chloroform in your body might also indicate that you have come into contact with other chemicals.

Has the federal government made recommendations to protect human health?

The EPA drinking water limit for total trihalomethanes, a class of chemicals that includes chloroform, is 100 micrograms per liter of water (100 µg/L).

The EPA requires that spills or accidental releases of 10 pounds or more of chloroform into the environment be reported to the EPA.

The Occupational Safety and Health Administration (OSHA) has set the maximum allowable concentration of chloroform in workroom air during an 8-hour workday in a 40-hour workweek at 50 ppm.

Glossary

Carcinogenicity: A substance with the ability to cause cancer.

CAS: Chemical Abstracts Service.

Ingesting: Taking food or drink into your body.

Microgram (µg): One millionth of a gram.

Miscarriage: Pregnancy loss.

ppm: Parts per million.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Chloroform (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet was created from information obtained from the United States Environmental Protection Agency (USEPA) Total Coliform Rule, found at <http://www.epa.gov/safewater/disinfection/tcr/index.html>. This fact sheet answers the most frequently asked health questions (FAQs) about coliforms and fecal coliforms. It is important you understand this information because these substances may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

Highlights: Total coliforms and fecal coliforms are groups of bacteria used as indicators of possible sewage contamination because they are commonly found in human and animal feces. Although they are generally not harmful themselves, they indicate the possible presence of pathogenic (disease-causing) bacteria, viruses, and protozoans that also live in human and animal digestive systems. Therefore, their presence in well water suggests that pathogenic microorganisms might also be present and that drinking well water might be a health risk. Sources of fecal contamination to well water includes septic systems, domestic and wild animal manure, and storm runoff.

What are total coliforms/fecal coliforms?

Total coliforms and fecal coliforms are a group of closely related bacteria that are usually free-living in the environment, but that are also present in water contaminated with human and animal feces. In general, coliform counts give an overall indication of the sanitary condition of a water supply. Fecal coliforms are bacteria found in feces, and are a subgroup of coliforms. Fecal coliforms normally reside in the intestinal tract of warm-blooded animals. The fecal coliform group includes both pathogen (disease-causing) and nonpathogenic bacteria. The presence of fecal coliforms in drinking water indicates that disease-causing organisms may be present.

Coliform contamination can occur when increased run-off enters the drinking water source (for example, following heavy rains). It can also happen due to a break in the water distribution system (pipes), or failure of a water treatment process.

What happens to coliforms/fecal coliforms when they enter the environment?

- Coliforms are free-living bacteria that are normally found in the environment.
- Coliforms are short-lived in the environment, outside of a warm-blooded host.

How might I be exposed to total coliforms/fecal coliforms?

- Ingesting coliforms in drinking water
- Ingesting fecal contaminated foodstuffs

How can coliforms/fecal coliforms affect my health?

Most coliform bacteria do not cause illness. However, their presence in a water system is a public health concern because of the potential for disease-causing strains of bacteria, viruses, and protozoa to also be present. Symptoms from water-borne illness may include diarrhea, cramps, nausea, headaches, jaundice, or fatigue. Symptoms may appear as early as a few hours to several days after infection and may last more than two weeks.

How can coliforms/fecal coliforms affect children?

Children experience the same health effect as adults following exposure. However, they may experience more severe symptoms due to immature immune systems and due to their increased susceptibility to dehydration.

How can families reduce the risks of exposure to coliforms/fecal coliforms?

- Drinking water should be periodically tested for total coliforms/fecal coliforms.
- If your drinking water has elevated levels of total coliforms or fecal coliforms you should use cleaner sources of water.

Is there a medical test to determine whether I've been exposed to coliforms/fecal coliforms?

Coliforms and fecal coliforms are typically present in the digestive system, however a stool sample may reveal an elevated level of a pathogenic strain, or the presence of a less common strain that may be associated with illness.

Has the federal government made recommendations to protect human health?

The USEPA has set and enforceable standard called a maximum contaminant level (MCL) for coliforms and fecal coliforms of zero colony-forming units (CFUs) per 100 milliliters water. The USEPA believes that any detection of coliforms or fecal coliforms in drinking water could potentially be associated with human illness.

References

United States Environmental Protection Agency (USEPA). Total Coliform Rule, July 2007. <http://www.epa.gov/safewater/disinfection/tcr/index.html>
United States Environmental Protection Agency (USEPA). Monitoring and Assessing Water Quality: Fecal Bacteria. <http://www.epa.gov/OWOW/monitoring/volunteer/stream/vms511.html>

Where Can I Get More Information? More information on the adverse effects of fecal coliforms/total coliforms can be obtained from your community or state health or environmental quality department.

This fact sheet answers the most frequently asked health questions (FAQs) about di(2-ethylhexyl) phthalate (DEHP). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Di(2-ethylhexyl) phthalate (DEHP) is found in many plastics. Exposure to DEHP is generally very low. Increased exposures may come from intravenous fluids delivered through plastic tubing, and from ingesting contaminated foods or water. DEHP is not toxic at the low levels usually present in the environment. In animals, high levels of DEHP damaged the liver and kidney and affected the ability to reproduce. DEHP has been found in at least 733 of the 1,613 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is di(2-ethylhexyl) phthalate?

Di(2-ethylhexyl) phthalate (DEHP) is a manufactured chemical that is commonly added to plastics to make them flexible. DEHP is a colorless liquid with almost no odor.

DEHP is present in plastic products such as wall coverings, tablecloths, floor tiles, furniture upholstery, shower curtains, garden hoses, swimming pool liners, rainwear, baby pants, dolls, some toys, shoes, automobile upholstery and tops, packaging film and sheets, sheathing for wire and cable, medical tubing, and blood storage bags.

What happens to DEHP when it enters the environment?

- DEHP is everywhere in the environment because of its use in plastics, but it does not evaporate easily or dissolve in water easily.
- DEHP can be released in small amounts to indoor air from plastic materials, coatings, and flooring.
- It dissolves faster in water if gas, oil, or paint removers are present.
- It attaches strongly to soil particles.
- DEHP in soil or water can be broken down by microorganisms into harmless compounds.

- DEHP does not break down easily when it is deep in the soil or at the bottom of lakes or rivers.
- It is in plants, fish, and other animals, but animals high on the food chain are able to break down DEHP, so tissue levels are usually low.

How might I be exposed to DEHP?

DEHP is usually present at very low levels in:

- Medical products packaged in plastic such as blood products.
- Some foods packaged in plastics, especially fatty foods like milk products, fish or seafood, and oils.
- Well water near waste sites.
- Workplace air or indoor air where DEHP is released, but usually not at levels of concern.
- Fluids from plastic intravenous tubing if used extensively as for kidney dialysis.

How can DEHP affect my health?

At the levels found in the environment, DEHP is not expected to cause harmful health effects in humans. Most of what we know about the health effects of DEHP comes from studies of rats and mice given high amounts of DEHP.

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Harmful effects in animals generally occurred only with high amounts of DEHP or with prolonged exposures. Moreover, absorption and breakdown of DEHP in humans is different than in rats or mice, so the effects seen in rats and mice may not occur in humans.

Rats that breathed DEHP in the air showed no serious harmful effects. Their lifespan and ability to reproduce were not affected.

Brief oral exposure to very high levels of DEHP damaged sperm in mice. Although the effect reversed when exposure ceased, sexual maturity was delayed in the animals.

High amounts of DEHP damaged the liver of rats and mice. Whether or not DEHP contributes to human kidney damage is unclear.

Skin contact with products containing DEHP will probably cause no harmful effects because it cannot be taken up easily through the skin.

How likely is DEHP to cause cancer?

The Department of Health and Human Services (DHHS) has determined that DEHP may reasonably be anticipated to be a human carcinogen. The EPA has determined that DEHP is a probable human carcinogen. These determinations were based entirely on liver cancer in rats and mice. The International Agency for Research on Cancer (IARC) has stated that DEHP cannot be classified as to its carcinogenicity to humans.

How can DEHP affect children?

Children can be exposed to DEHP in the same manner as adults. In addition, small children can be exposed by sucking on or skin contact with plastic toys and pacifiers that contain DEHP, but there is no conclusive evidence of adverse health effects after such exposures. Nonetheless, because of concern for children's health, many toy

manufacturers have discontinued use of DEHP in their products. In pregnant rats and mice exposed to high amounts of DEHP, researchers observed birth defects and fetal deaths.

How can families reduce the risk of exposure to DEHP?

- It is almost impossible to completely avoid contact with some DEHP because it is commonly found in plastics.
- Prevent babies and small children from chewing on plastic objects not designed for that purpose.

Is there a medical test to show whether I've been exposed to DEHP?

There is a test available that measures a breakdown product of DEHP called mono(2-ethylhexyl) phthalate (MEHP) in your urine or blood. This test can only detect recent exposure because DEHP is rapidly broken down and eliminated from your body. This test is not routinely available at the doctor's office because it requires special equipment.

Has the federal government made recommendations to protect human health?

The EPA limits the amount of DEHP that may be present in drinking water to 6 parts of DEHP per billion parts of water (6 ppb).

The Occupational Safety and Health Administration (OSHA) sets a maximum average of 5 milligrams of DEHP per cubic meter of air (5 mg/m³) in the workplace during an 8-hour shift. The short-term (15-minute) exposure limit is 10 mg/m³.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2002. Toxicological Profile for Di(2-ethylhexyl) phthalate (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about tetrachloroethylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Tetrachloroethylene is a manufactured chemical used for dry cleaning and metal degreasing. Exposure to very high concentrations of tetrachloroethylene can cause dizziness, headaches, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death. Tetrachloroethylene has been found in at least 771 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is tetrachloroethylene?

(Pronounced tět'rə-klôr' 0-ěth'ə-lēn')

Tetrachloroethylene is a manufactured chemical that is widely used for dry cleaning of fabrics and for metal-degreasing. It is also used to make other chemicals and is used in some consumer products.

Other names for tetrachloroethylene include perchloroethylene, PCE, and tetrachloroethene. It is a nonflammable liquid at room temperature. It evaporates easily into the air and has a sharp, sweet odor. Most people can smell tetrachloroethylene when it is present in the air at a level of 1 part tetrachloroethylene per million parts of air (1 ppm) or more, although some can smell it at even lower levels.

What happens to tetrachloroethylene when it enters the environment?

- Much of the tetrachloroethylene that gets into water or soil evaporates into the air.
- Microorganisms can break down some of the tetrachloroethylene in soil or underground water.
- In the air, it is broken down by sunlight into other chemicals or brought back to the soil and water by rain.
- It does not appear to collect in fish or other animals that live in water.

How might I be exposed to tetrachloroethylene?

- When you bring clothes from the dry cleaners, they will release small amounts of tetrachloroethylene into the air.
- When you drink water containing tetrachloroethylene, you are exposed to it.

How can tetrachloroethylene affect my health?

High concentrations of tetrachloroethylene (particularly in closed, poorly ventilated areas) can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death.

Irritation may result from repeated or extended skin contact with it. These symptoms occur almost entirely in work (or hobby) environments when people have been accidentally exposed to high concentrations or have intentionally used tetrachloroethylene to get a "high."

In industry, most workers are exposed to levels lower than those causing obvious nervous system effects. The health effects of breathing in air or drinking water with low levels of tetrachloroethylene are not known.

Results from some studies suggest that women who work in dry cleaning industries where exposures to tetrachloroethyl-

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ene can be quite high may have more menstrual problems and spontaneous abortions than women who are not exposed. However, it is not known if tetrachloroethylene was responsible for these problems because other possible causes were not considered.

Results of animal studies, conducted with amounts much higher than those that most people are exposed to, show that tetrachloroethylene can cause liver and kidney damage. Exposure to very high levels of tetrachloroethylene can be toxic to the unborn pups of pregnant rats and mice. Changes in behavior were observed in the offspring of rats that breathed high levels of the chemical while they were pregnant.

How likely is tetrachloroethylene to cause cancer?

The Department of Health and Human Services (DHHS) has determined that tetrachloroethylene may reasonably be anticipated to be a carcinogen. Tetrachloroethylene has been shown to cause liver tumors in mice and kidney tumors in male rats.

Is there a medical test to show whether I've been exposed to tetrachloroethylene?

One way of testing for tetrachloroethylene exposure is to measure the amount of the chemical in the breath, much the same way breath-alcohol measurements are used to determine the amount of alcohol in the blood.

Because it is stored in the body's fat and slowly released into the bloodstream, tetrachloroethylene can be detected in the breath for weeks following a heavy exposure.

Tetrachloroethylene and trichloroacetic acid (TCA), a breakdown product of tetrachloroethylene, can be detected in the blood. These tests are relatively simple to perform. These tests aren't available at most doctors' offices, but can be per-

formed at special laboratories that have the right equipment.

Because exposure to other chemicals can produce the same breakdown products in the urine and blood, the tests for breakdown products cannot determine if you have been exposed to tetrachloroethylene or the other chemicals.

Has the federal government made recommendations to protect human health?

The EPA maximum contaminant level for the amount of tetrachloroethylene that can be in drinking water is 0.005 milligrams tetrachloroethylene per liter of water (0.005 mg/L).

The Occupational Safety and Health Administration (OSHA) has set a limit of 100 ppm for an 8-hour workday over a 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) recommends that tetrachloroethylene be handled as a potential carcinogen and recommends that levels in workplace air should be as low as possible.

Glossary

Carcinogen: A substance with the ability to cause cancer.

CAS: Chemical Abstracts Service.

Milligram (mg): One thousandth of a gram.

Nonflammable: Will not burn.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Tetrachloroethylene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about chlorinated dibenzo-p-dioxins (CDDs). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to chlorinated dibenzo-p-dioxins (CDDs) (75 chemicals) occurs mainly from eating food that contains the chemicals. One chemical in this group, 2,3,7,8-tetrachlorodibenzo-p-dioxin or 2,3,7,8-TCDD, has been shown to be very toxic in animal studies. It causes effects on the skin and may cause cancer in people. This chemical has been found in at least 91 of 1,467 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are CDDs?

CDDs are a family of 75 chemically related compounds commonly known as chlorinated dioxins. One of these compounds is called 2,3,7,8-TCDD. It is one of the most toxic of the CDDs and is the one most studied.

In the pure form, CDDs are crystals or colorless solids. CDDs enter the environment as mixtures containing a number of individual components. 2,3,7,8-TCDD is odorless and the odors of the other CDDs are not known.

CDDs are not intentionally manufactured by industry except for research purposes. They (mainly 2,3,7,8-TCDD) may be formed during the chlorine bleaching process at pulp and paper mills. CDDs are also formed during chlorination by waste and drinking water treatment plants. They can occur as contaminants in the manufacture of certain organic chemicals. CDDs are released into the air in emissions from municipal solid waste and industrial incinerators.

What happens to CDDs when they enter the environment?

- When released into the air, some CDDs may be transported long distances, even around the globe.

- When released in waste waters, some CDDs are broken down by sunlight, some evaporate to air, but most attach to soil and settle to the bottom sediment in water.
- CDD concentrations may build up in the food chain, resulting in measurable levels in animals.

How might I be exposed to CDDs?

- Eating food, primarily meat, dairy products, and fish, makes up more than 90% of the intake of CDDs for the general population.
- Breathing low levels in air and drinking low levels in water.
- Skin contact with certain pesticides and herbicides.
- Living near an uncontrolled hazardous waste site containing CDDs or incinerators releasing CDDs.
- Working in industries involved in producing certain pesticides containing CDDs as impurities, working at paper and pulp mills, or operating incinerators.

How can CDDs affect my health?

The most noted health effect in people exposed to large amounts of 2,3,7,8-TCDD is chloracne. Chloracne is a severe skin disease with acne-like lesions that occur mainly on the face and upper body. Other skin effects noted in people exposed to high doses of 2,3,7,8-TCDD include skin rashes, dis-

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coloration, and excessive body hair. Changes in blood and urine that may indicate liver damage also are seen in people. Exposure to high concentrations of CDDs may induce long-term alterations in glucose metabolism and subtle changes in hormonal levels.

In certain animal species, 2,3,7,8-TCDD is especially harmful and can cause death after a single exposure. Exposure to lower levels can cause a variety of effects in animals, such as weight loss, liver damage, and disruption of the endocrine system. In many species of animals, 2,3,7,8-TCDD weakens the immune system and causes a decrease in the system's ability to fight bacteria and viruses. In other animal studies, exposure to 2,3,7,8-TCDD has caused reproductive damage and birth defects. Some animal species exposed to CDDs during pregnancy had miscarriages and the offspring of animals exposed to 2,3,7,8-TCDD during pregnancy often had severe birth defects including skeletal deformities, kidney defects, and weakened immune responses.

How likely are CDDs to cause cancer?

Several studies suggest that exposure to 2,3,7,8-TCDD increases the risk of several types of cancer in people. Animal studies have also shown an increased risk of cancer from exposure to 2,3,7,8-TCDD.

The World Health Organization (WHO) has determined that 2,3,7,8-TCDD is a human carcinogen.

The Department of Health and Human Services (DHHS) has determined that 2,3,7,8-TCDD may reasonably be anticipated to cause cancer.

How can CDDs affect children?

Very few studies have looked at the effects of CDDs on children. Chloracne has been seen in children exposed to high levels of CDDs. We don't know if CDDs affect the ability of people to have children or if it causes birth defects, but given the effects observed in animal studies, this cannot be ruled out.

How can families reduce the risk of exposure to CDDs?

- Children should avoid playing in soils near uncontrolled hazardous waste sites.
- Discourage children from eating dirt or putting toys or other objects in their mouths.
- Everyone should wash hands frequently if playing or working near uncontrolled hazardous waste sites.
- For new mothers and young children, restrict eating foods from the proximity of uncontrolled sites with known CDDs.

Is there a medical test to show whether I've been exposed to CDDs?

Tests are available to measure CDD levels in body fat, blood, and breast milk, but these tests are not routinely available. Most people have low levels of CDDs in their body fat and blood, and levels considerably above these levels indicate past exposure to above-normal levels of 2,3,7,8-TCDD. Although CDDs stay in body fat for a long time, tests cannot be used to determine when exposure occurred.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 0.00003 micrograms of 2,3,7,8-TCDD per liter of drinking water (0.00003 µg/L). Discharges, spills, or accidental releases of 1 pound or more of 2,3,7,8-TCDD must be reported to EPA. The Food and Drug Administration (FDA) recommends against eating fish and shellfish with levels of 2,3,7,8-TCDD greater than 50 parts per trillion (50 ppt).

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1998. Toxicological profile for chlorinated dibenzo-p-dioxins. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet was created from information presented in the Agency for Toxic Substances and Disease Registry (ATSDR) Case Studies in Environmental Medicine Course (ATSDR, 2007). This fact sheet answers the most frequently asked health questions (FAQs) about nitrate and nitrite. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

Highlights: The widespread use of nitrate fertilizers has increased the risk of well water contamination in rural areas. Shallow, rural domestic wells are those most likely to be contaminated with nitrates, especially in agricultural areas where nitrogen based fertilizers are in use. Other nitrate sources in well water include seepage from septic sewer systems, or other contaminants. The conversion of nitrates to nitrites in the body significantly enhances nitrates' toxicity. Infants younger than four months are at particular risk of nitrate toxicity from contaminated well water. Parents that use water to make formula for infants should be especially careful.

What are nitrates and nitrites?

Nitrate (NO_3^-) and nitrite (NO_2^-) are naturally occurring inorganic ions that are part of the nitrogen cycle. Microbial action in soil or water decomposes wastes containing organic nitrogen into ammonia, which is then oxidized to nitrite and nitrate.

Because nitrite is easily oxidized to nitrate, nitrate is the compound predominantly found in groundwater and surface water.

Contamination with nitrogen-containing fertilizers (e.g. potassium nitrate and ammonium nitrate), or animal or human organic wastes, can raise the concentration of nitrate in water.

What happens to nitrate/nitrite when it enters the environment?

- Nitrate-containing compounds in the soil are generally soluble and readily migrate with groundwater.
- Microbial action in soil or water decomposes wastes containing organic nitrogen into ammonia, which is then oxidized to nitrite and nitrate.

How might I be exposed to nitrate/nitrite?

- Ingesting nitrate and nitrite in well water used for drinking water
- Infants ingesting formula made with water containing nitrate or nitrite.

- Ingesting contaminated foodstuffs
- Ingesting prepared baby foods and sausage preserved with nitrates and nitrites.
- Ingesting certain medications and breathing volatile nitrite inhalants.

How can nitrate/nitrite affect my health?

Ingesting high levels of nitrate/nitrite can cause methemoglobinemia. Methemoglobinemia is a disorder characterized by the presence of a higher than normal level of methemoglobin in the blood. Methemoglobin is a form of hemoglobin that does not bind oxygen. When its concentration is elevated in red blood cells, anemia and tissue hypoxia can occur.

How likely is nitrate/nitrite to cause cancer?

Nitrate and nitrite have not undergone an evaluation of carcinogenic potential by the U.S. Environmental Protection Agency (USEPA).

How can nitrate/nitrite affect children?

As with adults, ingesting high levels of nitrate/nitrite can cause methemoglobinemia. Infants under the age of four months are at higher risk due to their reduced ability to convert methemoglobin back to hemoglobin. In addition, the high pH of the infant gastrointestinal system favors the growth of bacteria that reduce nitrate to nitrite, which is responsible for creation of methemoglobin.

How can families reduce the risks of exposure to nitrate/nitrite?

- Well water should be periodically tested for nitrate/nitrite.
- If your drinking water has elevated levels of nitrate/nitrate you should use cleaner sources of water.
- If your drinking water has elevated levels of nitrate/nitrate you should not use it to make baby formula.

Is there a medical test to determine whether I've been exposed to nitrate/nitrite?

The most useful diagnostic tests measure the methemoglobin concentration in blood, which is an indicator of nitrate/nitrite toxicity. Tests include both a visual observation of blood, which is chocolate-brown in appearance when there is a high

concentration of methemoglobin, and measurement of the oxygen carrying capacity of blood, which is reduced when a high level of methemoglobin is present.

Has the federal government made recommendations to protect human health?

The USEPA has set an enforceable standard called a maximum contaminant level (MCL) for nitrates at 10 parts per million (ppm), and for nitrites at 1 ppm. The USEPA believes that exposure below this level is not expected to cause health problems.

The Joint Expert Committee on Food Additives (JECFA) of the Food and Agriculture Organization of the United Nations/World Health Organization and the European Commission's Scientific Committee on Food have set an acceptable daily intake (ADI) for nitrate of 0 – 3.7 mg nitrate ion/kg body weight.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Case Studies in Environmental Medicine: Nitrate/Nitrite Toxicity. Course WB 1107, September 24, 2007. U.S. Department of Public Health and Human Services, Public Health Service.

Where Can I Get More Information? More information on the adverse effects of nitrate/nitrite

can be found from CDC- INFO:

800-CDC-INFO

800-232-4636

TTY 888-232-6348

24 Hours/Day

E-mail: cdcinfo@cdc.gov

You can also contact your community or state health or environmental quality department if you have any questions or concerns.

This fact sheet answers the most frequently asked health questions (FAQs) about uranium. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Uranium is a naturally occurring chemical substance that is mildly radioactive. Everyone is exposed to low amounts of uranium through food, air, and water. Exposure to high levels of uranium can cause kidney disease. It is not known to cause cancer, but can decay into other radioactive materials that may. Uranium above background levels has been found in at least 54 of the 1,517 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is uranium?

(Pronounced yoo-rā'nē-əm)

Uranium is a common naturally occurring and radioactive substance. It is a normal part of rocks, soil, air, and water, and it occurs in nature in the form of minerals - but never as a metal. Uranium metal is silver-colored with a gray surface and is nearly as strong as steel. Natural uranium is a mixture of three types or isotopes called U-234 (²³⁴U), U-235 (²³⁵U), and U-238 (²³⁸U). All three are the same chemical, but they have different radioactive properties.

Typical concentrations in soil are a few parts per million (ppm). Some rocks contain high enough mineral concentrations of uranium to be mined. The rocks are taken to a chemical plant where the uranium is taken out and made into uranium chemicals or metal. The remaining sand is called mill tailings. Tailings are rich in the chemicals and radioactive materials that were not removed, such as radium and thorium.

One of the radioactive properties of uranium is half-life, or the time it takes for half of the isotope to give off its radiation and change into another substance. The half-lives are very long (around 200,000 years for ²³⁴U, 700 million years for ²³⁵U, and 5 billion years for ²³⁸U). This is why uranium still exists in nature and has not all decayed away.

The isotope ²³⁵U is useful as a fuel in power plants and weapons. To make fuel, natural uranium is separated into two portions. The fuel portion has more ²³⁵U than normal and is called enriched uranium. The leftover portion with less ²³⁵U than normal is called depleted uranium, or DU. Natural, de-

pleted, and enriched uranium are chemically identical. DU is the least radioactive and enriched uranium is the most.

What happens to uranium when it enters the environment?

- Uranium is already naturally present throughout the environment. Human activities, wind, streams, and volcanoes can move the uranium around and change the levels that you are exposed to.
- Uranium is found in soil where it may stay for billions of years.
- It exists as dust in the air and the dust settles onto surface water, soil, and plants.
- Uranium enters water by dissolving soil, eroding soil and rocks, or in releases from processing plants. Larger particles settle into the bottom of lakes, rivers, and ponds and join uranium that is there naturally.
- Some plants may absorb uranium or it may stick to the root surface.

How might I be exposed to uranium?

- Breathing air or drinking water in a place that has higher than background levels of uranium.
- Eating food grown in areas with higher than background levels of uranium.
- Working in factories that process uranium or with phosphate fertilizers, or living near any type of mine.
- Living near a coal-fired power plant.

How can uranium affect my health?

All uranium mixtures (natural, depleted, and enriched) have the same chemical effect on your body. Large amounts of uranium can react with the tissues in your body and damage

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your kidneys. The radiation damage from exposure to high levels of natural or depleted uranium are not known to cause cancer (see next section).

How likely is uranium to cause cancer?

Humans and animals exposed to high levels of uranium did not have higher cancer rates. The Committee on the Biological Effects of Ionizing Radiation (BEIR IV) reported that eating food or drinking water that has normal amounts of uranium will most likely not cause cancer.

Uranium can decay into other radioactive substances, such as radium, which can cause cancer if you are exposed to enough of them for a long enough period of time. Studies have reported lung and other cancers in uranium miners; however, the miners also smoked and were exposed to other substances that cause cancer, such as radon and silica dust.

How can uranium affect children?

Like adults, children are exposed to small amounts of uranium in air, food, and drinking water. If children were exposed to very large amounts of uranium, it is possible that they might have kidney damage like that seen in adults. We do not know whether children differ from adults in their susceptibility to the health effects of uranium exposure.

It is not known if exposure to uranium can affect the developing human fetus. In laboratory animals, high doses of uranium in drinking water resulted in birth defects and an increase in fetal deaths. Measurements of uranium have not been made in pregnant women, so we do not know if uranium can cross the placenta and enter the fetus. In an experiment with pregnant animals, only a small amount of the injected uranium reached the fetus.

How can families reduce the risk of exposure to uranium?

If your doctor finds that you have been exposed to significant amounts of uranium, ask whether your children might also be exposed. Your doctor might need to ask your state health department to investigate.

It is possible that higher-than-normal levels of uranium may be in the soil at a hazardous waste site. If you live near such a hazardous waste site, you should prevent your children from eating dirt and make sure that they wash their hands frequently and before eating. You should also wash fruits and vegetables grown in that soil well, and consider discarding the outside portion of root vegetables.

Is there a medical test to show whether I've been exposed to uranium?

Uranium is in your normal diet, so there will always be some level of uranium in all parts of your body. Uranium is normally measured in a sample of urine collected and sent to a laboratory. Blood, feces, and tissue samples are rarely used. Because most uranium leaves the body within a few days, higher than normal amounts in your urine shows whether you have been exposed to larger-than-normal amounts within the last week or so. Some highly sensitive radiation methods can measure uranium levels for a long time after you take in a large amount. Also, some radiation equipment can tell if uranium is on your skin.

Has the federal government made recommendations to protect human health?

The EPA requires that spills or accidental releases of uranium waste into the environment containing 0.1 curies or more of radioactivity must be reported to the EPA.

The EPA is currently working to develop an appropriate drinking water limit for uranium based on a broad range of human and animal health studies.

The Occupational Safety and Health Administration has set occupational exposure limits for uranium in breathing air over an 8-hour workday, 40-hour workweek. The limits are 0.05 milligrams per cubic meter (0.05 mg/m³) for soluble uranium dust and 0.25 mg/m³ for insoluble uranium dust.

References

Agency for Toxic Substances and Disease Registry. 1999. Toxicological profile for uranium. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about zinc. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Zinc is a naturally occurring element. Exposure to high levels of zinc occurs mostly from eating food, drinking water, or breathing workplace air that is contaminated. Low levels of zinc are essential for maintaining good health. Exposure to large amounts of zinc can be harmful. It can cause stomach cramps, anemia, and changes in cholesterol levels. Zinc has been found in at least 985 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is zinc?

Zinc is one of the most common elements in the earth's crust. It is found in air, soil, and water, and is present in all foods. Pure zinc is a bluish-white shiny metal.

Zinc has many commercial uses as coatings to prevent rust, in dry cell batteries, and mixed with other metals to make alloys like brass, and bronze. A zinc and copper alloy is used to make pennies in the United States.

Zinc combines with other elements to form zinc compounds. Common zinc compounds found at hazardous waste sites include zinc chloride, zinc oxide, zinc sulfate, and zinc sulfide. Zinc compounds are widely used in industry to make paint, rubber, dyes, wood preservatives, and ointments.

What happens to zinc when it enters the environment?

- Some is released into the environment by natural processes, but most comes from human activities like mining, steel production, coal burning, and burning of waste.
- It attaches to soil, sediments, and dust particles in the air.
- Rain and snow remove zinc dust particles from the air.
- Depending on the type of soil, some zinc compounds can move into the groundwater and into lakes, streams, and rivers.
- Most of the zinc in soil stays bound to soil particles and

does not dissolve in water.

- It builds up in fish and other organisms, but it does not build up in plants.

How might I be exposed to zinc?

- Ingesting small amounts present in your food and water.
- Drinking contaminated water or a beverage that has been stored in metal containers or flows through pipes that have been coated with zinc to resist rust.
- Eating too many dietary supplements that contain zinc.
- Working on any of the following jobs: construction, painting, automobile mechanics, mining, smelting, and welding; manufacture of brass, bronze, or other zinc-containing alloys; manufacture of galvanized metals; and manufacture of machine parts, rubber, paint, linoleum, oilcloths, batteries, some kind of glass, ceramics, and dyes.

How can zinc affect my health?

Zinc is an essential element in our diet. Too little zinc can cause problems, but too much zinc is also harmful.

Harmful effects generally begin at levels 10-15 times higher than the amount needed for good health. Large doses taken by mouth even for a short time can cause stomach cramps, nausea, and vomiting. Taken longer, it can cause anemia and decrease the levels of your good cholesterol. We do not know if high levels of zinc affect reproduction in humans. Rats that were fed large amounts of zinc became infertile.

ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>

Inhaling large amounts of zinc (as dusts or fumes) can cause a specific short-term disease called metal fume fever. We do not know the long-term effects of breathing high levels of zinc.

Putting low levels of zinc acetate and zinc chloride on the skin of rabbits, guinea pigs, and mice caused skin irritation. Skin irritation will probably occur in people.

How likely is zinc to cause cancer?

The Department of Health and Human Services (DHHS) and the International Agency for Research on Cancer (IARC) have not classified zinc for carcinogenicity. Based on incomplete information from human and animal studies, the EPA has determined that zinc is not classifiable as to its human carcinogenicity.

How can zinc affect children?

Zinc is essential for proper growth and development of young children. It is likely that children exposed to very high levels of zinc will have similar effects as adults. We do not know whether children are more susceptible to the effects of excessive intake of zinc than the adults.

We do not know if excess zinc can cause developmental effects in humans. Animal studies have found decreased weight in the offspring of animals that ingested very high amounts of zinc.

How can families reduce the risks of exposure to zinc?

- Children living near waste sites that contain zinc may be exposed to higher levels of zinc through breathing contaminated air, drinking contaminated drinking water, touching or eating contaminated soil.
- Discourage your children from eating soil or putting their hands in their mouths and teach them to wash their hands frequently and before eating.
- If you use medicines or vitamin supplements containing

zinc, make sure you use them appropriately and keep them out of the reach of children.

Is there a medical test to determine whether I've been exposed to zinc?

There are tests available to measure zinc in your blood, urine, hair, saliva, and feces. These tests are not usually done in the doctor's office because they require special equipment. High levels of zinc in the feces can mean high recent zinc exposure. High levels of zinc in the blood can mean high zinc consumption and/or high exposure. Tests to measure zinc in hair may provide information on long-term zinc exposure; however, the relationship between levels in your hair and the amount of zinc you were exposed to is not clear.

Has the federal government made recommendations to protect human health?

The EPA recommends that drinking water should contain no more than 5 milligrams per liter of water (5 mg/L) because of taste. The EPA requires that any release of 1,000 pounds (or in some cases 5,000 pounds) into the environment be reported to the agency.

To protect workers, the Occupational Safety and Health Administration (OSHA) has set an average limit of 1 mg/m³ for zinc chloride fumes and 5 mg/m³ for zinc oxide (dusts and fumes) in workplace air during an 8-hour workday, 40-hour workweek.

Similarly, the National Institute for Occupational Safety and Health (NIOSH) has set the same standards for up to a 10-hour workday over a 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Zinc (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



Appendix F

Incremental Risk Results for All Residences Sampled During the Naples Public Health Evaluation

Appendix F is comprised of 194 pages.



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TABLE OF CONTENTS

SECTION 1 – INCREMENTAL RISK RESULTS FOR RESIDENCES LOCATED ON THE ITALIAN ECONOMY BY STUDY AREA	1
1.1 Study Area 1	3
1.2 Study Area 2	6
1.3 Study Area 3	8
1.4 Study Area 4	10
1.5 Study Area 5	11
1.6 Study Area 6	14
1.7 Study Area 7	17
1.8 Study Area 8	19
1.9 Study Area 9	22
1.10 Risks Associated with Ambient Air in Study Areas 1 through 9.....	24
SECTION 2 – FINDINGS.....	26
2.1 Regional Summary of Incremental Risks for All Residences Sampled During the PHE.....	26
2.2 Regional Distribution of Incremental Risks Based on All Residences Sampled During the PHE.....	35
SECTION 3 – REFERENCES FOR APPENDIX F.....	43

TABLES

TABLE F-1:	NUMBER OF RESIDENCES SAMPLED BY STUDY AREA AND BY SAMPLING EVENT
TABLE F-2:	SUMMARY OF INCREMENTAL RISKS BY RESIDENCES & STUDY AREA
TABLE F-3:	STUDY AREA 1 – INCREMENTAL RISK SUMMARY
TABLE F-4:	STUDY AREA 2 – INCREMENTAL RISK SUMMARY
TABLE F-5:	STUDY AREA 3 – INCREMENTAL RISK SUMMARY
TABLE F-6:	STUDY AREA 4 – INCREMENTAL RISK SUMMARY
TABLE F-7:	STUDY AREA 5 – INCREMENTAL RISK SUMMARY
TABLE F-8:	STUDY AREA 6 – INCREMENTAL RISK SUMMARY
TABLE F-9:	STUDY AREA 7 – INCREMENTAL RISK SUMMARY
TABLE F-10:	STUDY AREA 8 – INCREMENTAL RISK SUMMARY
TABLE F-11:	STUDY AREA 9 – INCREMENTAL RISK SUMMARY
TABLE F-12:	NAPLES AMBIENT AIR EXPOSURE POINT CONCENTRATIONS COMPARED TO 2007 USEPA AIR TOXICS DATABASE AMBIENT AIR EXPOSURE POINT CONCENTRATIONS
TABLE F-13:	NAPLES AMBIENT AIR EPCs AND 2007 USEPA AIR TOXICS DATABASE EPCs COMPARED TO USEPA RSLs (DETECTED CONSTITUENTS ONLY)
TABLE F-14:	NAPLES AMBIENT AIR CUMULATIVE EXCEEDANCE FACTORS BY STUDY AREA COMPARED TO 2007 USEPA AIR TOXICS DATABASE AMBIENT AIR CUMULATIVE EXCEEDANCE FACTORS
TABLE F-15:	NAPLES AMBIENT AIR EPCs AND 2007 USEPA AIR TOXICS DATABASE EPCs COMPARED TO USEPA RSLs FOR CONSTITUENTS THAT EXCEED THE RSL IN AT LEAST ONE STUDY AREA
TABLE F-16:	CONSTITUENTS OF CONCERN IDENTIFIED FOR AMBIENT AIR
TABLE F-17:	NUMBER OF EXCEEDANCES FOR TAP WATER FROM PUBLIC SOURCES – INGESTION+INHALATION BY STUDY AREA
TABLE F-18:	NUMBER OF EXCEEDANCES FOR TAP WATER FROM PRIVATE WELLS – INGESTION+INHALATION BY STUDY AREA
TABLE F-19:	NUMBER OF EXCEEDANCES FOR TAP WATER FROM PUBLIC SOURCES – INHALATION-ONLY BY STUDY AREA
TABLE F-20:	NUMBER OF EXCEEDANCES FOR TAP WATER FROM PRIVATE WELLS – INHALATION-ONLY BY STUDY AREA
TABLE F-21:	NUMBER OF EXCEEDANCES FOR SOIL BY STUDY AREA
TABLE F-22:	NUMBER OF EXCEEDANCES FOR SOIL GAS BY STUDY AREA

FIGURES

- FIGURE F-1: RESIDENCE LOCATIONS BY SAMPLING EVENT
- FIGURE F-2: TOTAL INGESTION AND INHALATION CUMULATIVE RISK RESULTS
- FIGURE F-3: TAP WATER INGESTION AND INHALATION CUMULATIVE RISK RESULTS
- FIGURE F-4: SOIL CUMULATIVE RISK RESULTS
- FIGURE F-5: SOIL GAS CUMULATIVE RISK RESULTS
- FIGURE F-6: TOTAL INHALATION CUMULATIVE RISK RESULTS
- FIGURE F-7: TAP WATER INHALATION CUMULATIVE RISK RESULTS
- FIGURE F-8: SOIL GAS 1,1,1,2-TETRACHLOROETHANE RISK RESULTS
- FIGURE F-9: SOIL GAS 1,1,2,2-TETRACHLOROETHANE RISK RESULTS
- FIGURE F-10: SOIL GAS 1,2,-DICHLOROPROPANE RISK RESULTS
- FIGURE F-11: SOIL GAS 1,3-BUTADIENE RISK RESULTS
- FIGURE F-12: SOIL GAS 1,4-DICHLOROBENZENE RISK RESULTS
- FIGURE F-13: TAP WATER INGESTION AND INHALATION 4-CHLOROANILINE RISK RESULTS
- FIGURE F-14: SOIL GAS ACRYLONITRILE RISK RESULTS
- FIGURE F-15: SOIL GAS BENZENE RISK RESULTS
- FIGURE F-16: TAP WATER INGESTION AND INHALATION BIS(2-ETHYLHEXYL)PHTHALATE RISK RESULTS
- FIGURE F-17: SOIL GAS BROMOFORM RISK RESULTS
- FIGURE F-18: SOIL GAS CARBON TETRACHLORIDE RISK RESULTS
- FIGURE F-19: TAP WATER INGESTION AND INHALATION CARBON TETRACHLORIDE RISK RESULTS
- FIGURE F-20: TAP WATER INHALATION CARBON TETRACHLORIDE RISK RESULTS
- FIGURE F-21: SOIL GAS CHLOROFORM RISK RESULTS
- FIGURE F-22: TAP WATER INGESTION AND INHALATION COPPER RISK RESULTS
- FIGURE F-23: SOIL GAS ETHYLBENZENE RISK RESULTS
- FIGURE F-24: TAP WATER FECAL COLIFORM RISK RESULTS
- FIGURE F-25: TAP WATER INGESTION AND INHALATION FLUORIDE RISK RESULTS
- FIGURE F-26: SOIL GAS HEXACHLOROBUTADIENE RISK RESULTS
- FIGURE F-27: SOIL GAS HEXANE RISK RESULTS
- FIGURE F-28: TAP WATER INGESTION AND INHALATION LEAD RISK RESULTS
- FIGURE F-29: SOIL GAS METHYL TERT-BUTYL ETHER RISK RESULTS
- FIGURE F-30: SOIL GAS NAPHTHALENE RISK RESULTS
- FIGURE F-31: TAP WATER INGESTION AND INHALATION NITRATE RISK RESULTS
- FIGURE F-32: SOIL GAS TETRACHLOROETHENE RISK RESULTS
- FIGURE F-33: TAP WATER INGESTION AND INHALATION TETRACHLOROETHENE RISK RESULTS
- FIGURE F-34: TAP WATER INHALATION TETRACHLOROETHENE RISK RESULTS
- FIGURE F-35: TAP WATER INGESTION AND INHALATION THALLIUM RISK RESULTS
- FIGURE F-36: SOIL TOTAL CARCINOGENIC PAHS (BAP TEQS) RISK RESULTS
- FIGURE F-37: TAP WATER INGESTION AND INHALATION TOTAL CARCINOGENIC PAHS (BAP TEQS) RISK RESULTS
- FIGURE F-38: TAP WATER TOTAL COLIFORMS RISK RESULTS

FIGURES CONTINUED

- FIGURE F-39: SOIL TOTAL DIOXINS/FURANS (2,3,7,8-TCDD TEQs) RISK RESULTS
- FIGURE F-40: TAP WATER INGESTION AND INHALATION TOTAL DIOXINS/FURANS (2,3,7,8-TCDD TEQs) RISK RESULTS
- FIGURE F-41: TAP WATER INGESTION AND INHALATION TOTAL TRIHALOMETHANES RISK RESULTS
- FIGURE F-42: SOIL GAS TRICHLOROETHENE RISK RESULTS
- FIGURE F-43: TAP WATER INGESTION AND INHALATION URANIUM RISK RESULTS
- FIGURE F-44: SOIL GAS VINYL CHLORIDE RISK RESULTS

SECTION 1 – INCREMENTAL RISK RESULTS FOR RESIDENCES LOCATED ON THE ITALIAN ECONOMY BY STUDY AREA

The purpose of this appendix is to identify the media and constituents responsible for the majority of the incremental risks in the Naples area of Campania by evaluating all of the data, regardless of the Sampling Event, collected during the Public Health Evaluation (PHE). The approach used to evaluate the data presented in this appendix is identical to the approach used for the Phase I & II Screening Risk Evaluation (SRE), except that it utilizes all sampling results (i.e., data from all Sampling Events) to identify key findings and trends that were observed with regard to regional risks. The approach used to evaluate risks for both the Phase I & II SRE and this appendix are presented in detail in Sections 2, 3 and 4 of the main text and are summarized below.

Section 2: This section provides detailed information on the four Sampling Events (Phase I, Pre-Lease, Step-Outs and Phase II) included in this evaluation. This section also outlines the media and constituents sampled during the PHE.

Section 3: This section presents the conceptual site model which defines the potential for exposure, under current and future land uses, to constituents within a study area based on the source(s) of contamination, the release mechanism(s), the exposure pathway(s), and the receptor(s). Risk-based screening levels that were used to evaluate risks for receptors (e.g., workers and residents) are identified in this section.

Section 4: This section presents the risk evaluation by comparing the constituents of potential concern (COPCs) identified in Section 2 with the risk-based screening levels identified in Section 3. Subsections 4.1 through 4.3 present the methods used to calculate and evaluate the risks, as well as the PHE risk management criteria that were used to determine if risks were Acceptable or Unacceptable.

Five hundred and forty-three (543) residences on the economy were sampled as part of the SRE. Of the 543 residences, 130 were sampled as part of the Phase I Sampling Event, 240 were sampled as part of the Pre-Lease Sampling Event, 36 were sampled as part of the Step-Out Sampling Events, and 209 were sampled as part of the Phase II Sampling Event¹. These residences were distributed throughout nine study areas as presented in Table F-1 and presented on Figure F-1. Individual letter reports (i.e., Resident Letters) were provided to each resident, which presented the analytical results for all samples that were collected at their residence, the potential risks, PHE risk-management category, actions that the United States Navy (USN) implemented based on the results, and actions that they (the resident) could take based on the results. Table F-2 summarizes the potential incremental risks for all 543 residences sampled as part of the PHE and the risk-management category for each residence.

¹ Six hundred fifteen samples were collected from 543 residences during the PHE. Seventy-two of the residences were sampled (and re-sampled) during multiple sampling events (for a total of 615 samples). In most cases, the 72 residences were only re-sampled for media that were not sampled during previous sampling events.

The incremental risks associated with the 543 residences sampled on the economy were summarized for each study area and the results are presented in this appendix. Medium-specific and COPC-specific summaries are presented for media/COPCs that contributed significantly to the risk in each study area. For the purposes of this appendix, media/COPCs that contributed significantly to the risks were defined as COPCs with concentrations that exceeded regional screening levels (RSLs), United States maximum contaminant levels (USMCLs), or other screening criteria (e.g., Integrated Exposure Uptake Biokinetic [IEUBK] model and National Ambient Air Quality Standards [NAAQs]) used in this evaluation.

To minimize the number of tables and figures, the same table or figure may be referenced in multiple sections of this appendix. Pathway-specific risk results are presented in Figures F-2 through F-7:

- Figure F-2 presents the total ingestion and inhalation cumulative noncancer risk results (CNCEFs) and cumulative cancer risk results (CCEFs). That is, the total ingestion and inhalation CCEFs and CNCEFs were calculated across all media, assuming exposure via tap water (ingestion+inhalation) for public-water and private-well sources, soil, and soil gas.
- Figure F-3 presents the tap water (ingestion+inhalation) cumulative risk results.
- Figure F-4 presents the soil cumulative risk results.
- Figure F-5 presents soil gas cumulative risk results.
- Figure F-6 presents total inhalation cumulative risk results. That is, the total inhalation CCEFs and CNCEFs were calculated across all media, assuming exposure via tap water (inhalation only) for public-water and private-well sources, soil, and soil gas.
- Figure F-7 presents the tap water inhalation cumulative risk results.

COPC-specific figures for the residences are presented in Figures F-8 through F-44. Rather than creating one figure for each COPC for each study area (i.e., nine separate figures for one COPC), only one figure was created for each COPC (for each pathway) and all nine study areas are presented on that one figure. Figures are organized alphabetically by COPC, and then by pathway (tap water [ingestion+inhalation], tap water [inhalation only], soil, and soil gas), where at least one exceedance has been identified². This approach minimized the number of figures, but also facilitated evaluating spatial trends that were present when evaluating the data holistically.

COPCs detected in soil gas were classified into three groups so that the risks could be calculated appropriately. For detailed information regarding the approach for classifying COPCs detected in soil gas, see *Technical Memorandum: Identification of Chemicals in Soil Gas That May be Associated with Vapor Intrusion*, which is Appendix D of Phase I & II SRE main text (and appendix C.2 of the May 2010 QAPP) (PIONEER Technologies Corporation [PIONEER], 2009). As discussed in Section 4.1 and Appendix D, only COPCs determined to be vapor intrusion (VI) COPCs were included in the risk calculation for soil gas. Risks for the non-VI COPCs were calculated using ambient air results.

Ambient air samples were collected to evaluate the potential exposure via the inhalation of ambient (i.e., outdoor) air impacted by typical urban point sources, non-point sources, and random burning of trash in

areas of the Campania Region. Because ambient air is more regional in nature than concentrations of constituents in tap water, soil and soil gas, an ambient air sampling station was set up in each of the nine study areas to provide regional/spatial coverage across the Naples area. The 95% upper confidence level (UCL) on the mean ambient air concentration was used to determine the reasonable maximum exposure (RME) concentration for each study area (see Table F-12) according to the methodology described in Section 4.1 of the Phase I & II SRE. These RME concentrations were compared to USEPA residential-based RSLs for ambient air, and CEFs and NCEF were calculated for all detected COPCs for each study area (See Table F-13).

For ambient air, no suitable background concentrations for the Campania Region could be located in the scientific literature. Therefore, to provide context, the 95th UCL on the mean concentration from data obtained for six U.S. cities (i.e., San Diego, California; Los Angeles, California; Seattle, Washington; Houston, Texas; Midlothian, Texas; and Washington D.C.) from the USEPA's 2007 Air Toxics Database (USEPA, 2007) was used to represent typical urban background concentrations (henceforth referred to as typical urban air). Exposure point concentrations (EPCs) were calculated for the USEPA's 2007 Air Toxics data using the same methodology as was used for the Naples PHE ambient air data (see Section 4.1 of the Phase I & II SRE). The EPCs for the USEPA's 2007 Air Toxics Database are presented in Table F-12 next to the individual study area EPC (RME concentrations) for comparison. In addition, the USEPA's 2007 Air Toxics Database EPCs were also compared to USEPA residential-based RSLs for ambient air.

A brief summary of the ambient air risks by study area (focusing on the nine constituents of concern [COCs] identified in Section 1.10) is provided for each study area. Where available, CCEF and CNCEF for the COCs were compared to CCEF and/or CNCEF calculated from the USEPA's 2007 Air Toxics Database (i.e., typical urban air). However, it is important to note that some of the constituents detected in the nine study areas did not have corresponding values in the USEPA's 2007 Air Toxics Database. When those constituents (e.g., 1,2-dibromo-3-chloropropane, which was responsible for, on average, 80% of the cancer risks in each study area) were not included in the calculations of the cumulative EFs, the CCEF for the nine study areas were less than the typical urban air in the U.S. in all but one study area (i.e., Study Area 8) (see Table F-14). The CNCEF did not change appreciably (i.e., the difference was less than one percent) when the cumulative EFs were recalculated using only constituents that had corresponding values in the USEPA's 2007 Air Toxics Database, primarily because acrolein (the constituent that contributed the majority of the CNCEF in the Campania Region) had values in both data sets (see Table F-14). A description of the ambient air risk from a regional perspective is presented in Section 1.10.

1.1 Study Area 1

Samples were collected from 125 residences located throughout Study Area 1 (see Figure F-1). One hundred and twenty-two of these residences obtained their tap water from a public water system and three

² This includes figures for COPCs and pathways where there was an exceedance of the RSL that did not result in an Unacceptable risk.

residences obtained their tap water from private wells. The incremental risks for these residences are summarized in Table F-3 and are discussed below:

- Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure – 26 of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-2). The total CNCEFs ranged from 0.0005 to 3.2, the total CCEFs ranged from 0.0004 to 84.2, and there were four residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at 20 residences in this study area (see Figure F-3).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Bis(2-ethylhexyl)phthalate (Figure F-16)
 - ◆ Copper (Figure F-22)
 - ◆ Fluoride (Figure F-25)
 - ◆ Lead (Figure F-28)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ◆ Uranium (Figure F-43)
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Bis(2-ethylhexyl)phthalate (Figure F-16)
 - ◆ Total coliforms (Figure F-38)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Uranium (Figure F-43)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ No COPCs were detected in tap water samples at concentrations exceeding USMCLs.
 - Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-39)
 - Soil gas was responsible for the Unacceptable risks at five residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,2-Dichloropropane (Figure F-10)
 - ◆ 1,4-Dichlorobenzene (Figure F-12)
 - ◆ Benzene (Figure F-15)
 - ◆ Bromoform (Figure F-17)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)

- ◆ Hexachlorobutadiene (Figure F-26)
- ◆ Methyl tert-Butyl Ether (Figure F-29)
- ◆ Naphthalene (Figure F-30)
- ◆ Tetrachloroethene (Figure F-32)
- ◆ Trichloroethene (Figure F-42)
- Tap Water (via Inhalation Only), Soil, and Soil Gas Exposure Scenario – Eight of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-6). The total CNCEFs ranged from 0.00002 to 0.21, the total CCEFs ranged from 0.06 to 82.0, and there were three residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at three residences in this study area (see Figure F-7).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ No COPCs were detected in tap water samples at concentrations exceeding RSLs.
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total coliforms (Figure F-38)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ No COPCs were detected in tap water samples at concentrations exceeding RSLs.
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ No COPCs were detected in tap water samples at concentrations exceeding USMCLs.
 - Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - ◆ Total dioxin/furans (2,3,7,8-TCDD TEQs) (Figure F-39)
 - Soil gas was responsible for the Unacceptable risks at five residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,2-Dichloropropane (Figure F-10)
 - ◆ 1,4-Dichlorobenzene (Figure F-12)
 - ◆ Benzene (Figure F-15)
 - ◆ Bromoform (Figure F-17)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexachlorobutadiene (Figure F-26)
 - ◆ Methyl tert-Butyl Ether (Figure F-29)
 - ◆ Naphthalene (Figure F-30)
 - ◆ Tetrachloroethene (Figure F-32)
 - ◆ Trichloroethene (Figure F-42)

1.1.1 Ambient Air

The CCEF and CNCEF in Study Area 1 were 553 and 128, respectively, which exceeded the typical urban air cancer (160) and noncancer (33) risks that were calculated based on the USEPA's 2007 Air Toxics Database (see Table F-15). When cumulative risks were calculated including only those constituents with corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF in Study Area 1 were 111 and 127, respectively.

The following COCs were identified in ambient air in Study Area 1:

- 1,2-Dibromo-3-chloropropane contributed to 79% of the CCEF with a constituent-specific CEF of 439. Comparable background data were lacking for 1,2-dibromo-3-chloropropane so it could not be compared with typical urban air.
- Acrolein contributed to 96% of the CNCEF and the constituent-specific NCEF (123) was greater than the NCEF for typical urban air (29).
- 1,2-Dichloropropane contributed to 6.3% of the CCEF and the constituent-specific CEF (35) was greater than the CEF for typical urban air (0.3).
- The remaining COCs each contributed less than two percent to the cumulative EFs.

See Section 1.10 for a regional summary of ambient air across the nine study areas.

1.2 Study Area 2

Samples were collected from 30 residences³ located throughout Study Area 2 (see Figure F-1). All of these residences sampled obtained their tap water from a public water system. The incremental risks for these residences are summarized in Table F-4 and are discussed below:

- Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure – 18 of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-2). The total CNCEFs ranged from 0.22 to 6.3, the total CCEFs ranged from 0.009 to 103.1 and there were two residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at 17 residences in this study area (see Figure F-3).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Lead (Figure F-28)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-37)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ◆ Uranium (Figure F-43)
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-37)

³ This included Flag Officer Quarter #07 but did not include Flag Officer Quarters #01 through #06.

- ◆ Total coliforms (Figure F-38)
- Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
- Soil gas was not responsible for Unacceptable risks at any residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,1,1,2-Tetrachloroethane (Figure F-8)
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Tetrachloroethene (Figure F-32)
- Tap Water (via Inhalation Only), Soil, and Soil Gas Exposure Scenario – Two of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-6). The total CNCEFs ranged from 0.0004 to 0.07, the total CCEFs ranged from 0.21 to 13.3, and there was one residence with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at one residence in this study area (see Figure F-7).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ No COPCs were detected in tap water samples at concentrations exceeding RSLs.
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total coliforms (Figure F-38)
 - Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - Soil gas was not responsible for Unacceptable risks at any residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,1,1,2-Tetrachloroethane (Figure F-8)
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Tetrachloroethene (Figure F-32)

1.2.1 Ambient Air

The CCEF and NCEF in Study Area 2 were 791 and 103, respectively, which exceeded the typical urban air cancer (160) and noncancer (33) risks that were calculated based on the USEPA's 2007 Air Toxics Database (see Table F-15). When cumulative risks were calculated including only those constituents with corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF in Study Area 2 were 136 and 102, respectively.

The following COCs were identified in ambient air in Study Area 2:

- 1,2-Dibromo-3-chloropropane contributed to 82% of the CCEF with a constituent-specific CEF of 650. Comparable background data were lacking for 1,2-dibromo-3-chloropropane so it could not be compared with typical urban air.
- Acrolein contributed to 94% of the CNCEF and the constituent-specific NCEF (96) was greater than the NCEF for typical urban air (29).
- 1,2-Dichloropropane contributed to 2.3% of the CCEF and the constituent-specific CEF (18) was greater than the CEF for typical urban air (0.3).
- The remaining COCs each contributed less than two percent to the cumulative EFs.

See Section 1.10 for a regional summary of ambient air across the nine study areas.

1.3 Study Area 3

Samples were collected from 21 residences⁴ located throughout Study Area 3 (see Figure F-1). All of the residences sampled obtained their tap water from a public water system. The incremental risks for these residences are summarized in Table F-5 and are discussed below:

- Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure – Three of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-2). The total CNCEFs ranged from 0.09 to 2.1, the total CCEFs ranged from 0.01 to 9.6, and there were zero residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at three residences in this study area (see Figure F-3).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Lead (Figure F-28)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ◆ Uranium (Figure F-43)
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ No COPCs were detected in tap water at concentrations exceeding USMCLs.
 - Soil was not responsible for the Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - Soil gas was not responsible for Unacceptable risks at any residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,2-Dichloropropane (Figure F-10)
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)

⁴ Residences #1856 and 1884 are located east of Study Area 3 but were included in the discussion because Study Area 3 is the closest study area to these locations.

- ♦ Ethylbenzene (Figure F-23)
- ♦ Tetrachloroethene (Figure F-32)
- Tap Water (via Inhalation Only), Soil, and Soil Gas Exposure Scenario – None of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-6). The total CNCEFs ranged from 0.0000004 to 0.32, the total CCEFs ranged from 0.0001 to 9.1, and there were no residences with exceedances of USMCLs.
 - Tap water was not responsible for Unacceptable risks at any residences in this study area (see Figure F-7).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ♦ No COPCs were detected in tap water at concentrations exceeding RSLs.
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ♦ No COPCs were detected in tap water at concentrations exceeding USMCLs.
 - Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ♦ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - Soil gas was not responsible for Unacceptable risks at any residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ♦ 1,2-Dichloropropane (Figure F-10)
 - ♦ Benzene (Figure F-15)
 - ♦ Chloroform (Figure F-21)
 - ♦ Ethylbenzene (Figure F-23)
 - ♦ Tetrachloroethene (Figure F-32)

1.3.1 Ambient Air

The CCEF and CNCEF in Study Area 3 were 846 and 172, respectively, which exceeded the typical urban air cancer (160) and noncancer (33) risks that were calculated based on the USEPA's 2007 Air Toxics Database (see Table F-15). When cumulative risks were calculated including only those constituents with corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF in Study Area 3 were 112 and 171, respectively.

The following COCs were identified in ambient air in Study Area 3:

- 1,2-Dibromo-3-chloropropane contributed to 86% of the CCEF with a constituent-specific CEF of 727. Comparable background data were lacking for 1,2-dibromo-3-chloropropane so it could not be compared with typical urban air.
- Acrolein contributed to 96% of the CNCEF and the constituent-specific NCEF (166) was greater than the NCEF for typical urban air (29).
- 1,2-Dichloropropane contributed to 3.3% of the CCEF and the constituent-specific CEF (28) was greater than the CEF for typical urban air (0.3).
- The remaining COCs each contributed less than two percent to the cumulative EFs.

See Section 1.10 for a regional summary of ambient air across the nine study areas.

1.4 Study Area 4

Samples were collected from 19 residences located throughout Study Area 4 (see Figure F-1). All of the residences sampled obtained their tap water from a public water system. The incremental risks for these residences are summarized in Table F-6 and are discussed below:

- Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure – Four of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-2). The total CNCEFs ranged from 0.17 to 2.4, the total CCEFs ranged from 0.16 to 118.0, and there was one residence with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at three residences in this study area (see Figure F-3).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ◆ Uranium (Figure F-43)
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total coliforms (Figure F-38)
 - Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - Soil gas was responsible for the Unacceptable risks at one residence in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexane (Figure F-27)
 - ◆ Tetrachloroethene (Figure F-32)
- Tap Water (via Inhalation Only), Soil, and Soil Gas Exposure Scenario – Two of the residences sampled had risks that are considered Unacceptable based on the PHE risk management criteria (see Figure F-6). The total CNCEFs ranged from 0.00002 to 2.2, the total CCEFs ranged from 0.06 to 116.5, and there was one residence with an exceedance of the USMCL.
 - Tap water was responsible for the Unacceptable risks at one residence in this study area (see Figure F-7).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ No COPCs were detected in tap water at concentrations exceeding RSLs.

- Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total coliforms (Figure F-38)
- Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
- Soil gas was responsible for the Unacceptable risks at one residence in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexane (Figure F-27)
 - ◆ Tetrachloroethene (Figure F-32)

1.4.1 Ambient Air⁵

The CCEF and CNCEF in Study Area 4 were 495 and 75, respectively, which exceeded the typical urban air cancer (160) and noncancer (33) risks that were calculated based on the USEPA's 2007 Air Toxics Database (see Table F-15). When cumulative risks were calculated including only those constituents with corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF in Study Area 4 were 94 and 75, respectively.

The following COCs were identified in ambient air in Study Area 4:

- 1,2-Dibromo-3-chloropropane contributed to 80% of the CCEF with a constituent-specific CEF of 397. Comparable background data were lacking for 1,2-dibromo-3-chloropropane so it could not be compared with typical urban air.
- Acrolein contributed to 95% of the CNCEF and the constituent-specific NCEF (72) was greater than the NCEF for typical urban air (29).
- 1,2-Dichloropropane contributed to 2.3% of the CCEF and the constituent-specific CEF (11) was greater than the CEF for typical urban air (0.3).
- The remaining COCs each contributed less than two percent to the cumulative EFs.

See Section 1.10 for a regional summary of ambient air across the nine study areas.

1.5 Study Area 5

Samples were collected from 114 residences located throughout Study Area 5 (see Figure F-1). One hundred and one of these residences obtained their tap water from a public water system and 13 residences obtained their tap water from private wells. The incremental risks for these residences are summarized in Table F-7 and are discussed below:

⁵ The sampling station for Study Area 4 – Carney Park was actually located in Study Area 1 but was used to evaluate ambient air in Study Area 4.

- Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure Scenario – 31 of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-2). The total CNCEFs ranged from 0.10 to 4.5, the total CCEF_s ranged from 0.0004 to 257.1, and there were 16 residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at 24 residences in this study area (see Figure F-3).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Copper (Figure F-22)
 - ◆ Fluoride (Figure F-25)
 - ◆ Lead (Figure F-28)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ◆ Uranium (Figure F-43)
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Fecal coliform (Figure F-24)
 - ◆ Total coliforms (Figure F-38)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Fluoride (Figure F-25)
 - ◆ Nitrate (measured as NO₃-) (Figure F-31)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-37)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ◆ Uranium (Figure F-43)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Fecal coliform (Figure F-24)
 - ◆ Nitrate (measured as NO₃-) (Figure F-31)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Total coliforms (Figure F-38)
 - Soil was responsible for the Unacceptable risks at two residences in this study area⁶ (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-39)
 - Soil gas was responsible for the Unacceptable risks at 9 residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:

⁶ Remedial actions were implemented at both residences and the risks associated with exposure to soil were then considered Acceptable.

- ◆ 1,1,1,2-Tetrachloroethane (Figure F-8)
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexachlorobutadiene (Figure F-26)
 - ◆ Tetrachloroethene (Figure F-32)
- Tap Water (via Inhalation Only), Soil, and Soil Gas Exposure Scenario – 21 of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-6). The total CNCEFs ranged from 0.0001 to 0.15, the total CCEFs ranged from 0.003 to 89.6, and there were 13 residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at 14 residences in this study area (see Figure F-7).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ No COPCs were detected in tap water at concentrations exceeding RSLs.
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Fecal coliform (Figure F-24)
 - ◆ Total coliforms (Figure F-38)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Tetrachloroethene (Figure F-34)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Fecal coliform (Figure F-24)
 - ◆ Total coliforms (Figure F-38)
 - Soil was responsible for the Unacceptable risks at two residences in this study area⁷ (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-39)
 - Soil gas was responsible for the Unacceptable risks at 9 residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,1,1,2-Tetrachloroethane (Figure F-8)
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexachlorobutadiene (Figure F-26)
 - ◆ Tetrachloroethene (Figure F-32)

⁷ See footnote number 6.

1.5.1 Ambient Air

The CCEF and CNCEF in Study Area 5 were 701 and 130, respectively, which exceeded the typical urban air cancer (160) and noncancer (33) risks that were calculated based on the USEPA's 2007 Air Toxics Database (see Table F-15). When cumulative risks were calculated including only those constituents with corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF in Study Area 5 were 123 and 129, respectively.

The following COCs were identified in ambient air in Study Area 5:

- 1,2-Dibromo-3-chloropropane contributed to 81% of the CCEF with a constituent-specific CEF of 567. Comparable background data were lacking for 1,2-dibromo-3-chloropropane so it could not be compared with typical urban air.
- Acrolein contributed to 95% of the CNCEF and the constituent-specific NCEF (124) was greater than the NCEF for typical urban air (29).
- 1,2-Dichloropropane contributed to 4.1% of the CCEF and the constituent-specific CEF (28) was greater than the CEF for typical urban air (0.3).
- The remaining COCs each contributed less than two percent to the cumulative EFs.

See Section 1.10 for a regional summary of ambient air across the nine study areas.

1.6 Study Area 6

Samples were collected from 59 residences⁸ located throughout Study Area 6 (see Figure F-1). Fifty-eight of these residences obtained their tap water from a public water system and one residence obtained its tap water from a private well. The incremental risks for these residences are summarized in Table F-8 and are discussed below:

- Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure Scenario – 20 of the residences⁹ sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-2). The total CNCEFs ranged from 0.0006 to 33.6, the total CCEFs ranged from 0.0004 to 29,193.6, and there were six residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at 14 residences in this study area (see Figure F-3).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Fluoride (Figure F-25)
 - ◆ Lead (Figure F-28)
 - ◆ Nitrate (measured as NO₃-) (Figure F-31)
 - ◆ Tetrachloroethene (Figure F-33)

⁸ Residences #1194 and 2105 are located east of Study Area 6 but were included in the discussion because Study Area 6 is the closest study area to these locations.

⁹ The risk result at residence #1877 was inconclusive due to a data gap associated with the lack for speciation for radionuclides and was not included in this count.

- ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
- ◆ Uranium (Figure F-43)
- Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Nitrate (measured as NO₃⁻) (Figure F-31)
 - ◆ Thallium (Figure F-35)
 - ◆ Total coliforms (Figure F-38)
- Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Carbon tetrachloride (Figure F-19)
 - ◆ Nitrate (measured as NO₃⁻) (Figure F-31)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Uranium (Figure F-43)
- Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Nitrate (measured as NO₃⁻) (Figure F-31)
 - ◆ Total coliforms (Figure F-38)
- Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-39)
- Soil gas was responsible for the Unacceptable risks at 5 residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,1,2,2-Tetrachloroethane (Figure F-9)
 - ◆ 1,2-Butadiene (Figure F-11)
 - ◆ Acrylonitrile (Figure F-14)
 - ◆ Benzene (Figure F-15)
 - ◆ Carbon Tetrachloride (Figure F-18)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexachlorobutadiene (Figure F-26)
 - ◆ Tetrachloroethene (Figure F-32)
 - ◆ Vinyl Chloride (Figure F-44)
- Tap Water (via Inhalation Only), Soil, and Soil Gas Exposure Scenario – Six of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-6). The total CNCEFs ranged from 0.00002 to 30.5, the total CCEFs ranged from 0.09 to 29,177.6, and there were two residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at two residences in this study area (see Figure F-7).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:

- ◆ No COPCs were detected in tap water at concentrations exceeding RSLs.
- Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total coliforms (Figure F-38)
- Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Carbon Tetrachloride (Figure F-20)
- Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total coliforms (Figure F-38)
- Soil was not responsible Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-39)
- Soil gas was responsible for the Unacceptable risks at 5 residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,1,2,2-Tetrachloroethane (Figure F-9)
 - ◆ 1,2-Butadiene (Figure F-11)
 - ◆ Acrylonitrile (Figure F-14)
 - ◆ Benzene (Figure F-15)
 - ◆ Carbon Tetrachloride (Figure F-18)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexachlorobutadiene (Figure F-26)
 - ◆ Tetrachloroethene (Figure F-32)
 - ◆ Vinyl Chloride (Figure F-44)

1.6.1 Ambient Air

The CCEF and CNCEF in Study Area 6 were 784 and 127, respectively, which exceeded the typical urban air cancer (160) and noncancer (33) risks that were calculated based on the USEPA's 2007 Air Toxics Database (see Table F-15). When cumulative risks were calculated including only those constituents with corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF in Study Area 6 were 126 and 126, respectively.

The following COCs were identified in ambient air in Study Area 6:

- 1,2-Dibromo-3-chloropropane contributed to 78% of the CCEF with a constituent-specific CEF of 611. Comparable background data were lacking for 1,2-dibromo-3-chloropropane so it could not be compared with typical urban air.
- Acrolein contributed to 95% of the CNCEF and the constituent-specific NCEF (121) was greater than the NCEF for typical urban air (29).

- Total Dioxins/Furans (2,3,7,8-TCDD TEQs) contributed 5% to the CCEF with a constituent-specific CEF of 40. Comparable background data were lacking for total dioxins/furans (2,3,7,8-TCDD TEQs) so they could not be compared with typical urban air.
- 1,2-Dichloropropane contributed to 3% of the CCEF and the constituent-specific CEF (24) was greater than the CEF for typical urban air (0.3).
- The remaining COCs contributed to less than two percent of the CCEF or NCEF.

See Section 1.10 for a regional summary of ambient air across the nine study areas.

1.7 Study Area 7

Samples were collected from 41 residences located throughout Study Area 7 (see Figure F-1). Forty of these residences obtained their tap water from a public water system and one residence obtained its tap water from a private well. The incremental risks for these residences are summarized in Table F-9 and are discussed below:

- Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure Scenario – 18 of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-2). The total CNCEFs ranged from 0.12 to 3.4, the total CCEFs ranged from 0.08 to 62.2, and there were seven residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at 18 residences in this study area (see Figure F-3).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Lead (Figure F-28)
 - ◆ Nitrate (measured as NO₃-) (Figure F-31)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ◆ Uranium (Figure F-43)
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Nitrate (measured as NO₃-) (Figure F-31)
 - ◆ Total coliforms (Figure F-38)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Fluoride (Figure F-25)
 - ◆ Nitrate (measured as NO₃-) (Figure F-31)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Uranium (Figure F-43)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Nitrate (measured as NO₃-) (Figure F-31)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Total coliforms (Figure F-38)

- Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-39)
- Soil gas was responsible for the Unacceptable risks at one residence in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,1,2,2-Tetrachloroethane (Figure F-9)
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexachlorobutadiene (Figure F-26)
 - ◆ Tetrachloroethene (Figure F-32)
- Tap Water (via Inhalation Only), Soil, and Soil Gas Exposure Scenario – Eight of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-6). The total CNCEFs ranged from 0.000005 to 0.25, the total CCEFs ranged from 0.0004 to 12.5, and there were six residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at six residences in this study area (see Figure F-7).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Tetrachloroethene (Figure F-34)
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total coliforms (Figure F-38)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Tetrachloroethene (Figure F-34)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total coliforms (Figure F-38)
 - Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-39)
 - Soil gas was responsible for the Unacceptable risks at one residence in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,1,2,2-Tetrachloroethane (Figure F-9)
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)

- ◆ Hexachlorobutadiene (Figure F-26)
- ◆ Tetrachloroethene (Figure F-32)

1.7.1 Ambient Air

The CCEF and CNCEF in Study Area 7 were 798 and 253, respectively which exceeded the typical urban air cancer (160) and noncancer (33) risks that were calculated based on the USEPA's 2007 Air Toxics Database (see Table F-15). When cumulative risks were calculated including only those constituents with corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF in Study Area 7 were 122 and 252, respectively.

The following COCs were identified in ambient air in Study Area 7:

- 1,2-Dibromo-3-chloropropane contributed to 83% of the CCEF with a constituent-specific CEF of 663. Comparable background data were lacking for 1,2-dibromo-3-chloropropane so it could not be compared with typical urban air.
- Acrolein contributed to 98% of the CNCEF and the constituent-specific NCEF (247) was greater than the NCEF for typical urban air (29).
- 1,2-Dichloropropane contributed to 5.4% of the CCEF and the constituent-specific CEF (43) was greater than the CEF for typical urban air (0.3).
- The remaining COCs each contributed less than two percent to the cumulative EFs.

See Section 1.10 for a regional summary of ambient air across the nine study areas.

1.8 Study Area 8

Samples were collected from 123 residences located throughout Study Area 8 (see Figure F-1). Sixty-three of these residences obtained their tap water from a public water system and 60 residences obtained their tap water from private wells. The incremental risks for these residences are summarized in Table F-10 and are discussed below:

- Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure Scenario – 89 of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-2). The total CNCEFs ranged from 0.002 to 13.7, the total CCEFs ranged from 0.01 to 867.9, and there were 49 residences with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at 70 residences in this study area (see Figure F-3).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Copper (Figure F-22)
 - ◆ Lead (Figure F-28)
 - ◆ Nitrate (measured as NO₃-) (Figure F-31)
 - ◆ Tetrachloroethene (Figure F-33)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ◆ Uranium (Figure F-43)

- Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ♦ Fecal coliform (Figure F-24)
 - ♦ Nitrate (measured as NO₃-) (Figure F-31)
 - ♦ Total coliforms (Figure F-38)
- Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ♦ Copper (Figure F-22)
 - ♦ Fluoride (Figure F-25)
 - ♦ Lead (Figure F-28)
 - ♦ Nitrate (measured as NO₃-) (Figure F-31)
 - ♦ Tetrachloroethene (Figure F-33)
 - ♦ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ♦ Uranium (Figure F-43)
- Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ♦ Fecal coliform (Figure F-24)
 - ♦ Nitrate (measured as NO₃-) (Figure F-31)
 - ♦ Tetrachloroethene (Figure F-33)
 - ♦ Total coliforms (Figure F-38)
- Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ♦ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
- Soil gas was responsible for the Unacceptable risks at 28 residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ♦ 1,1,1,2-Tetrachloroethane (Figure F-8)
 - ♦ 1,1,2,2-Tetrachloroethane (Figure F-9)
 - ♦ 1,2-Dichloropropane (Figure F-10)
 - ♦ 1,3-Butadiene (Figure F-11)
 - ♦ 1,4-Dichlorobenzene (Figure F-12)
 - ♦ Acrylonitrile (Figure F-14)
 - ♦ Benzene (Figure F-15)
 - ♦ Carbon Tetrachloride (Figure F-18)
 - ♦ Chloroform (Figure F-21)
 - ♦ Ethylbenzene (Figure F-23)
 - ♦ Hexachlorobutadiene (Figure F-26)
 - ♦ Hexane (Figure F-27)
 - ♦ Tetrachloroethene (Figure F-32)
 - ♦ Trichloroethene (Figure F-42)
- Tap Water (via Inhalation Only), Soil, and Soil Gas Exposure Scenario – 71 of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria

(see Figure F-6). The total CNCEFs ranged from 0.0001 to 2.7, the total CCEFs ranged from 0.01 to 819.3, and there were 45 residences with exceedances of USMCLs.

- Tap water was responsible for the Unacceptable risks at 48 residences in this study area (see Figure F-7).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Tetrachloroethene (Figure F-34)
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Fecal coliform (Figure F-24)
 - ◆ Total coliforms (Figure F-38)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ Tetrachloroethene (Figure F-34)
 - Residences on Well Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Fecal coliform (Figure F-24)
 - ◆ Total coliforms (Figure F-38)
- Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
- Soil gas was responsible for the Unacceptable risks at 28 residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ 1,1,1,2-Tetrachloroethane (Figure F-8)
 - ◆ 1,1,2,2-Tetrachloroethane (Figure F-9)
 - ◆ 1,2-Dichloropropane (Figure F-10)
 - ◆ 1,3-Butadiene (Figure F-11)
 - ◆ 1,4-Dichlorobenzene (Figure F-12)
 - ◆ Acrylonitrile (Figure F-14)
 - ◆ Benzene (Figure F-15)
 - ◆ Carbon Tetrachloride (Figure F-18)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexachlorobutadiene (Figure F-26)
 - ◆ Hexane (Figure F-27)
 - ◆ Tetrachloroethene (Figure F-32)
 - ◆ Trichloroethene (Figure F-42)

1.8.1 Ambient Air

The CCEF and CNCEF in Study Area 8 were 817 and 101, respectively, which exceeded the typical urban air cancer (160) and noncancer (33) risks that were calculated based on the USEPA's 2007 Air

Toxics Database (see Table F-15). When cumulative risks were calculated including only those constituents with corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF in Study Area 8 were 204 and 100, respectively.

The following COCs were identified in ambient air in Study Area 8:

- 1,2-Dibromo-3-chloropropane contributed to 72% of the CCEF with a constituent-specific CEF of 586. Comparable background data were lacking for 1,2-dibromo-3-chloropropane so it could not be compared with typical urban air.
- Acrolein contributed to 93% of the CNCEF and the constituent-specific NCEF (93) was greater than the NCEF for typical urban air (29).
- Benzene contributed to 8.3% of the CCEF and the constituent-specific CEF (68) was greater than the CEF for typical urban air (5.2)
- 1,2-Dichloropropane contributed to 3.2% of the CCEF and the constituent-specific CEF (26) was greater than the CEF for typical urban air (0.3).
- Total dioxins/furans (2,3,7,8-TCDD TEQs) contributed 2.6% to the CCEF with the constituent-specific CEF of 21. Comparable background data were lacking for total dioxins/furans (2,3,7,8-TCDD TEQs) so they could not be compared with typical urban air.
- The remaining COCs each contributed less than two percent to the cumulative EFs.

See Section 1.10 for a regional summary of ambient air across the nine study areas.

1.9 Study Area 9

Samples were collected from 11 residences¹⁰ located throughout Study Area 9 (see Figure F-1). All of the residences sampled obtained their tap water from a public water system. The incremental risks for these residences are summarized in Table F-11 and are discussed below:

- Tap Water (via Ingestion+Inhalation), Soil, and Soil Gas Exposure Scenario – Two of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-2). The total CNCEFs ranged from 0.11 to 3.9, the total CCEFs ranged from 0.11 to 53.4, and there was one residence with exceedances of USMCLs.
 - Tap water was responsible for the Unacceptable risks at two¹¹ residences in this study area (see Figure F-3).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ 4-Chloroaniline (Figure F-13)
 - ◆ Lead (Figure F-28)
 - ◆ Total dioxins/furans (2,3,7,8-TCDD TEQs) (Figure F-40)
 - ◆ Uranium (Figure F-43)

¹⁰ Residences #0200 and 1906 are located north of Study Area 9 but were included in the discussion because Study Area 9 is the closest study area to these residences.

¹¹ Residence #1906 had an Unacceptable risk, but is not reflected on Figure F-3 because it is located north of Study Area 9 and falls outside of the extent of this figure.

- Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ Total trihalomethanes (Figure F-41)
- Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
- Soil gas was not responsible for Unacceptable risks at any residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexachlorobutadiene (Figure F-26)
 - ◆ Tetrachloroethene (Figure F-32)
- Tap Water (via Inhalation Only), Soil, and Soil Gas Exposure Scenario – None of the residences sampled had risks that were considered Unacceptable based on the PHE risk management criteria (see Figure F-6). The total CNCEFs ranged from 0.002 to 0.11, the total CCEFs ranged from 1.3 to 8.8, and there were no residences with exceedances of USMCLs.
 - Tap water was not responsible for Unacceptable risks at any residences in this study area (see Figure F-7).
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding RSLs:
 - ◆ No COPCs were detected in tap water at concentrations exceeding RSLs.
 - Residences on Public Water – The following COPCs were detected in tap water samples at concentrations exceeding USMCLs:
 - ◆ No COPCs were detected in tap water at concentrations exceeding USMCLs.
 - Soil was not responsible for Unacceptable risks at any residences in this study area (see Figure F-4). The following COPCs were detected in soil at concentrations exceeding RSLs:
 - ◆ Total carcinogenic PAHs (BaP TEQs) (Figure F-36)
 - Soil gas was not responsible for Unacceptable risks at any residences in this study area (see Figure F-5). The following COPCs were detected in soil gas at concentrations exceeding RSLs:
 - ◆ Benzene (Figure F-15)
 - ◆ Chloroform (Figure F-21)
 - ◆ Ethylbenzene (Figure F-23)
 - ◆ Hexachlorobutadiene (Figure F-26)
 - ◆ Tetrachloroethene (Figure F-32)

1.9.1 Ambient Air

The CCEF and CNCEF in Study Area 9 were 709 and 143, respectively, which exceeded the typical urban air cancer (160) and noncancer (33) risks that were calculated based on the USEPA's 2007 Air Toxics Database (see Table F-15). When cumulative risks were calculated including only those

constituents with corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF in Study Area 9 were 104 and 142, respectively.

The following COCs were identified in ambient air in Study Area 9:

- 1,2-Dibromo-3-chloropropane contributed to 80% of the CCEF with a constituent-specific CEF of 569. Comparable background data were lacking for 1,2-dibromo-3-chloropropane so it could not be compared with typical urban air.
- Acrolein contributed to 97% of the CNCEF and the constituent-specific NCEF (139) was greater than the NCEF for typical urban air (29).
- Total dioxins/furans (2,3,7,8-TCDD TEQs) contributed 4.3% to the CCEF with a constituent-specific CEF of 30. Comparable background data were lacking for total dioxins/furans (2,3,7,8-TCDD TEQs) so they could not be compared with typical urban air.
- The remaining COCs each contributed less than two percent to the cumulative EFs.

See Section 1.10 for a regional summary of ambient air across the nine study areas.

1.10 Risks Associated with Ambient Air in Study Areas 1 through 9

Note: Incremental risks could not be calculated for ambient air because background concentrations were not available for Naples, Italy (see Section 4.2 in the main report). Therefore, only total risks could be calculated. The following information is based on total risks.

To determine the cumulative EFs for each study area, CEFs and NCEF for individual COPCs were totaled¹² and a summary of the total ambient air risks associated with each study area are presented in Table F-14. The CCEF and CNCEF for the study areas ranged from 495 to 846 and from 75 to 253, respectively, when all constituents detected in ambient air during the Naples PHE were included in the calculation. Both cancer and noncancer risks exceeded the risks calculated from the USEPA's 2007 Air Toxics Database (USEPA, 2007a) for typical urban air (i.e., CCEF of 160 and CNCEF of 33). However, when cumulative risks were calculated including only those constituents that had corresponding values in the USEPA's 2007 Air Toxics Database, the CCEF and CNCEF for the study areas ranged from 94 to 204 and from 75 to 252, respectively.

Twenty-seven COPCs had EPCs that exceeded RSLs in at least one study area (see Table F-15). To focus the evaluation on the COPCs that contributed the majority of the ambient air risk, the COPCs were evaluated further and COCs were identified based on the following criteria:

1. The EPC was greater than the NAAQs; and/or
2. The CEF and/or NCEF associated with the EPC were greater than 10 or greater than one, respectively in at least one study area; and

¹² While summing the risk for all constituents detected is often used for screening purposes, it likely overestimates potential risk. A more accurate calculation would involve creating a separate total for each mechanism of action (or toxic endpoint as a surrogate).

3. The COPC RME EPC was greater than the EPC from the USEPA's 2007 Air Toxics Database for typical U.S. urban air (USEPA, 2007).

Based on this evaluation, nine of the 27 COPCs were identified as COCs (see Table F-16). Key findings associated with the regional distribution of ambient air incremental risks are discussed in Section 2.1.3.

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SECTION 2 – FINDINGS

The purpose of this section is to summarize the media and constituents responsible for the majority of the risks, using the data collected during Phase I and Phase II of the SRE, and also identify trends that have been observed with regards to regional risks based on the Phase I and Phase II data. This discussion is presented in the following sections:

- The regional summary of incremental risks for Phase I and Phase II residences is presented in Section 2.1.
- The regional distribution of incremental risks for Phase I and Phase II is discussed in Section 2.2.

This appendix presents general conclusions about the potential health risks associated with living in the Naples area of Campania based on the results of all residences sampled during the SRE. These conclusions and any future conclusions, statistical evaluations, summaries, and risk management decisions should consider/incorporate the limitations of the methodology used in the risk assessment and the unique conditions/limitations under which the PHE was performed.

For example, the Phase I and the Step-Out Sampling Events were based on a *biased* sampling design and were intended to identify “worst-case” locations and further investigate areas proximate to residences with Unacceptable risks, respectively. In contrast, the Phase II Sampling Event was based on a *random* sampling design and was intended to obtain broad geographical coverage throughout each study area. These sampling designs were established to answer very specific, and different, questions. Therefore, when evaluating these data collectively, as presented in this appendix, it was not appropriate to present specific conclusions, such as the average risk in a study area or compare average risks between study areas.

In addition, the USN could not sample or investigate (e.g., install groundwater monitoring wells, et cetera) potential or suspected areas of contamination resulting from illicit disposal activities as it would in the U.S. Consequently, only residences on the Italian economy where USN Personnel lived (or may live in the future) could be sampled. This limitation influenced the aggregate percentages of Unacceptable residences presented in this appendix.

2.1 Regional Summary of Incremental Risks for All Residences Sampled During the PHE

Five hundred and forty-three (543) residences were sampled for tap water, soil, and soil gas during PHE (although not all media were sampled at every residence). As discussed in the introduction to this appendix, the incremental risks in this SRE were calculated for two different scenarios for all media: (1) assuming tap water exposure via ingestion and inhalation and (2) assuming tap water exposure via inhalation only. Table F-2 presents detailed risk information for every residence that was sampled during the PHE. Tables F-3 through F-11 summarize the information presented on Table F-2 by presenting the number of residences with Unacceptable risks, range of total CNCEFs and total CCEFs, and media and constituents responsible for the majority of the risks for each study area.

Twenty-two percent (118 of 543) of the residences sampled during the PHE had Unacceptable risks based on the Tap Water (Inhalation-Only), Soil, and Soil Gas Scenario (32% [41 of 130] and 22% [46 of 209] of

the residences sampled during Phase I and Phase II, respectively had Unacceptable risks). Thirty-nine percent (211 of 543) of the residences sampled during the PHE had Unacceptable risks based on the Tap Water (Ingestion+Inhalation), Soil, and Soil Gas Scenario (48% [62 of 130] and 42% [88 of 209] of the residences sampled during Phase I and Phase II, respectively had Unacceptable risks). The box below summarizes the number of residences with Unacceptable risks per study area.

Number of Residences with Unacceptable Incremental Risks Per Study Area for All Residences¹ Sampled During the PHE

Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
Phase I Only									
Scenario: Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas									
4 of 21 (19%)	6 of 8 (75%)	2 of 5 (40%)	0 of 3 (0%)	11 of 32 (34%)	5 of 13 (38%)	4 of 7 (57%)	30 of 39 (77%)	0 of 2 (0%)	62 of 130 (48%)
Phase II Only									
Scenario: Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas									
8 of 30 (27%)	13 of 22 (59%)	1 of 14 (7%)	4 of 14 (29%)	15 of 33 (45%)	13 of 30 (43%)	9 of 24 (38%)	24 of 34 (71%)	1 of 8 (13%)	88 of 209 (42%)
All Residences Sampled During the PHE									
Scenario: Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas									
26 of 125 (21%)	18 of 30 (60%)	3 of 21 (14%)	4 of 19 (21%)	31 of 114 (27%)	20 of 59 (34%)	18 of 41 (44%)	89 of 123 (72%)	2 of 11 (18%)	211 of 543 (39%)
Phase I Only									
Scenario: Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas									
0 of 21 (0%)	0 of 8 (0%)	0 of 5 (0%)	0 of 3 (0%)	9 of 32 (28%)	4 of 13 (31%)	2 of 7 (29%)	26 of 39 (67%)	0 of 2 (0%)	41 of 130 (32%)
Phase II Only									
Scenario: Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas									
5 of 30 (17%)	2 of 22 (9%)	0 of 14 (0%)	2 of 14 (14%)	10 of 33 (30%)	5 of 30 (17%)	4 of 24 (17%)	18 of 34 (53%)	0 of 8 (0%)	46 of 209 (22%)
All Residences Sampled During the PHE									
Scenario: Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas									
8 of 125 (6%)	2 of 30 (7%)	0 of 21 (0%)	2 of 19 (11%)	21 of 114 (18%)	6 of 59 (10%)	8 of 41 (20%)	71 of 123 (58%)	0 of 11 (0%)	118 of 543 (22%)
Phase I Only									
Number of Residences Sampled That Obtained Their Water from a Private Well									
3 of 21 (14%)	0 of 8 (0%)	0 of 5 (0%)	0 of 3 (0%)	6 of 32 (19%)	1 of 13 (8%)	1 of 7 (14%)	25 of 39 (64%)	0 of 2 (0%)	36 of 130 (28%)
Phase II Only									
Number of Residences Sampled That Obtained Their Water from a Private Well									
0 of 30 (0%)	0 of 22 (0%)	0 of 14 (0%)	0 of 14 (0%)	5 of 33 (15%)	1 of 30 (3%)	0 of 24 (0%)	7 of 34 (21%)	0 of 8 (0%)	13 of 209 (6%)
All Residences Sampled During the PHE									
Number of Residences Sampled That Obtained Their Water from a Private Well									
3 of 125 (2%)	0 of 30 (0%)	0 of 21 (0%)	0 of 19 (0%)	11 of 114 (10%)	1 of 59 (2%)	1 of 41 (2%)	60 of 123 (49%)	0 of 11 (0%)	76 of 543 (14%)
Phase I Only									
Number of Residences Sampled That Obtained Their Water from a Public Source									
18 of 21 (86%)	8 of 8 (100%)	5 of 5 (100%)	3 of 3 (100%)	26 of 32 (81%)	12 of 13 (92%)	6 of 7 (86%)	14 of 39 (36%)	2 of 2 (100%)	94 of 130 (72%)
Phase II Only									
Number of Residences Sampled That Obtained Their Water from a Public Source									
30 of 30 (100%)	22 of 22 (100%)	14 of 14 (100%)	14 of 14 (100%)	28 of 33 (85%)	29 of 30 (97%)	24 of 24 (100%)	27 of 34 (79%)	8 of 8 (100%)	196 of 209 (94%)

Number of Residences with Unacceptable Incremental Risks Per Study Area for All Residences¹ Sampled During the PHE

Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
All Residences Sampled During the PHE									
Number of Residences Sampled That Obtained Their Water from a Public Source									
122 of 125 (98%)	30 of 30 (100%)	21 of 21 (100%)	19 of 19 (100%)	103 of 114 (90%)	58 of 59 (98%)	40 of 41 (98%)	63 of 123 (51%)	11 of 11 (100%)	467 of 543 (86%)
¹ All residences sampled during the PHE represent samples collected during all Sampling Events (i.e., Phase I, Pre-Lease, Step-Outs, and Phase II).									

As shown on Figures F-2 and F-6, the residences with Unacceptable risks are located throughout the study areas, with the highest number of Unacceptable risks observed in Study Area 8 (60 of the 89 residences with Unacceptable risks obtained their tap water from a private well and 60 of the 60 residences that obtained their tap water from a private well had Unacceptable risks). This result was expected. Prior to commencing the PHE, Italian maps and anecdotal information regarding historical waste-disposal practices in agricultural areas (such as Study Areas 5, 6, 7, 8, and 9), which were presented in the press and other literature that were reviewed for the PHE, indicated that Study Area 8 would likely be one of the study areas with a large number of Unacceptable risks. In addition, many of the residences in Study Area 8 obtained their tap water from private wells which are typically more susceptible to contamination from localized dumping of industrial/chemical waste than public water supply systems. The results from Phase I and Phase II indicate that residences that obtained their tap water from private wells (regardless of the study area) had higher frequencies of Unacceptable risks than residences that obtained their tap water from a public source. For example, during Phase I 30 of the 36 (83%) residences that obtained their tap water from a private well had Unacceptable risks, whereas on 18 of the 94 (19%) residences that obtained their tap water from a public source had Unacceptable risks (PIONEER, 2009). The results from Phase II were consistent with Phase I, as 13 of the 13 residences (100%) that obtained their tap water from a private well had Unacceptable risks. Study Areas 3 and 9 had the lowest percentage of Unacceptable risks but also had the fewest number of residences sampled so it is not possible to reach any conclusion regarding the significance of these findings. The number and frequency of Unacceptable risks for Study Areas 1 and 2 were unexpected because these areas are densely populated and do not have expansive agricultural areas or open space which could potentially be used for illegal waste disposal activities. In addition, all of the Phase II residences in Study Areas 1 and 2 obtained their tap water from a public source.

Residences with Acceptable risks and Unacceptable risks were distributed throughout the study areas and often were located very close each other. In other words, the residences with Unacceptable risks were generally randomly distributed (with some exceptions) within the study areas (see Figures F-2 and F-6). Exceptions to this general observation are identified below:

- Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas (Figure F-6)
 - There was a cluster of Unacceptable residences in Study Area 8 within the New Lease Suspension Zone (NLSZ).
 - Unacceptable residences located outside of Study Area 8 were often found in clusters of two or three.
- Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas (Figure F-2)
 - There is a cluster of Unacceptable residences located in:
 - Study Area 1 (western half of the study area),
 - Study Area 2 (near the U.S. Consulate),
 - Study Area 5 (south of Lago Patria Receiver Site),
 - Study Area 6 (southwest of the Gricignano Support Site) and
 - Study Area 8 (within the NLSZ).

As summarized in the box presented below, the ranges of risks were highly variable and heterogeneous between study areas and within the study areas. This high degree of variability prevented calculating an “average risk” or “upper-bound” risk for each study area or across all study areas. For example, the average total CCEF based on the tap water (Inhalation-Only), soil, and soil gas scenario for all the residences in the PHE for Study Area 1 was 2.1. While low, this average total CCEF perspective inaccurately indicates that the risks within this study area were Acceptable, when in fact, eight of the 125 residences had Unacceptable risks (i.e., the total CCEF was greater than 10) and the range of total CCEFs for Study Area 1 was 0.06 to 82.

Range of Incremental Risks Per Study Area for All Residences¹ Sampled During the PHE

Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
Phase I Only									
Scenario: Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas									
Total CNCEFs (A CNCEF > 1 Indicates an Unacceptable Risk)									
0.02 – 0.21	0.0005 – 0.006	0.0010 – 0.06	0.02 – 0.1	0.02 – 0.15	0.00002 – 30.5	0.03 – 0.25	0.03 – 0.66	0.03 – 0.03	0.00002 – 30.5
Total CCEFs (A CCEF > 10 Indicates an Unacceptable Risk)									
0.06 – 6.9	0.59 – 8.0	0.62 – 4.0	0.06 – 1.1	0.003 – 41.7	0.43 – 29,177.6	0.08 – 8.7	0.01 – 422.3	1.8 – 1.8	0.003 – 29,177.6
Phase II Only									
Scenario: Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas									
Total CNCEFs (A CNCEF > 1 Indicates an Unacceptable Risk)									
0.0001 - 0.15	0.0005 – 0.07	0.0000004 - 0.32	0.00002 – 2.2	0.0005 - 0.13	0.0004 – 30.5	0.000005 - 0.07	0.0005 - 2.7	0.002 – 0.11	0.0000004 - 30.5
Total CCEFs (A CCEF > 10 Indicates an Unacceptable Risk)									
0.12 - 82.0	0.21 - 13.3	0.0001 - 9.1	0.10 – 116.5	0.08 - 89.6	0.43 – 29,177.6	0.0004 - 12.5	0.02 – 152.0	1.3 – 8.8	0.0001 - 29177.6
All Residences Sampled During the PHE									
Scenario: Risks Based on Tap Water (Inhalation-Only), Soil, and Soil Gas									
Total CNCEFs (A CNCEF > 1 Indicates an Unacceptable Risk)									
0.00002 - 0.21	0.0004 – 0.07	0.00004 – 0.32	0.00002 – 2.2	0.0001 - 0.15	0.00002 – 30.5	0.000005 - 0.25	0.0001 – 2.7	0.002 – 0.11	0.0000004 - 30.5
Total CCEFs (A CCEF > 10 Indicates an Unacceptable Risk)									
0.06 - 82.0	0.21 - 13.3	0.0001 - 9.1	0.06 - 116.5	0.003 - 89.6	0.09 – 29,177.6	0.0004 - 12.5	0.01 – 819.3	1.3 – 8.8	0.0001 - 29177.6

Range of Incremental Risks Per Study Area for All Residences¹ Sampled During the PHE

Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	All
Phase I Only									
Scenario: Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas									
Total CNCEFs (A CNCEF > 1 Indicates an Unacceptable Risk)									
0.18 – 3.2	0.22 – 1.7	0.30 – 2.1	0.25 – 0.42	0.17 – 3.8	0.38 – 33.6	0.32 – 3.4	0.57 – 5.2	0.40 – 0.57	0.17 – 33.6
Total CCEFs (A CCEF > 10 Indicates an Unacceptable Risk)									
0.13 – 7.6	0.009 – 15.2	0.01 – 4.1	0.16 – 1.1	0.01 – 128.3	0.01 – 29,193.6	0.08 – 62.2	0.01 – 466.0	2.5 – 2.5	0.009 – 29,193.6
Phase II Only									
Scenario: Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas									
Total CNCEFs (A CNCEF > 1 Indicates an Unacceptable Risk)									
0.0005 - 2.1	0.76 – 6.3	0.09 - 1.9	0.17 – 2.4	0.12 – 3.3	0.0006 – 33.6	0.12 – 2.9	0.51 – 4.4	0.11 – 3.9	0.0005 - 33.6
Total CCEFs (A CCEF > 10 Indicates an Unacceptable Risk)									
0.39 - 84.2	3.0 – 103.1	0.64 - 9.6	1.0 – 118.0	0.69 - 257.1	0.43 – 29,193.6	0.97 - 20.8	1.4 – 410.8	0.11 – 9.9	0.11 – 29,193.6
All Residences Sampled During the PHE									
Scenario: Risks Based on Tap Water (Ingestion+Inhalation), Soil, and Soil Gas									
Total CNCEFs (A CNCEF > 1 Indicates an Unacceptable Risk)									
0.0005 - 3.2	0.22 – 6.3	0.09 - 2.1	0.17 – 2.4	0.10 – 4.5	0.0006 – 33.6	0.12 – 3.4	0.002 – 13.7	0.11 – 3.9	0.0005 - 33.6
Total CCEFs (A CCEF > 10 Indicates an Unacceptable Risk)									
0.0004 - 84.2	0.009 – 103.1	0.01 - 9.6	0.16 – 118.0	0.0004 - 257.1	0.0004 – 29,193.6	0.08 – 62.2	0.01 - 867.9	0.11 – 53.4	0.0004 – 29,193.6
Phase I Only									
Number of Residences Sampled That Obtained Their Water from a Private Well									
3 of 21 (14%)	0 of 8 (0%)	0 of 5 (0%)	0 of 3 (0%)	6 of 32 (19%)	1 of 13 (8%)	1 of 7 (14%)	25 of 39 (64%)	0 of 2 (0%)	36 of 130 (28%)
Phase II Only									
Number of Residences Sampled That Obtained Their Water from a Private Well									
0 of 30 (0%)	0 of 22 (0%)	0 of 14 (0%)	0 of 14 (0%)	5 of 33 (15%)	1 of 30 (3%)	0 of 24 (0%)	7 of 34 (21%)	0 of 8 (0%)	13 of 209 (6%)
All Residences Sampled During the PHE									
Number of Residences Sampled That Obtained Their Water from a Private Well									
3 of 125 (2%)	0 of 30 (0%)	0 of 21 (0%)	0 of 19 (0%)	11 of 114 (10%)	1 of 59 (2%)	1 of 41 (2%)	60 of 123 (49%)	0 of 11 (0%)	76 of 543 (14%)
Phase I Only									
Number of Residences Sampled That Obtained Their Water from a Public Source									
18 of 21 (86%)	8 of 8 (100%)	5 of 5 (100%)	3 of 3 (100%)	26 of 32 (81%)	12 of 13 (92%)	6 of 7 (86%)	14 of 39 (36%)	2 of 2 (100%)	94 of 130 (72%)
Phase II Only									
Number of Residences Sampled That Obtained Their Water from a Public Source									
30 of 30 (100%)	22 of 22 (100%)	14 of 14 (100%)	14 of 14 (100%)	28 of 33 (85%)	29 of 30 (97%)	24 of 24 (100%)	27 of 34 (79%)	8 of 8 (100%)	196 of 209 (94%)
All Residences Sampled During the PHE									
Number of Residences Sampled That Obtained Their Water from a Public Source									
122 of 125 (98%)	30 of 30 (100%)	21 of 21 (100%)	19 of 19 (100%)	103 of 114 (90%)	58 of 59 (98%)	40 of 41 (98%)	63 of 123 (51%)	11 of 11 (100%)	467 of 543 (86%)
¹ All residences sampled during the PHE represent samples collected during all Sampling Events (i.e., Phase I, Pre-Lease, Step-Outs, and Phase II).									

2.1.1 *Media Responsible for the Majority of the Incremental Risks Based On All Residences Sampled During the PHE*

The majority of the Unacceptable incremental risks identified during PHE sampling were associated with COPCs detected in tap water from private wells and soil gas collected from beneath or beside the foundation of the residence. Only two residences, evaluated during Phase I, had Unacceptable risks based solely on soil. In fact, soil sampling was discontinued midway through Phase II because results from Phase I and Phase II indicated that soil contamination did not pose a significant human health risk. The results of the year-long ambient air sampling and monitoring program that was conducted as part of the PHE indicated that risks associated with exposure to ambient air in Naples were greater than the risks calculated from the USEPA's 2007 Air Toxics Database (USEPA, 2007a) for typical U.S. urban air. However, when risk results were calculated included only those constituents that had corresponding values in the USEPA's 2007 Air Toxics Database, the CCEFs were less than the CCEF calculated for typical urban air in the U.S in all but one study area (Study Area 8). The CNCEFs did not change appreciably (i.e., the difference was less than one percent), primarily because acrolein (the constituent that contributed the majority of the CNCEF in the nine study areas) had values in both data sets¹³. The risks associated with tap water, soil, soil gas, and ambient air are summarized below.

- **Tap Water (Inhalation-Only) Scenario**
 - Tap Water from a Public Source: Twenty-four (24) of the 459 residences sampled during the PHE that obtained their tap water from a public source had Unacceptable risks due to concentrations of COPCs in tap water (see Figure F-7). All 24 of the residences had Unacceptable risks due to microorganisms in tap water. Unacceptable residences were distributed randomly throughout the study areas.
 - Tap Water from a Private Well: Fifty-one (51) of the 65 residences sampled during the PHE that obtained their tap water from a private well¹⁴ had Unacceptable risks due to concentrations of COPCs in tap water (see Figure F-7). Forty-seven (47) of the 51 residences had Unacceptable risks due to microorganisms in tap water¹⁵. The majority of residences with Unacceptable results (42 out of 51) were located in Study Area 8.
- **Tap Water (Ingestion+Inhalation) Scenario**
 - Tap Water from a Public Source: One-hundred and eleven (111) of the 459 residences sampled during the PHE that obtained their tap water from a public source had Unacceptable risks due to concentrations of COPCs in tap water (see Figure F-3). Twenty-four (24) of the 111 residences had Unacceptable risks due to microorganisms in tap water¹⁶. These

¹³ For ambient air, no suitable background concentrations for the Campania Region could be located in the scientific literature. Therefore, the 95% UCL on the mean concentration from data obtained for six U.S. cities (i.e., San Diego, California; Los Angeles, California; Seattle, Washington; Houston, Texas; Midlothian, Texas; and Washington DC) from the USEPA's 2007 Air Toxics Database (USEPA, 2007) was used to represent typical urban air. Refer to Section 4.1 in the Naples Public Health Evaluation Volume II: Phase I & II SRE for explanation on the development of EPCs.

¹⁴ The residences that obtained their tap water from a private well were located in Study Area 1 (three residences), Study Area 5 (11 residences), Study Area 6 (one residence), Study Area 7 (one residence), and Study Area 8 (60 residences).

¹⁵ Some of the residences with microorganisms detected in tap water were co-located with the Unacceptable chemical risks in tap water; therefore, the total number of residences with Unacceptable microorganism results plus the total number of residences with Unacceptable chemical results does not always equal the total number of Unacceptable residences.

¹⁶ See footnote 15.

- residences were more randomly distributed within the study areas; with the highest number of Unacceptable results (21 out of 111) located in Study Area 8.
- Tap Water from a Private Well: Sixty (60) of the 65 residences sampled during the PHE that obtained their tap water from a private well had Unacceptable risks due to concentrations of COPCs in tap water (see Figure F-3). Forty-seven (47) of the 60 residences had Unacceptable risks due to microorganisms in tap water¹⁷. These residences were primarily located in Study Area 8 (49 out of 60).
 - **Soil**
 - Two (2) of the 184 residences sampled during the PHE had Unacceptable risks based solely on constituents in soil (See Figure F-4). These residences were located in Study Area 5 and sampled during Phase I.
 - **Soil Gas**
 - Forty-nine (49) of the 300 residences sampled during the PHE had Unacceptable risks based solely on constituents in soil gas (see Figure F-5). Clusters of residences with Unacceptable risks associated solely with constituents detected in soil gas were observed primarily in Study Area 8 (28 out of 49). In addition, residences with Unacceptable risks located outside of Study Area 8 were often found in clusters of two or three residences. The passive soil gas samples collected during Phase I were pooled with the active soil gas samples collected during Phase II. Passive soil gas results can be semi-quantitative, but are typically more qualitative in nature. Seven residences where passive soil gas samples were collected during Phase I were re-sampled during Phase II using active soil gas methods and, in all cases, the active soil gas results were Unacceptable – although the risks in most cases were lower than the passive soil gas risks¹⁸.
 - **Ambient Air**
 - *Note: Incremental risks could not be calculated for ambient air because background concentrations were not available for Naples, Italy (see Section 4.2). Therefore, only total risks could be calculated. The following information is based on total risks.* The CCEFs and CNCEFs for the nine study areas in Naples ranged from 495 to 846 and 75 to 253, respectively, and exceeded the CCEFs and CNCEFs calculated using concentrations representative of typical urban air in the U.S. (160 and 33, respectively) (USEPA, 2007a). However, the risks associated with exposure to ambient air in Naples are not directly comparable to the risks associated with exposure to ambient air in the U.S. because some of the constituents detected in the nine study areas did not have corresponding values in the USEPA's 2007 Air Toxics Database. When those constituents (e.g., 1,2-dibromo-3-chloropropane, which was responsible for, on average, 80% of the cancer risks in each study area) were not included in the calculations of the cumulative EFs, the CCEFs for the nine study areas were less than the typical urban air in the U.S. in all but one study area (i.e., Study Area 8) (see Table F-14). The CNCEFs did not change appreciably (i.e., the difference

¹⁷ See footnote 15.

¹⁸ The risk results for the seven locations were calculated prior to applying a Multi-story VAF. With the multi-story VAF applied, two of the seven locations changed from Unacceptable to Acceptable, see Section 4.5.3 in the main text of this report.

was less than one percent) when the cumulative EFs were recalculated using only constituents that had corresponding values in the USEPA’s 2007 Air Toxics Database, primarily because acrolein (the constituent that contributed the majority of the CNCEF in the nine study areas) had values in both data sets (see Table F-14). Because some constituents (including 1,2-dibromo-3-chloropropane) did not have corresponding values in the USEPA’s 2007 Air Toxics Database, it was not possible to determine whether or not the cumulative ambient air risks in the Campania Region exceeded the risks from typical urban air in the U.S.

2.1.2 Constituents Responsible for the Majority of the Incremental Risks Based on All Residences Sampled During the PHE

The following table identifies constituents that exceeded RSLs and/or USMCLs (USMCLs apply to tap water only) in tap water, soil, soil gas, and/or ambient air based on all residences sampled during the PHE:

COPCs Based on All Residences Sampled During the PHE

Tap Water ¹	Soil	Soil Gas ²	Ambient Air
<p>PRIVATE WELLS</p> <p>RSLs Exceedances: Carbon Tetrachloride Copper Fluoride Lead Nitrate (measured as NO₃-) Tetrachloroethene Total Carcinogenic PAHs (BaP TEQs) Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Uranium</p> <p>USMCL Exceedances: Fecal Coliform Nitrate (measured as NO₃-) Tetrachloroethene Total Coliforms</p> <p>PUBLIC WATER</p> <p>RSLs Exceedances: 4-Chloroaniline Bis(2-ethylhexyl)phthalate Copper Fluoride Lead Nitrate (measured as NO₃-) Tetrachloroethene Total Carcinogenic PAHs (BaP TEQs) Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Uranium</p> <p>USMCL Exceedances: Bis(2-ethylhexyl)phthalate Fecal Coliform Nitrate (measured as NO₃-) Thallium Total Carcinogenic PAHs (BaP TEQs) Total Coliforms</p>	<p>RSLs Exceedances: Total Carcinogenic PAHs (BaP TEQs) Total Dioxin/Furans (2,3,7,8-TCDD TEQs)</p>	<p>RSLs Exceedances: 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,2-Dichloropropane 1,3-Butadiene 1,4-Dichlorobenzene Acrylonitrile Benzene Bromoform Carbon Tetrachloride Chloroform Ethylbenzene Hexachlorobutadiene Hexane Methyl tert-Butyl Ether Naphthalene Tetrachloroethene Trichloroethene Vinyl Chloride</p>	<p>RSLs Exceedances: 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-Chloropropane 1,2-Dibromoethane 1,2-Dichloroethane 1,2-Dichloropropane 1,3-Butadiene 1,4-Dichlorobenzene Acetaldehyde Acrolein Acrylonitrile Arsenic Benzene Bromodichloromethane Carbon Tetrachloride Chloroform Cobalt Dibromochloromethane Dieldrin Ethylbenzene Formaldehyde Hexachlorobutadiene Hexane Naphthalene Tetrachloroethene Total Carcinogenic PAHs (BaP TEQs) Total Dioxin/Furans (2,3,7,8-TCDD TEQs)</p>

COPCs Based on All Residences Sampled During the PHE

Tap Water ¹	Soil	Soil Gas ²	Ambient Air
Total Trihalomethanes			
¹ Tap water RSLs include both tap water (ingestion + inhalation) and tap water (inhalation only) ² Soil gas constituents include those that were identified as VI COPCs, as per <i>Technical Memorandum: Identification of Chemicals in Soil Gas that may be Associated with Vapor Intrusion</i> , which is presented in Appendix D of the main report (PIONEER, 2009).			

Not all of the COPCs presented in the previous table contributed significantly to the regional risks calculated as part of the SRE. Some of the COPCs infrequently and/or only slightly exceeded their RSLs and/or USMCLs, which indicates that the risk was constrained to a few locations and is not indicative of a larger study area-wide risk or region-wide risk. This should not be construed to imply that some risks are less important or more important than others. All exceedances of RSLs/USMCLs should be treated with concern and addressed accordingly. Appendix H presents U.S. Agency for Toxic Substances and Disease Registry (ATSDR) Chemical Fact Sheets (ToxFAQs™), where available, for each COPC exceedance. Each fact sheet serves as a quick and easy-to-understand guide that discusses exposure to hazardous substances found around hazardous waste sites and the effects of exposure on human health.

In a large regional study such as this PHE, a primary focus is on area-wide or region-wide risks because they are more likely to represent an effect on most of the population (e.g., USN Personnel who may work, play and/or live at different facilities in the study areas at different times). Therefore, the constituents presented in the previous table were evaluated to identify (1) constituents that are potentially an area-wide or region-wide concern and (2) constituents that individually pose an Unacceptable risk in a single or multiple media (i.e., even if the risks for other constituents are not considered). Table F-17 (tap water from a public source – ingestion+inhalation), Table F-18 (tap water from a private well – ingestion+inhalation), Table F-19 (tap water from a public source – inhalation only), Table F-20 (tap water from a private well – inhalation only), Table F-21 (soil), and Table F-22 (soil gas) present the frequency of constituent concentrations that exceeded their RSL and/or USMCL and also the frequency of constituent concentrations that were Unacceptable in relation to their RSL and/or USMCL. Table F-15 (ambient air) presents the 27 COPCs that had RME EPCs that exceeded RSLs in at least one study area. Solely for the purposes of focusing the following discussion, COCs in tap water, soil, and soil gas, and ambient air¹⁹ were identified from Table F-15 and Tables F-17 through F-22 as follows:

1. If greater than 10% of the total number of residences sampled had concentrations greater than the RSL.
2. If greater than 2.5% of the total number of residences sampled had concentrations that were greater than 10 times their RSL and/or greater than their USMCL (tap water only) and/or greater than their NAAQS (air only).

Based on the criteria presented above, the following table presents the COCs that are responsible for the majority of area-wide and region-wide risks based on all residences sampled during the PHE:

COCs Based on All Residences Sampled During the PHE

Tap Water ¹	Soil	Soil Gas ²	Ambient Air
<p><u>PRIVATE WELLS</u></p> <p>RSLs Exceedances: Copper Fluoride Nitrate (measured as NO₃-) Tetrachloroethene Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Uranium</p> <p>USMCL Exceedances: Fecal Coliform Nitrate (measured as NO₃-) Tetrachloroethene Total Coliforms</p> <p><u>PUBLIC WATER</u></p> <p>RSLs Exceedances: Lead Tetrachloroethene Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Uranium</p> <p>USMCL Exceedances: Total Coliforms</p>	<p>RSLs Exceedances: Total Carcinogenic PAHs (BaP TEQs)</p>	<p>RSLs Exceedances: Benzene Chloroform Ethylbenzene Tetrachloroethene</p>	<p>RSLs Exceedances: 1,2-Dibromo-3-Chloropropane 1,2-Dichloropropane Acetaldehyde Acrolein Arsenic Benzene Hexane Tetrachloroethene Total Dioxin/Furans (2,3,7,8-TCDD TEQs)</p>
<p>¹ Tap water RSLs include both tap water (ingestion+inhalation) and tap water (inhalation only)</p> <p>² Soil gas COCs include those that were identified as VI COPCs, as per <i>Technical Memorandum: Identification of Chemicals in Soil Gas that may be Associated with Vapor Intrusion</i>, which is presented in Appendix D of the main text (PIONEER, 2009).</p>			

2.2 Regional Distribution of Incremental Risks Based on All Residences Sampled During the PHE

The evaluation of the regional distribution of incremental risks in the Campania Region was complicated by the spatial/geographic distribution of sampling locations, various sources of tap water (e.g., public or private wells), and biased sampling that was limited to locations where USN Personnel work and live and where the tenant and landlord agreed to allow sampling. Based on all residences sampled during the PHE, COCs in the tap water obtained from private wells (see Figure F-7) and soil gas (see Figure F-5) were responsible for the majority of the Unacceptable risks. These results are consistent with the Phase II results, but contrast with the Phase I results which indicated that the tap water obtained from private wells was responsible for the majority of the risks (i.e., soil gas was only responsible for Unacceptable risks at eight of 110 (7%) residences where soil gas was sampled during Phase I versus 32 of 175 (18%) residences where soil gas was sampled during Phase II). However, this difference might be explained by

¹⁹ For ambient air, COCs were identified from COPCs with an RME EPC that was greater than the EPC based on USEPA's 2007 Air Toxics Database AND where the CEF was greater than 10 and/or NCEF was greater than one and/or the EPC was greater than the NAAQS.

the fact that active soil gas samples were collected during Phase II (i.e., TO-15/SUMMA Canisters) rather than the passive soil gas samples (i.e., Gore-Sorber®) that were collected during Phase I. General observations regarding the regional distribution of risks for each medium sampled are presented below:

- **Tap Water (Inhalation-Only Scenario)** – The majority of residences with Unacceptable concentrations in tap water (based on inhalation only) were located in Study Area 8 where the tap water was obtained from private wells. This observation is consistent with results based solely on Phase I and also with results based solely on Phase II. In the remaining study areas, the frequency of Unacceptable residences was very low and the residences with Unacceptable tap water concentrations were typically (but not in all cases) geographically grouped (i.e., multiple Unacceptable locations were near each other). Therefore, if a residence obtained tap water from a public source and was not located in Study Area 8 or an NLSZ, then the regional data indicated that it was likely that tap water was Acceptable based on the PHE risk management criteria. Fecal coliform, total coliforms, and tetrachloroethene were responsible for the majority of the Unacceptable risks associated with exposure to tap water (via inhalation only).
 - **Tap Water from a Public Source:** Based on the PHE risk management criteria, the regional data indicated that the tap water was likely to be Acceptable if it was obtained from a public source (i.e., 435 of the 459 residences sampled [95%] had Acceptable tap water). This observation is consistent with results based solely on Phase I (92% of tap water results obtained from a public source were Acceptable) and also with results based solely on Phase II (96% of tap water results obtained from a public source were Acceptable). The COCs responsible for the majority of the risks are summarized below:
 - Total coliforms – Five percent of residences sampled had Unacceptable concentrations in their tap water. The Unacceptable total coliforms results were found in all study areas except Study Areas 3 and 9. However, the majority of the Unacceptable results (i.e., 18 of the 24 residences sampled [75%]) were found in Study areas 5, 7, and 8. One possible explanation for these results is the lack of routine disinfection of household tap water holding/storage tanks that are used to maintain the water supply/pressure tanks in residences despite fluctuations in the public water supply distribution system. If these holding/storage tanks are open at the top, animals and other material can enter the tank and may result in an unsanitary condition.
 - **Tap Water from Private Wells:** Based on the PHE risk management criteria, the regional data indicated that the tap water was likely to be Unacceptable if it was obtained from a private well (i.e., 51 of the 65 residences sampled [78%] had Unacceptable tap water). The frequencies of residences with Unacceptable risks based solely on Phase I results and solely on the data for Phase II results were similar at 78% and 80%, respectively. The COCs responsible for the majority of the risks are summarized below:
 - Fecal coliform (28% of residences sampled had Unacceptable concentrations in their tap water). The Unacceptable fecal coliform results were found in Study Area 5 (four of the 11 residences sampled) and Study Area 8 (12 of the 41 residences sampled). This is not surprising because at the time samples were collected, the majority of residences that obtained their tap water from private wells were located in these study areas. These

results may be explained by the lack of routine disinfection of household tap water holding/storage tanks, as discussed above, as well as agricultural activities in the area.

- Tetrachloroethene (37% of residences sampled had Unacceptable concentrations in their tap water). The Unacceptable tetrachloroethene results were detected in Study Areas 5 and 8.
 - Total coliforms (82% of residences sampled had Unacceptable concentrations in their tap water). The Unacceptable total coliforms results were found in Study Areas 5, 6, 7, and 8. However, the majority of the Unacceptable results (i.e., 45 of the 57 residences sampled [79%]) were found in Study Areas 5 and 8. One possible explanation for these results is the lack of routine disinfection of household tap water holding/storage tanks that are used to maintain the water supply/pressure in residences. If these holding/storage tanks are open at the top, animals and other material can enter the tank and may result in an unsanitary condition.
- **Tap Water (Ingestion+Inhalation) Scenario** – The majority of residences with Unacceptable concentrations in tap water, based on ingestion and inhalation exposure pathway, were located in Study Area 8 where the tap water was obtained from private wells. This observation is consistent with Phase I results and also with Phase II results. However, there was a greater frequency of Unacceptable results observed in Study Area 8 during Phase I, which may be associated with the fact that a greater percentage of residences sampled during Phase I obtained their tap water from private wells than those sampled during Phase II. As presented in Figure F-3, with the exception of Study Area 8, residences with Unacceptable risks were randomly distributed throughout the study areas, and the majority of these residences obtained their tap water from a public source. Study Areas 3, 4, and 9 had the fewest number of residences with Unacceptable tap water. However, Study Area 1 (20 of the 125 residences [16%] sampled), and Study Area 2 (17 of the 30 residences [57%] sampled) had a higher-than-expected frequency of Unacceptable concentrations in tap water. These areas are densely populated and do not have expansive agricultural areas or open space, which could potentially be used for illegal waste disposal activities. In addition, all of the residences sampled during Phase II in Study Areas 1 and 2 obtained their tap water from a public source.

Results of aqueduct sampling performed during the Environmental Testing Support Assessment (ETSA) (Tetra Tech, 2010) indicated that water quality from the aqueduct, which is the source of the municipal water supply for the Campania Region, should be Acceptable when compared to USEPA USMCLs following treatment and filtration. Therefore, the constituent contamination that was frequently detected in tap water samples from residences that obtained their tap water from a public source likely entered the public water supply distribution system after the source water had been disinfected. One possible explanation for the presence of contamination in the public water distribution system is back flow of contamination from wells into the public water distribution system from residences that have blended or dual water supplies (i.e., they obtain their water from a municipal supplier and also from a private well). If these residences did not have a backflow preventer or other device that isolated the public water supply line, then when private well water was used to supply water to the residences, contaminants in the well water

would have entered the public water distribution system due to the pressure differences in the lines.

- **Tap Water from a Public Source:** The regional data indicated that it was likely that the tap water was Acceptable based on the PHE risk management criteria if it was obtained from a public source (i.e., 348 of the 459 residences sampled [76%] had Acceptable tap water). This observation is consistent with results based solely on Phase I (75% of tap water results obtained from a public source were Acceptable) and also with results based solely on Phase II (74% of tap water results obtained from a public source were Acceptable). The COCs responsible for the majority of the risks are summarized below:
 - Lead (5% of residences sampled). The Unacceptable lead results were distributed throughout all study areas, except for Study Area 4.
 - Total coliforms (5% of residences sampled). The Unacceptable total coliforms results were found in Study Areas 1, 2, 4, 5, 6, 7, and 8. However, the majority of the Unacceptable results (i.e., 18 of the 24 residences sampled [75%]) were found in Study Areas 5, 7, and 8). One possible explanation for these results is the lack of routine disinfection of household tap water holding/storage tanks that are used to maintain the water supply/pressure in residences despite fluctuations in public water supply distribution system. If these holding/storage tanks are open at the top, animals and other material can enter the tank and may result in an unsanitary condition.
 - Total dioxins/furans [2,3,7,8-TCDD TEQs] (i.e., 62 of the 459 residences sampled [14%]), and uranium (i.e., 141 of the 458 residences sampled [31%]) were detected throughout all nine study areas in tap water and at concentrations exceeding the RSL but below the PHE's risk management criteria for Unacceptable risk. However, the concentrations did not exceed the USMCL and the uranium exceedances are most likely associated with natural background concentrations rather than illicit disposal of radioactive waste.
 - Tetrachloroethene in tap water exceeded its RSLs at 77 of the 459 residences sampled [17%]. RSLs were exceeded in all study areas except for Study Area 5 and Study Area 9.
- **Tap Water from Private Wells:** The regional data indicated that it was likely that tap water was Unacceptable based on the PHE risk management criteria if it was obtained from a private well (i.e., 60 of the 65 residences sampled [92%] had Unacceptable tap water). The frequencies of residences with Unacceptable risks based solely on Phase I results and solely on the data for Phase II results were similar at 86% and 100%, respectively. The COCs responsible for the majority of the risks are summarized below:
 - Copper (11% of residences sampled had Unacceptable concentrations in their tap water). All of the Unacceptable results were detected in Study Area 8.
 - Fecal coliform (28% of residences sampled had Unacceptable concentrations in their tap water). The Unacceptable fecal coliform results were found in Study Area 5 (four of the 11 residences sampled) and Study Area 8 (12 of the 41 residences sampled). This is not surprising because at the time samples were collected, the majority of residences that obtained their tap water from private wells were located in these study areas. These

results may be explained by the lack of routine disinfection of household tap water holding/storage tanks, as discussed above, as well as agricultural activities in the area.

- Fluoride (12% of residences sampled had Unacceptable concentrations in their tap water). The Unacceptable fluoride results were detected in Study Areas 5, 7, and 8.
 - Nitrate (84% of residences sampled had Unacceptable concentrations in their tap water). The Unacceptable nitrate results were detected in Study Areas 5, 6, 7, and 8, which might be explained by the use of nitrogen-based fertilizers in these extensive agricultural areas.
 - Tetrachloroethene (58% of residences sampled had Unacceptable concentrations in their tap water). The Unacceptable tetrachloroethene results were detected in Study Areas 5, 7, and 8. Tetrachloroethene also exceeded its RSL in 51 of 65 residences sampled (78%).
 - Uranium (5% of residences sampled had Unacceptable concentrations in their tap water). The Unacceptable uranium results were detected in Study Areas 5 and 8. Uranium also was detected in tap water at concentrations exceeding the RSL but below the PHE's risk management criteria for Unacceptable risk in 50 of 57 residences sampled (88%). However, the concentrations did not exceed the USMCL and the uranium exceedances are most likely associated with natural background concentrations rather than illicit disposal of radioactive waste.
 - Total coliforms (82% of residences sampled had Unacceptable concentrations in their tap water). The Unacceptable total coliforms results were found in Study Areas 5, 6, 7, and 8. However, the majority of the Unacceptable results (i.e., 45 of the 57 residences sampled [79%]) were found in Study Areas 5 and 8. One possible explanation for these results is the lack of routine disinfection of household tap water holding/storage tanks that are used to maintain the water supply/pressure in residences. If these holding/storage tanks are open at the top, animals and other material can enter the tank and may result in an unsanitary condition.
 - Total dioxins/furans [2,3,7,8-TCDD TEQs] were detected in tap water at concentrations exceeding the RSL but below the PHE's risk management criteria for Unacceptable risk in 8 of the 57 residences sampled (14%). It exceeded the RSL in Study Area 5 and 8.
- **Soil** – Two (2) of 184 residences (1%) sampled for soil had Unacceptable risks due solely to COCs in soil. Total Carcinogenic PAHs (BaP TEQs) were responsible for the Unacceptable risks at both locations in Study Area 5. Remedial actions were implemented at both residences and the risks associated with exposure to soil were then considered Acceptable. Soil sampling was discontinued midway through Phase II because results from Phase I & Phase II samples indicated that soil contamination did not pose a significant human health risk.
 - **Soil Gas** – Forty-nine (49) of the 300 residences (16%) sampled for soil gas had Unacceptable risks due solely to COCs in soil gas. These results are dominated by the results from Phase II where 32 of 175 residences (18%) sampled for soil gas had Unacceptable risks due solely to COCs in soil gas. In contrast, only eight of 110 residences (7%) sampled for soil gas during Phase I had Unacceptable risks due solely to COCs in soil gas. However, this difference might be explained by the fact that active soil gas samples were collected during Phase II (i.e., TO-15/SUMMA Canisters) rather than the passive soil gas samples (i.e., Gore-Sorber®) that were collected during Phase I. As presented in Figure F-5, the majority of residences with

Unacceptable concentrations in soil gas were located in Study Area 8. There also was a cluster of Unacceptable soil gas results comprised of three residences located in Study Area 6 west of the Gricignano Support Site near the border with Study Area 7. The remaining study areas had very low frequencies of Unacceptable soil gas. Despite the low frequency in Study Area 1, it was difficult to explain the soil gas exceedances in this area because it was expected to have a high frequency of Acceptable soil gas results (based on the history of urban development, lack of open space which would typically discourage dumping of waste, and tap water results from Phase I of the PHE). In addition, Study Area 5 had two clusters of soil gas exceedances: (1) comprised of four residences located just south of Lago Patria, and (2) two residences located immediately north of the border with Study Area 1.

Chloroform and tetrachloroethene were responsible for the majority of the risks associated with soil gas. Twelve (12) of the 300 (4%) residences sampled had Unacceptable risks associated with chloroform in soil gas. The Unacceptable soil gas results for chloroform were distributed throughout four of the nine study areas (1, 5, 6, and 8). Twenty-eight (28) of the 300 (9%) residences sampled had Unacceptable risks associated with tetrachloroethene in soil gas. The Unacceptable soil gas results for tetrachloroethene were distributed throughout four of the nine study areas; there was a higher frequency of Unacceptable results attributable to tetrachloroethene in Study Areas 5, 6, and 8. The COCs benzene and ethylbenzene were less frequently associated with Unacceptable risks (2% and 1%, respectively), but were frequently detected at concentrations above the RSL but below the PHE's risk management criteria for Unacceptable risk (10% and 11%, respectively). Other COPCS, such as 1,4-dichlorobenzene, carbon tetrachloride, hexane, and trichloroethene were infrequently detected in soil gas at Unacceptable concentrations. While the health risks at the specific locations where these COPCS were detected in soil gas were of concern, they were not included in this discussion because the focus of this discussion was on region-wide impacts rather than impacts at individual residences.

Residences in the proximity of residences that were sampled for soil gas and were considered Acceptable were more likely to have Acceptable results than residences that were located near residences with Unacceptable results. However, it was not possible to quantify the probability of finding Acceptable versus Unacceptable residences based solely on soil gas results in the Campania Region because, unlike tap water results, the distribution of Unacceptable soil gas results appeared to be more random, and not correlated with a specific geographic area. Therefore, based on the results of the PHE, it was not possible to make definitive recommendations regarding which study areas were more or less of a concern to human health based on exposure to COPCS in soil gas alone.

- **Ambient Air:** *Note: Incremental risks could not be calculated for ambient air because background concentrations were not available for Naples, Italy (see Section 4.2 in the main report). Therefore, only total risks could be calculated. The following information is based on total risks.* Key findings of the year-long ambient air sampling and monitoring program, presented in Tables F-14, F-15 and F-16, include the following:
 - 1,2-Dibromo-3-chloropropane contributed the majority of the CCEF (average of 80%) for the nine study areas. The COC-specific CEF ranged from 397 to 727. 1,2-Dibromo-3-chloropropane was not included in the USEPA's 2007 Air Toxics Database so the ambient air concentrations from the PHE could not be compared with typical urban ambient air from the United States.
 - Acrolein contributed the majority of the CNCEF (average of 95%) for the nine study areas. The maximum NCEF (247) calculated for Study Area 7 was greater than the NCEF calculated for acrolein in typical urban air in the USEPA's 2007 Air Toxics Database (29). Acrolein also contributed the majority of the NCEF for typical urban air in the United States (average of 89%).
 - 1,2-Dichloropropane contributed an average of 3.5% to the cancer risk and 1.1% to the noncancer risk in the nine study areas.
 - The six other COCs contributed an average of less than two percent each to the cumulative cancer and noncancer risk for the nine study areas.
 - EPCs for total dioxins/furans varied significantly among study areas. Study Areas 6, 8, and 9 were the only study areas where the COC-specific CEF exceeded 10.
 - Arsenic EPCs were less than the EPC in typical urban air in the USEPA's 2007 Air Toxics Database in all study areas except for Study Area 3 where the COC-specific CEF was 16. Slightly elevated arsenic concentrations in Study Area 3 could be associated with more volcanic activity in the area.
 - The maximum CEF for benzene was detected in Study Area 8 at a concentration of 68, which was approximately 10 times higher than the CEF for typical urban air in the U.S. (i.e., 5.2). The CEFs for benzene in the other eight study areas were less than 10.
 - With the possible exception of total dioxins/furans in Study Areas 6, 8, and 9, no obvious trends were indicative of localized concentrations that might be associated with trash burning, trash dumping, or other point and non-point sources. Typically, there was not a significant difference in EPCs between study areas for the COCs, indicating that the concentrations represented typical urban air in the Campania Region.
 - 1,2-Dibromoethane and formaldehyde together contributed to 65% of the CCEF in the USEPA's 2007 Air Toxics Database (USEPA, 2007a) but were not significant contributors to the ambient air risk in the nine study areas (6%).

Cumulative risks in the nine study areas exceeded the cumulative risks for typical urban air calculated from the USEPA's 2007 Air Toxics Database (USEPA, 2007a). However, because some constituents (including 1,2-dibromo-3-chloropropane, the major cancer risk driver in the Campania Region) did not have corresponding values in the USEPA's 2007 Air Toxics Database, it was not possible to determine whether or not the cumulative ambient air risks in the Campania Region would have exceeded the risks from typical urban air in the U.S. The risk-driving COPCs for cancer risks based on the USEPA's 2007

Air Toxics Database (i.e., 1,2-dibromoethane and formaldehyde) together contributed to 65% of the typical urban air CCEF. These constituents were not significant contributors to cancer risks in the nine study areas. For a more complete summary of the year-long ambient air sampling and monitoring program, please see the *Ambient Air Quality and Meteorological Summary Report for the Period July 9, 2008 through July 8, 2009* (Tetra Tech, 2010).

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SECTION 3 – REFERENCES FOR APPENDIX F

- PIONEER. 2009. Naples, Italy – Public Health Evaluation Technical Memorandum: Phase I Screening Risk Evaluation. March 2009.
- PIONEER. 2010. Naples, Italy – Public Health Evaluation Technical Memorandum: Identification of Chemicals in Soil Gas That May be Associated with Vapor Intrusion. February 2010.
- Tetra Tech. 2010. Ambient Air Quality and Meteorological Summary Report for the Period July 9, 2008 through July 8, 2009. Naval Support Activity Naples. Naples Italy. Tetra Tech NUS. March 2010.
- USEPA. 2007. 2007 Air Toxics Database: (1) San Diego County, California (2) Los Angeles County, California (3) King County (Seattle), Washington (4) Harris County (Houston), Texas (5) Ellis County (Dallas/Midlothian) Texas. (6) Washington DC.
http://www.epa.gov/aqspubl1/annual_summary.html.

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Tables

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Table F-1: Number of Residences Sampled by Study Area and by Sampling Event

Sampling Event	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total
Phase I	21	8	5	3	32	13	7	39	2	130
Pre-Lease	83	6	2	4	63	27	17	37	1	240
500 Ft Step-Out	0	0	0	0	0	0	0	11	0	11
1,500 Ft Step-Out	0	0	0	0	0	0	0	25	0	25
Phase II	30	22	14	14	33	30	24	34	8	209
Total:	134	36	21	21	128	70	48	146	11	615

Notes:

Six hundred fifteen samples were collected from 543 residences during the PHE. Seventy-two of the residences were sampled (and re-sampled) during multiple sampling events (for a total of 615 samples). In most cases, the 72 residences were only re-sampled for media that were not sampled during previous sampling events.

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
Study Area 1																			
0009	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.4	0.1	0.0	0.0	0.4	0.3	0.0	0.2	No	No	Acceptable	Acceptable
0010	PUBLIC	Phase II	--	--	0.1	0.0	3.2	0.5	1.5	0.0	0.0	0.5	4.7	0.0	3.2	No	No	Acceptable	Acceptable
0021	PUBLIC	Phase II	--	--	0.1	0.0	0.5	0.4	0.8	0.0	0.0	0.4	1.3	0.0	0.5	No	No	Acceptable	Acceptable
0024	PUBLIC	Phase II	--	--	0.1	0.0	0.0	0.9	0.4	0.0	0.0	0.9	0.4	0.0	0.0	No	No	Acceptable	Acceptable
0030	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	3.6	0.0	0.1	0.2	3.6	0.0	0.1	No	No	Acceptable	Acceptable
0043	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.3	0.0	0.0	0.3	0.3	0.0	0.0	No	No	Acceptable	Acceptable
0045	PUBLIC	Phase I	0.1	1.0	0.1	0.0	0.0	0.6	2.7	0.0	0.5	0.7	3.7	0.1	1.6	No	No	Acceptable	Acceptable
0049	PUBLIC	Phase I	0.1	6.5	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	6.5	0.1	6.5	No	No	Acceptable	Acceptable
0055	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0058	PUBLIC	Phase I	0.1	1.9	0.1	0.0	0.0	0.9	0.9	0.0	0.0	1.0	2.9	0.1	1.9	No	No	Acceptable	Acceptable
0061	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	1.1	0.0	0.0	0.2	1.1	0.0	0.0	No	No	Acceptable	Acceptable
0063	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.1	0.0	0.0	0.3	0.1	0.0	0.0	No	No	Acceptable	Acceptable
0071	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	No	No	Unacceptable	Acceptable
0074	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.8	0.0	0.0	0.3	0.8	0.0	0.0	No	No	Acceptable	Acceptable
0076	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	4.3	0.0	0.0	0.2	4.3	0.0	0.0	No	Yes	Unacceptable	Acceptable
0077	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.5	0.2	0.0	0.0	0.5	0.3	0.0	0.1	No	No	Acceptable	Acceptable
0079	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0082	PUBLIC	Phase II	0.0	0.1	0.1	0.0	0.0	0.6	0.6	0.0	0.0	0.6	0.8	0.0	0.1	No	No	Acceptable	Acceptable
0085	PUBLIC	Phase II	0.0	0.3	0.1	0.0	0.0	2.9	0.3	0.6	0.0	0.3	3.8	0.0	3.2	No	No	Acceptable	Acceptable
0117	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.2	No	No	Acceptable	Acceptable
0138	PUBLIC	Phase I	0.1	1.1	0.1	--	--	1.0	4.2	0.1	0.9	1.1	5.3	0.1	2.0	No	No	Unacceptable	Acceptable
0139	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.1	0.0	0.0	0.2	0.1	0.0	0.0	No	No	Acceptable	Acceptable
0143	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0146	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0147	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	2.2	0.0	0.4	0.8	2.2	0.0	0.4	No	No	Acceptable	Acceptable
0151	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.1	0.0	0.0	0.3	0.1	0.0	0.0	No	No	Acceptable	Acceptable
0154	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0156	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0157	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.2	2.7	0.0	0.5	1.2	2.7	0.0	0.5	No	No	Unacceptable	Acceptable
0163	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	3.4	0.0	0.5	0.7	3.4	0.0	0.5	No	No	Acceptable	Acceptable
0167	PUBLIC	Phase II	--	--	0.1	0.0	3.0	0.5	1.0	0.0	0.0	0.5	4.0	0.0	3.0	No	No	Acceptable	Acceptable
0170	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.5	0.1	0.0	0.1	No	No	Acceptable	Acceptable
0171	PUBLIC	Phase II	--	--	0.1	0.0	3.5	0.6	4.4	0.0	0.4	0.6	7.9	0.0	3.9	No	No	Acceptable	Acceptable
0180	PUBLIC	Phase II	--	--	0.1	0.0	18.7	0.5	0.7	0.0	0.0	0.5	19.3	0.0	18.7	No	No	Unacceptable	Unacceptable
0185	PUBLIC	Phase II	--	--	0.0144	0.0	0.5	--	--	0.0	0.0	0.0	0.5	0.0	0.5	No	No	Acceptable	Acceptable
0588	PUBLIC	Phase II	0.0	0.1	0.1	0.0	1.5	0.2	1.1	0.0	0.0	0.2	2.7	0.0	1.6	No	No	Acceptable	Acceptable
0589	PUBLIC	Phase II	0.1	0.6	0.1	0.0	1.3	0.3	1.1	0.0	0.0	0.4	3.1	0.1	1.9	No	No	Acceptable	Acceptable
0598	PUBLIC	Phase II	--	--	0.1	0.1	82.0	2.0	2.2	0.0	0.0	2.1	84.2	0.1	82.0	No	No	Unacceptable	Unacceptable
1139	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.9	0.0	0.1	0.1	0.9	0.0	0.1	No	No	Acceptable	Acceptable
1159	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1187	PUBLIC	Phase II	--	--	0.1	--	--	0.1	0.7	0.0	0.0	0.1	0.7	0.0	0.0	No	No	Acceptable	Acceptable
1190	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	1.8	0.0	0.4	0.6	1.8	0.0	0.4	No	No	Acceptable	Acceptable
1191	PUBLIC	Pre-Lease	--	--	0.1	--	--	2.4	0.0	0.0	0.0	2.4	0.0	0.0	0.0	No	No	Unacceptable	Acceptable
1211	PUBLIC	Phase I	0.0	0.0	0.1	0.0	0.0	1.1	2.2	0.0	0.5	1.1	2.2	0.0	0.5	No	No	Unacceptable	Acceptable
1227	PUBLIC	Phase II	--	--	0.1	0.0	0.7	0.8	5.3	0.0	0.6	0.8	6.0	0.0	1.4	No	No	Acceptable	Acceptable
1237	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.1	2.3	0.0	0.3	1.1	2.3	0.0	0.3	Yes	No	Unacceptable	Unacceptable
1239	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.9	3.0	0.0	0.6	0.9	3.0	0.0	0.6	No	No	Acceptable	Acceptable
1264	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	2.5	0.0	0.6	0.8	2.5	0.0	0.6	No	No	Acceptable	Acceptable
1269	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.9	4.2	0.0	0.6	0.9	4.2	0.0	0.6	No	No	Acceptable	Acceptable
1273	PUBLIC	Phase I	0.0	0.0	0.1	--	--	0.7	2.9	0.0	0.5	0.8	2.9	0.0	0.5	No	No	Acceptable	Acceptable
1284	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.7	0.0	0.0	0.2	0.7	0.0	0.0	No	No	Acceptable	Acceptable
1304	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	0.0	0.0	0.0	0.8	0.0	0.0	0.0	No	No	Acceptable	Acceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
1312	PUBLIC	Phase II	0.0	0.1	0.12	0.1	38.9	0.2	0.6	0.0	0.0	0.4	39.6	0.1	39.0	No	No	Unacceptable	Unacceptable
1320	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.2	0.5	0.0	0.0	0.3	0.6	0.0	0.1	No	No	Acceptable	Acceptable
1443	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	No	No	Acceptable	Acceptable	
1443	PUBLIC	Phase II	0.0	0.1	0.1	0.0	6.3	0.8	5.7	0.0	0.7	0.9	12.1	0.0	7.0	No	No	Unacceptable	Acceptable
1449	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.2	4.6	0.0	0.4	1.2	4.6	0.0	0.4	No	No	Unacceptable	Acceptable
1450	PUBLIC	Phase II	--	--	0.1	0.0	2.7	0.2	1.2	0.0	0.0	0.2	3.9	0.0	2.7	No	No	Acceptable	Acceptable
1454	PUBLIC	Phase I	0.0	0.3	0.1	0.0	0.0	1.2	0.4	0.0	0.3	1.3	0.7	0.0	0.6	No	No	Unacceptable	Acceptable
1456	PUBLIC	Phase II	--	--	0.1	0.0	3.1	1.1	0.7	0.0	0.0	1.1	3.8	0.0	3.1	No	No	Unacceptable	Acceptable
1459	PUBLIC	Phase II	0.0	0.0	0.1	0.0	2.0	0.3	3.7	0.0	0.0	0.3	5.7	0.0	2.0	No	No	Acceptable	Acceptable
1473	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	2.9	0.0	0.6	0.7	2.9	0.0	0.6	No	No	Acceptable	Acceptable
1486	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	1.5	0.0	0.3	0.7	1.5	0.0	0.3	No	No	Acceptable	Acceptable
1501	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.1	0.0	0.0	0.4	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1511	PUBLIC	Phase I	0.0	1.5	0.1	0.2	3.5	0.2	0.0	0.0	0.0	0.4	5.0	0.2	5.0	No	No	Acceptable	Acceptable
1516	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.4	0.1	0.0	0.0	0.5	0.2	0.0	0.1	No	No	Acceptable	Acceptable
1517	PUBLIC	Phase II	--	--	0.1	--	--	0.7	4.6	0.0	0.5	0.7	4.6	0.0	0.5	No	No	Acceptable	Acceptable
1520	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1522	PUBLIC	Phase I	0.0	0.3	0.1	0.0	0.0	0.6	0.8	0.0	0.0	0.7	1.1	0.0	0.3	No	No	Acceptable	Acceptable
1529	PUBLIC	Phase II	--	--	0.12	0.0	4.7	0.2	0.8	0.0	0.0	0.2	5.5	0.0	4.7	No	No	Acceptable	Acceptable
1545	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.3	0.1	0.0	0.0	0.3	0.3	0.0	0.2	No	No	Acceptable	Acceptable
1547	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	3.1	1.4	0.0	0.0	3.2	1.5	0.0	0.1	No	No	Unacceptable	Acceptable
1548	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.3	3.4	0.0	0.7	1.3	3.4	0.0	0.7	No	No	Unacceptable	Acceptable
1567	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.8	2.2	0.0	0.5	0.9	2.4	0.0	0.7	No	No	Acceptable	Acceptable
1807	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1811	PUBLIC	Phase II	0.0	0.0	0.1	0.0	1.8	0.2	0.8	0.0	0.0	0.2	2.7	0.0	1.9	No	No	Acceptable	Acceptable
1812	PUBLIC	Phase II	0.0	0.1	0.1	--	--	0.2	0.6	0.0	0.0	0.2	0.7	0.0	0.1	No	No	Acceptable	Acceptable
1814	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.4	1.9	0.0	0.4	1.4	1.9	0.0	0.4	No	No	Unacceptable	Acceptable
1821	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.1	0.0	0.0	0.4	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1822	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1823	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	2.7	0.0	0.5	0.8	2.7	0.0	0.5	No	No	Acceptable	Acceptable
1826	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.4	0.0	0.0	0.6	0.4	0.0	0.0	No	No	Acceptable	Acceptable
1829	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	2.8	0.0	0.0	0.2	2.8	0.0	0.0	No	No	Acceptable	Acceptable
1830	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1832	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.1	0.0	0.0	0.4	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1834	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.2	2.4	0.0	0.4	1.2	2.4	0.0	0.4	No	No	Unacceptable	Acceptable
1839	PUBLIC	Phase II	--	--	0.1	0.0	1.9	0.7	3.6	0.0	0.3	0.7	5.5	0.0	2.2	No	No	Acceptable	Acceptable
1852	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1853	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	1.5	0.0	0.0	0.3	1.5	0.0	0.0	No	No	Acceptable	Acceptable
1854	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1860	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	Yes	No	Unacceptable	Unacceptable
1861	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.3	0.2	0.0	0.0	1.3	0.2	0.0	0.0	No	No	Unacceptable	Acceptable
1863	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1867	PUBLIC	Phase II	0.0	0.3	0.1	0.0	20.2	0.2	0.9	0.0	0.0	0.3	21.4	0.1	20.5	No	No	Unacceptable	Unacceptable
1869	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.2	3.2	0.0	0.4	1.2	3.2	0.0	0.4	No	No	Unacceptable	Acceptable
1870	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1875	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1882	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1886	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	2.0	0.0	0.1	0.3	2.0	0.0	0.1	No	No	Acceptable	Acceptable
1890	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1892	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1893	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.1	0.0	0.0	0.3	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1895	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1896	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1901	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	1.1	0.0	0.2	0.8	1.1	0.0	0.2	No	No	Acceptable	Acceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
1903	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	1.6	0.0	0.0	0.8	1.6	0.0	0.0	No	No	Acceptable	Acceptable
1907	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.2	3.7	0.0	0.8	1.2	3.7	0.0	0.8	No	No	Unacceptable	Acceptable
1908	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.9	2.6	0.0	0.5	0.9	2.6	0.0	0.5	No	No	Acceptable	Acceptable
1916	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	2.4	0.0	0.2	0.4	2.4	0.0	0.2	No	No	Acceptable	Acceptable
1917	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.6	0.0	0.0	0.2	0.6	0.0	0.0	No	No	Acceptable	Acceptable
1919	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	1.7	0.0	0.0	0.3	1.7	0.0	0.0	No	No	Acceptable	Acceptable
1920	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.9	0.4	0.0	0.3	0.9	0.4	0.0	0.3	No	No	Acceptable	Acceptable
1925	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	Yes	No	Unacceptable	Unacceptable
1928	PUBLIC	Phase II	--	--	0.1	0.0	4.8	0.9	4.7	0.0	0.6	0.9	9.5	0.0	5.4	No	No	Acceptable	Acceptable
1941	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	2.3	0.0	0.5	0.7	2.3	0.0	0.5	No	No	Acceptable	Acceptable
1943	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	0.2	0.0	0.0	0.8	0.2	0.0	0.0	No	No	Acceptable	Acceptable
1947	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.9	0.0	0.0	0.3	0.9	0.0	0.0	No	No	Acceptable	Acceptable
1964	PUBLIC	Phase II	--	--	0.1	--	--	0.3	0.8	0.0	0.0	0.3	0.8	0.0	0.0	No	No	Acceptable	Acceptable
1980	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	1.9	0.0	0.4	0.8	1.9	0.0	0.4	No	No	Acceptable	Acceptable
2090	PUBLIC	Phase II	--	--	0.1	0.0	11.7	0.6	4.5	0.0	0.5	0.6	16.2	0.0	12.3	No	No	Unacceptable	Unacceptable
2103	PUBLIC	Phase II	0.0	0.7	0.1	0.0	1.5	0.2	0.6	0.0	0.0	0.3	2.8	0.0	2.1	No	No	Acceptable	Acceptable
2139	PUBLIC	Phase II	--	--	0.1	0.0	3.0	1.3	5.3	0.0	0.6	1.3	8.3	0.0	3.6	No	No	Unacceptable	Acceptable
0073	WELL	Phase I	0.0	0.0	0.1	0.0	6.9	0.2	0.6	0.0	0.0	0.2	7.6	0.0	6.9	No	No	Acceptable	Acceptable
1409	WELL	Phase I	0.0	0.3	0.1	0.0	0.0	0.8	0.2	0.0	0.0	0.8	0.4	0.0	0.3	No	No	Acceptable	Acceptable
1463	WELL	Phase I	0.0	0.2	0.1	0.0	0.0	0.4	2.4	0.0	0.5	0.5	2.6	0.0	0.7	No	No	Acceptable	Acceptable
Study Area 2																			
1327	PUBLIC	Phase I	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1332	PUBLIC	Phase II	--	--	0.1	--	--	0.9	7.4	0.0	0.8	0.9	7.4	0.0	0.8	No	No	Acceptable	Acceptable
1333	PUBLIC	Phase I	--	--	0.1	--	--	1.1	4.5	0.0	0.8	1.1	4.5	0.0	0.8	No	No	Unacceptable	Acceptable
1334	PUBLIC	Phase II	--	--	0.1	0.0	5.7	0.7	6.5	0.0	0.7	0.8	12.2	0.0	6.4	Yes	No	Unacceptable	Unacceptable
1337	PUBLIC	Phase I	--	--	0.1	--	--	1.7	2.6	0.0	0.7	1.7	2.6	0.0	0.7	No	No	Unacceptable	Acceptable
1344	PUBLIC	Phase II	--	--	0.1	--	--	0.8	3.3	0.0	0.7	0.8	3.3	0.0	0.7	No	No	Acceptable	Acceptable
1345	PUBLIC	Phase II	--	--	0.1	--	--	6.3	6.2	0.0	0.7	6.3	6.2	0.0	0.7	No	No	Unacceptable	Acceptable
1346	PUBLIC	Phase II	--	--	0.1	--	--	0.8	3.0	0.0	0.3	0.8	3.0	0.0	0.3	No	No	Acceptable	Acceptable
1351	PUBLIC	Phase II	--	--	0.1	--	--	1.4	4.0	0.0	0.2	1.4	4.0	0.0	0.2	No	No	Unacceptable	Acceptable
1355	PUBLIC	Phase II	--	--	0.1	--	--	0.8	5.4	0.0	0.7	0.8	5.4	0.0	0.7	No	No	Acceptable	Acceptable
1356	PUBLIC	Phase II	--	--	0.1	--	--	0.8	5.4	0.0	0.6	0.8	5.4	0.0	0.6	No	No	Acceptable	Acceptable
1384	PUBLIC	Phase II	--	--	0.1	0.0	1.5	1.3	5.8	0.0	0.6	1.3	7.3	0.0	2.1	No	No	Unacceptable	Acceptable
1385	PUBLIC	Phase II	--	--	0.1	--	--	1.4	6.5	0.0	0.8	1.4	6.5	0.0	0.8	No	No	Unacceptable	Acceptable
1389	PUBLIC	Phase II	--	--	0.1	0.0	3.8	1.1	7.7	0.0	1.1	1.1	11.5	0.0	4.8	No	No	Unacceptable	Acceptable
1391	PUBLIC	Phase I	--	--	0.1	--	--	1.3	3.2	0.0	0.6	1.3	3.2	0.0	0.6	No	No	Unacceptable	Acceptable
1395	PUBLIC	Phase I	--	--	0.1	--	--	0.7	3.4	0.0	0.6	0.7	3.4	0.0	0.6	No	No	Acceptable	Acceptable
1402	PUBLIC	Phase II	--	--	0.1	--	--	0.9	3.9	0.0	0.4	0.9	3.9	0.0	0.4	No	No	Acceptable	Acceptable
1783	PUBLIC	Phase II	--	--	0.1	--	--	0.8	6.0	0.0	0.8	0.8	6.0	0.0	0.8	No	No	Acceptable	Acceptable
1785	PUBLIC	Phase II	--	--	0.1	0.0	7.2	1.0	8.0	0.0	0.8	1.0	15.2	0.0	8.0	No	No	Unacceptable	Acceptable
1787	PUBLIC	Phase II	--	--	0.1	--	--	0.8	6.7	0.0	0.8	0.8	6.7	0.0	0.8	No	No	Acceptable	Acceptable
1788	PUBLIC	Phase II	0.0	10.0	0.1	0.0	2.5	0.9	90.6	0.0	0.8	0.9	103.1	0.0	13.3	No	Yes	Unacceptable	Unacceptable
1790	PUBLIC	Phase II	--	--	0.1	--	--	1.5	7.0	0.0	0.8	1.5	7.0	0.0	0.8	No	No	Unacceptable	Acceptable
1794	PUBLIC	Phase II	--	--	2.48832E-05	0.0	0.0	1.3	8.3	0.0	0.9	1.3	8.3	0.0	0.9	No	No	Unacceptable	Acceptable
1795	PUBLIC	Phase I	--	--	0.1	--	--	1.1	2.9	0.0	0.7	1.1	2.9	0.0	0.7	No	No	Unacceptable	Acceptable
1817	PUBLIC	Phase II	0.1	7.8	0.12	0.0	0.6	1.0	6.4	0.0	0.6	1.1	14.9	0.1	9.0	No	No	Unacceptable	Acceptable
1838	PUBLIC	Phase II	--	--	0.1	--	--	1.1	5.3	0.0	0.5	1.1	5.3	0.0	0.5	No	No	Unacceptable	Acceptable
1914	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.6	1.9	0.0	0.3	1.6	1.9	0.0	0.3	No	No	Unacceptable	Acceptable
2110	PUBLIC	Phase II	--	--	0.1	0.0	0.0	2.2	7.3	0.0	0.7	2.2	7.3	0.0	0.7	No	No	Unacceptable	Acceptable
2151	PUBLIC	Phase II	--	--	0.1	--	--	0.8	7.6	0.0	0.8	0.8	7.6	0.0	0.8	No	No	Acceptable	Acceptable
FQ07	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	3.1	0.0	0.5	0.7	3.1	0.0	0.5	No	No	Acceptable	Acceptable
Study Area 3																			
0479	PUBLIC	Phase II	0.0	0.1	0.1	0.0	7.4	0.2	2.2	0.0	0.0	0.3	9.6	0.0	7.5	No	No	Acceptable	Acceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
1204	PUBLIC	Phase I	0.0	4.0	0.1	0.0	0.0	0.3	0.1	0.0	0.0	0.3	4.1	0.0	4.0	No	No	Acceptable	Acceptable
1341	PUBLIC	Phase I	--	--	0.1	--	--	1.6	3.5	0.0	0.7	1.6	3.5	0.0	0.7	No	No	Unacceptable	Acceptable
1380	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	2.1	1.9	0.0	0.5	2.1	2.1	0.0	0.7	No	No	Unacceptable	Acceptable
1641	PUBLIC	Phase I	0.1	0.6	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.5	0.6	0.1	0.6	No	No	Acceptable	Acceptable
1799	PUBLIC	Phase I	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1856 ⁽⁸⁾	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1884 ⁽⁸⁾	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1989	PUBLIC	Phase II	0.0	0.3	0.12	0.0	1.3	0.1	0.8	0.0	0.0	0.2	2.4	0.0	1.6	No	No	Acceptable	Acceptable
2006	PUBLIC	Phase II	--	--	0.1	--	--	0.2	0.6	0.0	0.0	0.2	0.6	0.0	0.0	No	No	Acceptable	Acceptable
2030	PUBLIC	Phase II	--	--	0.1	--	--	0.8	4.0	0.0	0.2	0.8	4.0	0.0	0.2	No	No	Acceptable	Acceptable
2035	PUBLIC	Phase II	--	--	0.1	--	--	0.7	1.4	0.0	0.0	0.7	1.4	0.0	0.0	No	No	Acceptable	Acceptable
2044	PUBLIC	Phase II	0.1	0.4	0.1	0.1	8.7	0.1	0.1	0.0	0.0	0.2	9.2	0.1	9.1	No	No	Acceptable	Acceptable
2045	PUBLIC	Phase II	0.1	0.7	0.1	0.0	3.1	0.5	1.2	0.0	0.0	0.6	5.0	0.1	3.8	No	No	Acceptable	Acceptable
2065	PUBLIC	Phase II	--	--	0.1	--	--	0.9	7.1	0.0	0.9	0.9	7.1	0.0	0.9	No	No	Acceptable	Acceptable
2079	PUBLIC	Phase II	--	--	0.1	0.1	6.0	1.8	0.8	0.0	0.0	1.9	6.8	0.1	6.0	No	No	Unacceptable	Acceptable
2106	PUBLIC	Phase II	0.0	0.1	0.1	0.0	1.8	0.1	0.5	0.0	0.0	0.2	2.4	0.0	1.9	No	No	Acceptable	Acceptable
2108	PUBLIC	Phase II	0.0	0.3	0.1	0.3	5.3	0.2	0.6	0.0	0.0	0.5	6.3	0.3	5.7	No	No	Acceptable	Acceptable
2111	PUBLIC	Phase II	--	--	0.1	0.0	1.2	0.1	0.2	0.0	0.0	0.1	1.4	0.0	1.2	No	No	Acceptable	Acceptable
2112	PUBLIC	Phase II	--	--	2.98598E-06	0.0	0.0	0.1	0.7	0.0	0.0	0.1	0.7	0.0	0.0	No	No	Acceptable	Acceptable
2140	PUBLIC	Phase II	--	--	2.48832E-05	0.0	0.0	0.4	4.9	0.0	0.8	0.4	4.9	0.0	0.8	No	No	Acceptable	Acceptable
Study Area 4																			
0114	PUBLIC	Phase II	--	--	0.1	0.0	4.5	0.5	2.6	0.0	0.0	0.5	7.2	0.0	4.5	No	No	Acceptable	Acceptable
0771	PUBLIC	Phase II	0.1	0.1	0.1	0.0	5.4	0.2	1.1	0.0	0.0	0.2	6.5	0.1	5.5	No	No	Acceptable	Acceptable
0774	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.2	0.1	0.2	No	No	Acceptable	Acceptable
0777	PUBLIC	Phase I	0.1	1.1	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.4	1.1	0.1	1.1	No	No	Acceptable	Acceptable
1485	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	2.2	0.0	0.5	0.7	2.2	0.0	0.5	No	No	Acceptable	Acceptable
1559	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.2	1.0	0.0	0.0	0.3	1.1	0.0	0.1	No	No	Acceptable	Acceptable
1562	PUBLIC	Phase II	0.0	0.0	0.1	2.2	116.4	0.2	1.5	0.0	0.0	2.4	118.0	2.2	116.5	No	No	Unacceptable	Unacceptable
1566	PUBLIC	Phase II	--	--	0.1	--	--	0.8	6.6	0.0	0.6	0.8	6.6	0.0	0.6	No	No	Acceptable	Acceptable
1569	PUBLIC	Phase II	0.0	0.0	0.1	0.0	1.3	0.7	0.6	0.0	0.0	0.7	1.9	0.0	1.3	No	No	Acceptable	Acceptable
1570	PUBLIC	Phase II	--	--	0.1	0.0	0.0	0.4	1.0	0.0	0.0	0.4	1.0	0.0	0.0	No	No	Acceptable	Acceptable
1719	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.2	0.0	0.0	0.6	0.2	0.0	0.0	No	No	Acceptable	Acceptable
1809	PUBLIC	Phase II	--	--	0.1	--	--	1.2	3.7	0.0	0.1	1.2	3.7	0.0	0.1	No	No	Unacceptable	Acceptable
1872	PUBLIC	Phase II	0.0	0.0	0.1	0.0	0.9	0.1	2.0	0.0	0.0	0.2	3.0	0.0	0.9	No	No	Acceptable	Acceptable
2060	PUBLIC	Phase II	0.0	1.8	0.1	0.0	1.3	0.2	0.6	0.0	0.0	0.2	3.7	0.0	3.0	No	No	Acceptable	Acceptable
2071	PUBLIC	Phase II	--	--	0.1	0.0	2.3	0.3	2.2	0.0	0.0	0.4	4.5	0.0	2.3	No	No	Acceptable	Acceptable
2073	PUBLIC	Phase II	0.0	0.2	0.1	0.0	1.0	0.3	0.5	0.0	0.0	0.3	1.7	0.0	1.2	No	No	Acceptable	Acceptable
2093	PUBLIC	Phase II	0.0	0.1	0.12	0.0	1.8	0.2	1.3	0.0	0.0	0.3	3.2	0.0	1.9	Yes	No	Unacceptable	Unacceptable
2152	PUBLIC	Phase II	--	--	0.1	0.0	6.5	0.2	1.5	0.0	0.0	0.2	8.0	0.0	6.5	No	No	Acceptable	Acceptable
2153	PUBLIC	Phase II	--	--	0.1	--	--	1.1	2.6	0.0	0.0	1.1	2.6	0.0	0.0	No	No	Unacceptable	Acceptable
Study Area 5																			
0564	PUBLIC	Phase II	--	--	0.1	0.0	2.8	2.0	1.3	0.0	0.0	2.0	4.1	0.0	2.8	No	No	Unacceptable	Acceptable
0567	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0574	PUBLIC	Phase II	--	--	0.1	0.0	0.0	0.8	1.5	0.0	0.0	0.8	1.5	0.0	0.0	No	No	Acceptable	Acceptable
0764	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.1	0.0	0.0	0.3	0.1	0.0	0.0	No	No	Acceptable	Acceptable
0775	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0894	PUBLIC	Phase II	0.0	0.1	0.1	0.0	2.1	0.4	1.0	0.0	0.0	0.4	3.2	0.0	2.2	No	No	Acceptable	Acceptable
0901	PUBLIC	Phase I	0.0	0.4	0.1	0.0	0.0	0.6	0.2	0.0	0.0	0.6	0.6	0.0	0.4	No	No	Acceptable	Acceptable
0907	PUBLIC	Phase I	0.1	2.3	0.1	0.0	0.0	0.2	0.4	0.0	0.0	0.3	2.8	0.1	2.3	No	No	Acceptable	Acceptable
0917	PUBLIC	Phase II	--	--	0.1	0.0	4.1	0.1	0.2	0.0	0.0	0.1	4.3	0.0	4.1	No	No	Acceptable	Acceptable
0923	PUBLIC	Phase II	--	--	0.1	0.0	15.0	3.2	6.0	0.0	0.0	3.2	20.9	0.0	15.0	No	No	Unacceptable	Unacceptable
0945	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0947	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.2	0.0	0.2	No	No	Acceptable	Acceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
0949	PUBLIC	Phase I	0.1	0.6	0.1	0.0	28.4	0.2	0.9	0.0	0.0	0.3	30.0	0.1	29.1	No	No	Unacceptable	Unacceptable
0950	PUBLIC	Phase I	0.0	0.0	0.1	0.0	0.0	0.3	0.4	0.1	0.0	0.3	0.4	0.1	0.0	No	No	Acceptable	Acceptable
0953	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.1	0.0	0.0	0.2	0.1	0.0	0.0	No	No	Acceptable	Acceptable
0961	PUBLIC	Phase II	--	--	0.1	--	--	0.2	0.7	0.0	0.0	0.2	0.7	0.0	0.0	No	No	Acceptable	Acceptable
0964	PUBLIC	Phase I	0.1	4.4	0.1	0.0	0.0	0.9	0.0	0.0	0.0	1.0	4.4	0.1	4.4	No	No	Unacceptable	Acceptable
0967	PUBLIC	Phase I	0.1	0.6	0.1	0.0	0.0	0.4	3.0	0.0	0.0	0.5	3.5	0.1	0.6	No	No	Acceptable	Acceptable
0975	PUBLIC	Phase II	0.1	0.4	0.1	0.0	44.9	0.6	2.7	0.0	0.0	0.7	48.0	0.1	45.3	No	No	Unacceptable	Unacceptable
0984	PUBLIC	Phase I	0.0	0.3	0.1	0.0	0.0	0.2	0.7	0.0	0.0	0.2	1.0	0.0	0.3	No	No	Acceptable	Acceptable
0989	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.1	0.7	0.0	0.0	0.2	0.9	0.0	0.2	No	No	Acceptable	Acceptable
0998	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.1	0.0	0.0	0.0	1.1	0.0	0.0	0.0	No	No	Unacceptable	Acceptable
1008	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.5	0.7	0.0	0.0	0.5	0.8	0.0	0.1	No	No	Acceptable	Acceptable
1010	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.4	0.7	0.0	0.0	0.4	0.9	0.0	0.1	No	No	Acceptable	Acceptable
1013	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.1	0.0	0.1	No	No	Acceptable	Acceptable
1016	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.4	0.2	0.0	0.2	No	No	Acceptable	Acceptable
1020	PUBLIC	Phase II	--	--	0.1	0.0	3.8	0.1	1.5	0.0	0.0	0.1	5.3	0.0	3.8	No	No	Acceptable	Acceptable
1023	PUBLIC	Phase I	0.0	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.3	0.0	0.3	No	No	Acceptable	Acceptable
1050	PUBLIC	Phase I	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1053	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.3	0.5	0.0	0.0	0.3	0.7	0.0	0.2	No	No	Acceptable	Acceptable
1059	PUBLIC	Phase I	0.0	0.1	0.1	0.0	1.7	0.2	0.7	0.0	0.1	0.2	2.5	0.0	1.9	No	No	Acceptable	Acceptable
1074	PUBLIC	Phase I	0.0	0.0	0.1	0.0	0.0	0.2	0.6	0.0	0.0	0.2	0.6	0.0	0.0	No	No	Acceptable	Acceptable
1082	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	1.0	0.0	0.1	0.2	1.0	0.0	0.1	Yes	No	Unacceptable	Unacceptable
1098	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.3	0.0	0.0	0.1	0.3	0.0	0.0	No	No	Acceptable	Acceptable
1100	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.1	0.0	0.0	0.4	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1115	PUBLIC	Phase I	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1116	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1119	PUBLIC	Phase II	--	--	0.1	0.0	11.1	0.2	0.6	0.0	0.0	0.2	11.8	0.0	11.1	No	No	Unacceptable	Unacceptable
1120	PUBLIC	Phase II	0.0	0.1	0.1	0.0	2.1	0.2	2.9	0.0	0.0	0.2	5.1	0.0	2.2	Yes	No	Unacceptable	Unacceptable
1130	PUBLIC	Phase I	0.1	0.2	0.1	0.0	0.0	0.2	0.5	0.0	0.0	0.2	0.7	0.1	0.2	No	No	Acceptable	Acceptable
1132	PUBLIC	Phase II	0.0	0.2	0.1	0.0	1.3	1.0	1.9	0.0	0.0	1.1	3.3	0.0	1.5	No	No	Unacceptable	Acceptable
1135	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	No	No	Acceptable	Acceptable
1137	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.9	0.0	0.0	0.2	0.9	0.0	0.0	No	No	Acceptable	Acceptable
1148	PUBLIC	Phase II	--	--	0.1	0.0	4.9	0.2	0.2	0.0	0.0	0.2	5.1	0.0	4.9	No	No	Acceptable	Acceptable
1151	PUBLIC	Phase II	0.0	0.1	0.12	0.0	3.3	0.2	1.9	0.0	0.0	0.3	5.3	0.0	3.4	No	No	Acceptable	Acceptable
1157	PUBLIC	Phase II	0.0	3.5	0.12	0.0	1.3	0.2	0.5	0.0	0.0	0.2	5.3	0.0	4.8	No	No	Acceptable	Acceptable
1168	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.2	0.0	0.2	No	No	Acceptable	Acceptable
1169	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	1.9	0.0	0.0	0.3	1.9	0.0	0.0	No	No	Acceptable	Acceptable
1179	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.4	0.7	0.0	0.0	1.4	0.7	0.0	0.0	No	No	Unacceptable	Acceptable
1182	PUBLIC	Phase II	--	--	0.1	0.0	0.0	0.6	0.9	0.0	0.0	0.6	0.9	0.0	0.0	No	No	Acceptable	Acceptable
1184	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.1	0.0	0.0	0.3	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1315	PUBLIC	Phase II	--	--	0.1	0.0	1.3	0.2	0.4	0.0	0.0	0.2	1.7	0.0	1.3	No	No	Acceptable	Acceptable
1688	PUBLIC	Phase I	0.1	41.7	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.2	41.7	0.1	41.7	No	No	Unacceptable	Unacceptable
1692	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	1.2	1.8	0.0	0.5	1.3	1.9	0.0	0.6	Yes	No	Unacceptable	Unacceptable
1694	PUBLIC	Phase II	--	--	0.1	0.0	1.2	1.1	0.5	0.0	0.0	1.1	1.7	0.0	1.2	No	No	Unacceptable	Acceptable
1699	PUBLIC	Phase II	--	--	0.1	0.0	2.1	0.3	0.1	0.0	0.0	0.3	2.2	0.0	2.1	No	No	Acceptable	Acceptable
1715	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.1	0.0	0.0	0.3	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1800	PUBLIC	Phase I	0.0	10.6	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.4	10.6	0.0	10.6	Yes	No	Unacceptable	Unacceptable
1804	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	1.0	0.0	0.1	0.2	1.0	0.0	0.1	No	No	Acceptable	Acceptable
1806	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1813	PUBLIC	Phase II	0.0	0.1	0.1	0.0	0.0	0.2	0.6	0.0	0.0	0.2	0.7	0.0	0.1	No	No	Acceptable	Acceptable
1819	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1825	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1828	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.5	0.0	0.0	0.1	0.5	0.0	0.0	No	No	Acceptable	Acceptable
1841	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.1	0.0	0.0	0.6	0.1	0.0	0.0	No	No	Acceptable	Acceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
1842	PUBLIC	Phase II	--	--	0.1	0.0	12.2	0.2	0.6	0.0	0.0	0.2	12.8	0.0	12.2	No	No	Unacceptable	Unacceptable
1843	PUBLIC	Phase II	--	--	0.12	0.0	34.3	0.3	0.8	0.0	0.0	0.3	35.1	0.0	34.3	No	No	Unacceptable	Unacceptable
1844	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1845	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1849	PUBLIC	Phase II	0.1	0.5	0.1	0.0	3.3	0.2	1.7	0.0	0.0	0.2	5.5	0.1	3.8	No	No	Acceptable	Acceptable
1855	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.5	0.0	0.0	0.2	0.5	0.0	0.0	No	No	Acceptable	Acceptable
1868	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1873	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1876	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1880	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1881	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1883	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1887	PUBLIC	Pre-Lease	--	--	0.1	--	--	4.5	0.0	0.0	0.0	4.5	0.0	0.0	0.0	Yes	No	Unacceptable	Unacceptable
1888	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1889	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1891	PUBLIC	Pre-Lease	--	--	0.1	--	--	3.9	0.0	0.0	0.0	3.9	0.0	0.0	0.0	No	No	Unacceptable	Acceptable
1894	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.2	0.0	0.0	0.3	0.2	0.0	0.0	No	No	Acceptable	Acceptable
1898	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1902	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	8.0	0.0	0.0	0.4	8.0	0.0	0.0	No	No	Acceptable	Acceptable
1905	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	1.1	0.0	0.0	0.8	1.1	0.0	0.0	No	No	Acceptable	Acceptable
1909	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1912	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	3.6	0.0	0.1	0.2	3.6	0.0	0.1	Yes	No	Unacceptable	Unacceptable
1918	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.6	0.0	0.0	0.1	0.6	0.0	0.0	No	No	Acceptable	Acceptable
1922	PUBLIC	Pre-Lease	--	--	0.1	--	--	2.7	1.5	0.0	0.0	2.7	1.5	0.0	0.0	Yes	No	Unacceptable	Unacceptable
1924	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	2.1	0.0	0.0	0.5	2.1	0.0	0.0	No	No	Acceptable	Acceptable
1930	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1931	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.8	0.0	0.0	0.3	0.8	0.0	0.0	No	No	Acceptable	Acceptable
1933	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	1.4	0.0	0.0	0.2	1.4	0.0	0.0	No	No	Acceptable	Acceptable
1937	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1945	PUBLIC	Phase II	--	--	0.1	0.0	3.2	0.1	0.5	0.0	0.0	0.1	3.7	0.0	3.2	No	No	Acceptable	Acceptable
1961	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1966	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.5	0.0	0.0	0.4	0.5	0.0	0.0	No	No	Acceptable	Acceptable
1967	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1969	PUBLIC	Phase II	--	--	0.1	0.0	0.7	0.2	0.4	0.0	0.0	0.2	1.0	0.0	0.7	No	No	Acceptable	Acceptable
2049	PUBLIC	Phase II	0.0	0.0	0.1	0.0	1.7	0.1	0.2	0.0	0.0	0.2	1.9	0.0	1.7	No	No	Acceptable	Acceptable
2051	PUBLIC	Phase II	0.0	2.0	0.12	0.1	1.5	0.2	2.0	0.0	0.0	0.3	5.5	0.1	3.5	No	No	Acceptable	Acceptable
0882	PUBLIC	Phase II	--	--	0.1	0.0	0.4	0.2	2.3	0.0	0.0	0.2	2.7	0.0	0.4	No	No	Acceptable	Acceptable
1766	PUBLIC	Phase II	--	--	0.1	0.0	1.5	1.3	2.6	0.0	0.0	1.3	4.1	0.0	1.5	No	No	Unacceptable	Acceptable
0897	WELL	Phase I	0.0	0.0	0.1	0.0	8.2	2.7	5.8	0.0	0.0	2.8	14.0	0.0	8.2	Yes	No	Unacceptable	Unacceptable
0921	WELL	Phase I	0.1	1.5	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.5	1.5	0.1	1.5	No	No	Acceptable	Acceptable
0973	WELL	Phase I	0.0	0.0	0.1	0.0	0.0	3.7	0.0	0.0	0.0	3.8	0.0	0.0	0.0	Yes	No	Unacceptable	Unacceptable
0974	WELL	Phase I	0.1	0.2	0.1	0.0	6.5	2.7	0.0	0.0	0.0	2.7	6.8	0.1	6.7	No	Yes	Unacceptable	Acceptable
1713	WELL	Phase I	0.0	0.0	0.1	0.0	0.0	1.0	1.5	0.0	0.0	1.0	1.5	0.0	0.0	No	No	Acceptable	Acceptable
1751	WELL	Phase II	--	--	0.1	0.1	45.1	2.5	196.9	0.0	25.4	2.6	241.9	0.1	70.5	Yes	Yes	Unacceptable	Unacceptable
1756	WELL	Phase II	--	--	0.1	0.1	70.8	2.5	151.7	0.0	18.8	2.6	222.5	0.1	89.6	Yes	Yes	Unacceptable	Unacceptable
1767	WELL	Phase I	0.1	0.0	0.1	0.0	0.0	3.3	128.3	0.0	16.8	3.3	128.3	0.1	16.9	Yes	Yes	Unacceptable	Unacceptable
1771	WELL	Phase II	--	--	0.1	0.1	14.5	2.7	102.0	0.0	12.0	2.8	116.6	0.1	26.5	No	Yes	Unacceptable	Unacceptable
2016	WELL	Phase II	0.0	0.0	0.1	0.0	3.2	3.3	253.9	0.0	26.4	3.3	257.1	0.1	29.6	Yes	Yes	Unacceptable	Unacceptable
2021	WELL	Phase II	--	--	0.1	0.0	0.4	2.6	3.1	0.0	0.0	2.6	3.4	0.0	0.4	No	Yes	Unacceptable	Acceptable
Study Area 6																			
0197	PUBLIC	Phase I	--	--	0.1	--	--	0.9	0.2	0.0	0.0	0.9	0.2	0.0	0.0	No	No	Acceptable	Acceptable
0198	PUBLIC	Phase II	0.0	0.1	0.1	0.0	1.9	1.2	2.2	0.0	0.0	1.2	4.2	0.0	2.0	No	No	Unacceptable	Acceptable
0199	PUBLIC	Phase II	0.0	0.1	0.1	0.1	44.6	0.9	2.5	0.0	0.0	1.0	47.2	0.1	44.7	No	No	Unacceptable	Unacceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
0789	PUBLIC	Phase II	--	--	0.1	0.0	3.9	0.7	0.8	0.0	0.0	0.7	4.7	0.0	3.9	No	No	Acceptable	Acceptable
0801	PUBLIC	Phase II	--	--	0.1	0.0	2.1	0.3	1.4	0.0	0.0	0.3	3.5	0.0	2.1	No	No	Acceptable	Acceptable
0805	PUBLIC	Phase II	--	--	0.12	0.1	48.3	0.7	2.8	0.0	0.0	0.8	51.1	0.1	48.3	No	No	Unacceptable	Unacceptable
0806	PUBLIC	Phase I	--	--	0.1	--	--	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0813	PUBLIC	Phase II	--	--	0.1	0.0	1.3	0.6	1.0	0.0	0.0	0.6	2.3	0.0	1.3	No	No	Acceptable	Acceptable
0814	PUBLIC	Phase II	--	--	0.0144	0.0	1.4	0.4	0.8	0.0	0.0	0.4	2.2	0.0	1.4	No	No	Acceptable	Acceptable
0815	PUBLIC	Phase II	--	--	0.1	0.0	5.0	--	--	0.0	0.0	0.0	5.0	0.0	5.0	No	No	Acceptable	Acceptable
0822	PUBLIC	Phase II	--	--	0.1	0.0	0.4	--	--	0.0	0.0	0.0	0.4	0.0	0.4	No	No	Acceptable	Acceptable
0823	PUBLIC	Pre-Lease	--	--	0.1	--	--	2.3	0.0	0.0	0.0	2.3	0.0	0.0	0.0	No	No	Unacceptable	Acceptable
0827	PUBLIC	Phase II	--	--	0.1	0.0	3.1	0.4	0.7	0.0	0.0	0.4	3.8	0.0	3.1	No	No	Acceptable	Acceptable
0831	PUBLIC	Phase II	0.0	0.0	0.12	0.1	95.2	0.9	3.1	0.0	0.2	1.1	98.3	0.2	95.4	No	No	Unacceptable	Unacceptable
0834	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	0.4	0.0	0.0	0.7	0.4	0.0	0.0	No	No	Acceptable	Acceptable
0837	PUBLIC	Phase II	--	--	0.0144	0.0	3.4	1.0	0.9	0.0	0.0	1.0	4.3	0.0	3.4	No	No	Unacceptable	Acceptable
0838	PUBLIC	Phase II	0.0	0.1	0.1	0.0	4.4	0.6	1.0	0.0	0.0	0.7	5.4	0.1	4.5	No	No	Acceptable	Acceptable
0844	PUBLIC	Phase I	0.1	0.4	0.1	0.0	0.0	0.6	0.6	0.0	0.0	0.7	1.0	0.1	0.4	No	No	Acceptable	Acceptable
0848	PUBLIC	Phase II	--	--	0.12	0.0	2.9	2.2	0.9	0.0	0.0	2.3	3.7	0.0	2.9	No	No	Unacceptable	Acceptable
0850	PUBLIC	Pre-Lease	--	--	0.1	--	--	2.6	0.0	0.0	0.0	2.6	0.0	0.0	0.0	No	No	Unacceptable	Acceptable
0851	PUBLIC	Phase II	--	--	0.1	0.0	6.8	0.8	1.0	0.0	0.0	0.9	7.8	0.0	6.8	No	No	Acceptable	Acceptable
0854	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	3.1	0.0	0.1	0.6	3.1	0.0	0.1	No	No	Acceptable	Acceptable
1194 ⁽⁸⁾	PUBLIC	Phase II	--	--	0.12	0.0	5.9	0.7	4.2	0.0	0.1	0.7	10.1	0.0	6.0	No	No	Unacceptable	Acceptable
1201	PUBLIC	Phase II	--	--	0.1	0.0	3.7	0.3	2.8	0.0	0.0	0.3	6.5	0.0	3.7	No	No	Acceptable	Acceptable
1202	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.6	0.5	0.0	0.0	0.0	0.6	0.9	0.0	0.9	No	No	Acceptable	Acceptable
1361	PUBLIC	Phase I	0.0	0.0	0.1	0.0	0.9	1.0	0.7	0.0	0.0	1.0	1.7	0.0	0.9	No	Yes	Unacceptable	Acceptable
1362	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1363	PUBLIC	Phase II	0.0	0.2	0.12	0.0	1.9	0.7	0.9	0.0	0.0	0.7	3.0	0.0	2.0	No	No	Acceptable	Acceptable
1364	PUBLIC	Phase II	0.0	0.1	0.1	0.0	0.9	3.8	9.1	0.0	0.2	3.8	10.0	0.0	1.2	No	Yes	Unacceptable	Acceptable
1365	PUBLIC	Phase I	--	--	0.1	--	--	4.3	0.0	0.0	0.0	4.3	0.0	0.0	0.0	Yes	Yes	Unacceptable	Unacceptable
1659	PUBLIC	Phase II	--	--	0.1	0.0	8.1	0.6	1.7	0.0	0.0	0.7	9.8	0.0	8.1	No	No	Acceptable	Acceptable
1661	PUBLIC	Phase I	0.1	4.2	0.1	0.0	0.0	0.7	0.0	0.0	0.0	0.8	4.2	0.1	4.2	No	No	Acceptable	Acceptable
1665	PUBLIC	Phase I	--	--	0.1	--	--	0.7	0.4	0.0	0.0	0.7	0.4	0.0	0.0	No	No	Acceptable	Acceptable
1704	PUBLIC	Phase II	--	--	0.1	0.0	3.3	0.7	1.1	0.0	0.0	0.7	4.4	0.0	3.3	No	No	Acceptable	Acceptable
1797	PUBLIC	Phase I	0.1	1.2	0.1	0.0	0.0	0.3	0.5	0.0	0.0	0.4	1.6	0.1	1.2	No	No	Acceptable	Acceptable
1808	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	1.0	0.0	0.1	0.6	1.0	0.0	0.1	No	No	Acceptable	Acceptable
1816	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	No	No	Unacceptable	Acceptable
1818	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	1.2	0.1	0.0	0.5	1.2	0.1	0.0	No	No	Acceptable	Acceptable
1836	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.2	0.0	0.2	0.2	0.2	0.0	0.2	No	No	Acceptable	Acceptable
1864	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	0.5	0.0	0.0	0.4	0.5	0.0	0.0	No	Yes	Unacceptable	Acceptable
1866	PUBLIC	Phase II	0.0	0.0	0.1	0.0	3.5	3.0	2.7	0.0	0.0	3.0	6.2	0.0	3.5	No	No	Unacceptable	Acceptable
1877	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.0	No	No	Inconclusive ⁽⁹⁾	Acceptable
1910	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	0.1	0.0	0.0	0.3	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1921	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	2.4	0.0	0.1	0.5	2.4	0.0	0.1	No	No	Acceptable	Acceptable
1927	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	1.3	0.0	0.2	0.7	1.3	0.0	0.2	No	No	Acceptable	Acceptable
1929	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.7	0.0	0.0	0.6	0.7	0.0	0.0	No	No	Acceptable	Acceptable
1942	PUBLIC	Phase II	--	--	0.12	0.0	1.9	0.8	1.1	0.0	0.0	0.8	3.0	0.0	1.9	No	No	Acceptable	Acceptable
1962	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.2	0.4	0.0	0.0	0.2	0.4	0.0	0.0	No	No	Acceptable	Acceptable
1965	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.1	0.0	0.0	0.6	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1968	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1971	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	1.0	0.0	0.0	0.6	1.0	0.0	0.0	No	No	Acceptable	Acceptable
2017	PUBLIC	Phase II	--	--	0.1	0.0	2.7	5.5	9.2	0.0	0.0	5.5	11.9	0.0	2.7	No	Yes	Unacceptable	Acceptable
2027	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.1	2.6	0.0	0.2	1.1	2.6	0.0	0.2	No	No	Unacceptable	Acceptable
2055	PUBLIC	Phase II	--	--	0.1	0.0	1.2	0.7	0.7	0.0	0.0	0.7	1.9	0.0	1.2	No	No	Acceptable	Acceptable
2080	PUBLIC	Phase II	0.0	4.1	0.1	0.0	4.3	1.2	1.0	0.0	0.0	1.2	9.4	0.0	8.4	No	No	Unacceptable	Acceptable
2081	PUBLIC	Phase II	0.0	0.1	0.1	0.4	32.9	0.7	1.9	0.0	0.0	1.1	34.9	0.5	33.0	No	No	Unacceptable	Unacceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
2082	PUBLIC	Phase II	0.0	0.0	0.12	0.0	2.6	0.6	0.9	0.0	0.0	0.7	3.6	0.0	2.7	No	No	Acceptable	Acceptable
2105 ⁽⁸⁾	PUBLIC	Phase II	--	--	0.1	0.0	1.9	0.2	0.5	0.0	0.0	0.2	2.3	0.0	1.9	No	No	Acceptable	Acceptable
0548	WELL	Phase II	0.0	0.2	0.1	30.5	29168.8	3.1	24.6	0.0	8.6	33.6	29193.6	30.5	29177.6	Yes	Yes	Unacceptable	Unacceptable
Study Area 7																			
0104	PUBLIC	Phase II	0.0	0.1	0.1	0.0	2.7	0.1	0.2	0.0	0.0	0.1	3.0	0.0	2.7	No	No	Acceptable	Acceptable
0111	PUBLIC	Phase I	0.0	2.2	0.1	0.0	0.0	2.0	26.5	0.0	3.8	2.0	28.8	0.1	6.0	No	No	Unacceptable	Acceptable
0459	PUBLIC	Phase II	0.1	0.3	0.1	0.0	2.2	0.6	1.5	0.0	0.0	0.7	4.0	0.1	2.5	No	No	Acceptable	Acceptable
0659	PUBLIC	Phase I	--	--	0.1	--	--	1.4	0.9	0.0	0.0	1.4	0.9	0.0	0.0	No	No	Unacceptable	Acceptable
1369	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.7	0.1	0.0	0.1	No	No	Acceptable	Acceptable
1370	PUBLIC	Phase II	--	--	0.12	0.0	1.3	0.2	3.0	0.0	0.0	0.2	4.3	0.0	1.3	No	No	Acceptable	Acceptable
1633	PUBLIC	Phase II	0.0	0.1	0.1	0.0	4.9	0.7	3.3	0.0	0.2	0.8	8.4	0.1	5.3	Yes	No	Unacceptable	Unacceptable
1635	PUBLIC	Phase II	--	--	0.1	0.0	4.8	0.6	1.1	0.0	0.0	0.6	5.9	0.0	4.8	No	No	Acceptable	Acceptable
1637	PUBLIC	Phase I	0.3	3.6	0.1	0.0	0.0	0.2	0.5	0.0	0.0	0.5	4.1	0.3	3.6	No	No	Acceptable	Acceptable
1675	PUBLIC	Phase I	0.0	0.0	0.1	0.0	1.4	3.4	2.3	0.0	0.3	3.4	3.7	0.0	1.8	Yes	Yes	Unacceptable	Unacceptable
1732	PUBLIC	Phase I	0.0	0.1	0.1	--	--	0.3	0.0	0.0	0.0	0.3	0.1	0.0	0.1	No	No	Acceptable	Acceptable
1749	PUBLIC	Phase II	0.0	0.0	0.1	0.0	0.7	0.5	0.9	0.0	0.0	0.5	1.7	0.0	0.7	No	No	Acceptable	Acceptable
1805	PUBLIC	Phase II	--	--	0.1	--	--	1.1	4.0	0.0	0.2	1.1	4.0	0.0	0.2	No	No	Unacceptable	Acceptable
1810	PUBLIC	Phase II	0.0	0.0	0.1	0.0	1.6	1.2	2.2	0.0	0.0	1.2	3.8	0.0	1.6	No	No	Unacceptable	Acceptable
1851	PUBLIC	Phase II	--	--	0.1	--	--	0.5	1.1	0.0	0.0	0.5	1.1	0.0	0.0	No	No	Acceptable	Acceptable
1879	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	1.8	0.0	0.0	0.8	1.8	0.0	0.0	No	No	Acceptable	Acceptable
1900	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	1.9	0.0	0.0	0.8	1.9	0.0	0.0	No	No	Acceptable	Acceptable
1911	PUBLIC	Phase II	--	--	0.1	0.0	4.6	0.7	0.9	0.0	0.0	0.7	5.5	0.0	4.6	No	No	Acceptable	Acceptable
1923	PUBLIC	Phase II	--	--	0.1	0.0	5.7	0.6	1.9	0.0	0.1	0.6	7.6	0.0	5.9	No	No	Acceptable	Acceptable
1926	PUBLIC	Phase II	--	--	0.1	0.0	9.5	1.8	11.1	0.0	1.0	1.8	20.6	0.0	10.5	No	Yes	Unacceptable	Unacceptable
1935	PUBLIC	Pre-Lease	--	--	0.1	--	--	2.5	13.5	0.0	1.8	2.5	13.5	0.0	1.8	Yes	Yes	Unacceptable	Unacceptable
1936	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.7	0.3	0.0	0.0	1.7	0.3	0.0	0.0	No	No	Unacceptable	Acceptable
1940	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.3	0.2	0.0	0.0	1.3	0.2	0.0	0.0	No	No	Unacceptable	Acceptable
1944	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.1	1.0	0.0	0.0	1.1	1.0	0.0	0.0	Yes	No	Unacceptable	Unacceptable
1946	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.7	0.0	0.0	0.6	0.7	0.0	0.0	No	No	Acceptable	Acceptable
1960	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	1.8	0.0	0.1	0.6	1.8	0.0	0.1	No	No	Acceptable	Acceptable
1963	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.2	0.1	0.0	0.0	1.2	0.1	0.0	0.0	No	No	Unacceptable	Acceptable
1970	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	0.6	0.0	0.4	0.7	0.6	0.0	0.4	No	No	Acceptable	Acceptable
2023	PUBLIC	Phase II	0.0	0.9	0.1	0.0	0.6	0.6	0.9	0.0	0.0	0.7	2.5	0.0	1.5	No	No	Acceptable	Acceptable
2077	PUBLIC	Phase II	0.0	0.1	0.1	0.0	12.4	1.4	0.8	0.0	0.0	1.5	13.3	0.1	12.5	No	No	Unacceptable	Unacceptable
2113	PUBLIC	Phase II	--	--	0.1	0.0	6.5	1.0	2.3	0.0	0.0	1.0	8.8	0.0	6.5	No	No	Unacceptable	Acceptable
2114	PUBLIC	Phase II	--	--	0.1	0.0	0.5	0.3	0.4	0.0	0.0	0.3	1.0	0.0	0.5	No	No	Acceptable	Acceptable
2115	PUBLIC	Phase II	--	--	0.1	0.0	6.5	0.6	1.4	0.0	0.0	0.7	7.9	0.0	6.5	No	No	Acceptable	Acceptable
2116	PUBLIC	Phase II	--	--	0.1	0.0	7.4	2.9	13.4	0.0	0.6	2.9	20.8	0.0	8.0	Yes	Yes	Unacceptable	Unacceptable
2117	PUBLIC	Phase II	--	--	0.1	0.0	0.7	1.2	1.1	0.0	0.0	1.2	1.8	0.0	0.7	No	No	Unacceptable	Acceptable
2118	PUBLIC	Phase II	--	--	0.1	0.0	4.3	0.5	0.5	0.0	0.0	0.5	4.8	0.0	4.3	No	No	Acceptable	Acceptable
2130	PUBLIC	Phase II	--	--	0.12	0.0	4.1	1.0	0.8	0.0	0.0	1.0	4.9	0.0	4.1	No	No	Unacceptable	Acceptable
2150	PUBLIC	Phase II	--	--	0.12	0.0	1.4	0.6	0.9	0.0	0.0	0.6	2.3	0.0	1.4	No	No	Acceptable	Acceptable
2154	PUBLIC	Phase II	--	--	2.48832E-05	0.0	0.0	0.8	1.0	0.0	0.0	0.8	1.0	0.0	0.0	No	No	Acceptable	Acceptable
2156	PUBLIC	Phase II	--	--	0.1	0.0	1.3	0.7	1.3	0.0	0.0	0.7	2.6	0.0	1.3	No	No	Acceptable	Acceptable
1744	WELL	Phase I	0.0	0.3	0.1	0.0	0.0	3.3	61.9	0.0	8.4	3.3	62.2	0.1	8.7	Yes	Yes	Unacceptable	Unacceptable
Study Area 8																			
0120	PUBLIC	Phase II	0.0	0.0	0.1	0.0	2.0	1.1	1.0	0.0	0.0	1.1	3.1	0.0	2.1	No	No	Unacceptable	Acceptable
0193	PUBLIC	Phase I	--	--	0.1	--	--	5.2	0.7	0.0	0.0	5.2	0.7	0.0	0.0	No	No	Unacceptable	Acceptable
0227	PUBLIC	Phase II	--	--	0.0144	0.0	0.2	0.9	4.9	0.0	0.5	0.9	5.1	0.0	0.7	Yes	No	Unacceptable	Unacceptable
0266	PUBLIC	Phase II	--	--	0.1	0.0	4.6	0.8	1.7	0.0	0.0	0.8	6.4	0.0	4.6	No	No	Acceptable	Acceptable
0279	PUBLIC	1,500 Ft Step Out	--	--	0.1	0.0	1.5	--	--	0.0	0.0	0.0	1.5	0.0	1.5	No	No	Acceptable	Acceptable
0290	PUBLIC	Phase II	0.1	0.4	0.1	0.0	2.4	1.8	0.9	0.0	0.0	1.8	3.6	0.1	2.7	No	No	Unacceptable	Acceptable
0329	PUBLIC	1,500 Ft Step Out	--	--	0.1	0.0	2.3	--	--	0.0	0.0	0.0	2.3	0.0	2.3	No	No	Acceptable	Acceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
0346	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	1.7	28.9	0.0	3.9	1.8	29.1	0.1	4.1	Yes	No	Unacceptable	Unacceptable
0362	PUBLIC	Pre-Lease	--	--	0.1	--	--	13.7	0.0	0.0	0.0	13.7	0.0	0.0	0.0	No	No	Unacceptable	Acceptable
0374	PUBLIC	1,500 Ft Step Out	--	--	0.1	0.1	42.2	--	--	0.0	0.0	0.1	42.2	0.1	42.2	No	No	Unacceptable	Unacceptable
0376	PUBLIC	Phase II	--	--	0.1	0.0	6.3	0.6	1.1	0.0	0.0	0.7	7.4	0.0	6.3	No	No	Acceptable	Acceptable
0380	PUBLIC	Phase I	0.1	0.1	0.1	0.0	0.0	0.5	0.1	0.0	0.0	0.6	0.2	0.1	0.1	No	No	Acceptable	Acceptable
0393	PUBLIC	Phase II	--	--	0.1	0.0	9.7	0.6	1.1	0.0	0.0	0.6	10.8	0.0	9.7	Yes	No	Unacceptable	Unacceptable
0397	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.8	0.0	0.0	0.0	1.8	0.0	0.0	0.0	No	No	Unacceptable	Acceptable
0410	PUBLIC	1,500 Ft Step Out	--	--	0.1	0.0	6.0	--	--	0.0	0.0	0.0	6.0	0.0	6.0	No	No	Acceptable	Acceptable
0419	PUBLIC	Phase II	0.1	0.2	0.1	0.0	18.6	1.4	2.0	0.0	0.0	1.5	20.7	0.1	18.7	No	No	Unacceptable	Unacceptable
0438	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	2.5	0.0	0.1	0.6	2.5	0.0	0.1	Yes	No	Unacceptable	Unacceptable
0460	PUBLIC	Phase II	--	--	0.1	0.0	18.3	0.7	1.1	0.0	0.0	0.8	19.4	0.0	18.3	No	No	Unacceptable	Unacceptable
0491	PUBLIC	Phase I	0.1	0.1	0.1	0.0	0.0	0.7	0.7	0.0	0.0	0.8	0.8	0.1	0.1	No	No	Acceptable	Acceptable
0497	PUBLIC	Phase II	0.1	2.0	0.1	0.0	0.0	0.6	1.2	0.0	0.0	0.7	3.2	0.1	2.0	No	No	Acceptable	Acceptable
0501	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.0	0.7	0.7	0.0	0.0	0.7	0.9	0.0	0.2	No	No	Acceptable	Acceptable
0502	PUBLIC	Phase II	0.0	0.0	0.1	0.0	0.9	0.9	2.4	0.0	0.0	1.0	3.3	0.0	0.9	No	No	Acceptable	Acceptable
0504	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	0.7	0.9	0.0	0.0	0.8	1.0	0.0	0.1	No	No	Acceptable	Acceptable
0512	PUBLIC	Phase II	--	--	0.1	0.0	15.8	1.1	2.1	0.0	0.0	1.1	17.9	0.0	15.8	No	No	Unacceptable	Unacceptable
0516	PUBLIC	Phase I	0.1	0.6	0.1	0.0	0.0	2.0	0.5	0.0	0.0	2.1	1.1	0.1	0.6	No	Yes	Unacceptable	Acceptable
0525	PUBLIC	Phase II	0.0	0.0	0.1	2.7	152.0	0.5	0.9	0.0	0.0	3.3	152.9	2.7	152.0	No	No	Unacceptable	Unacceptable
0529	PUBLIC	Phase I	0.1	0.7	0.1	0.0	0.0	1.2	0.0	0.0	0.0	1.3	0.7	0.1	0.7	No	No	Unacceptable	Acceptable
1591	PUBLIC	Phase I	0.0	0.2	0.1	0.0	0.1	0.8	0.0	0.0	0.0	0.9	0.2	0.0	0.2	No	No	Acceptable	Acceptable
1607	PUBLIC	Phase I	0.1	0.5	0.1	0.0	0.0	1.2	5.0	0.0	0.5	1.3	5.5	0.1	1.0	Yes	No	Unacceptable	Unacceptable
1614	PUBLIC	Phase I	0.1	0.4	0.1	0.0	2.9	0.5	0.1	0.0	0.0	0.6	3.3	0.1	3.3	No	No	Acceptable	Acceptable
1628	PUBLIC	Phase I	0.1	0.1	0.1	--	--	0.6	0.1	0.0	0.0	0.7	0.2	0.1	0.1	No	No	Acceptable	Acceptable
1731	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1737	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.0	1.0	0.0	0.1	1.0	1.0	0.0	0.1	No	No	Acceptable	Acceptable
1738	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.5	0.7	0.2	0.0	0.0	0.7	0.8	0.0	0.6	No	No	Acceptable	Acceptable
1742	PUBLIC	Phase II	--	--	0.1	0.0	4.0	0.6	1.8	0.0	0.0	0.6	5.7	0.0	4.0	No	No	Acceptable	Acceptable
1747	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	0.1	0.0	0.0	0.5	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1798	PUBLIC	Phase I	0.0	0.1	0.1	0.0	0.0	2.4	0.3	0.0	0.0	2.4	0.4	0.0	0.1	Yes	Yes	Unacceptable	Unacceptable
1815	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1824	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.5	0.0	0.0	0.6	0.5	0.0	0.0	No	No	Acceptable	Acceptable
1827	PUBLIC	Phase II	0.1	0.0	0.1	0.0	3.9	0.9	0.9	0.0	0.0	0.9	4.8	0.1	3.9	No	No	Acceptable	Acceptable
1831	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1833	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.4	1.5	0.0	0.0	0.4	1.5	0.0	0.0	No	No	Acceptable	Acceptable
1835	PUBLIC	Phase II	0.0	0.0	0.1	0.1	80.5	0.7	1.0	0.0	0.0	0.8	81.6	0.1	80.6	No	No	Unacceptable	Unacceptable
1837	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.7	0.6	0.1	0.5	0.7	0.6	0.1	0.5	No	No	Acceptable	Acceptable
1840	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.3	1.9	0.0	0.0	0.3	1.9	0.0	0.0	No	No	Acceptable	Acceptable
1846	PUBLIC	Phase II	0.0	0.1	0.1	0.0	13.8	2.2	7.5	0.0	0.0	2.3	21.4	0.1	13.9	No	No	Unacceptable	Unacceptable
1847	PUBLIC	Phase II	0.1	0.2	0.1	0.5	71.6	0.6	1.2	0.0	0.1	1.1	73.0	0.6	71.9	No	No	Unacceptable	Unacceptable
1848	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.9	0.3	0.0	0.0	1.9	0.3	0.0	0.0	No	No	Unacceptable	Acceptable
1850	PUBLIC	1,500 Ft Step Out	--	--	0.1	0.0	0.9	0.8	1.0	0.0	0.0	0.8	1.8	0.0	0.9	No	No	Acceptable	Acceptable
1857	PUBLIC	Phase II	--	--	0.1	0.0	10.0	0.5	0.8	0.0	0.0	0.5	10.8	0.0	10.0	No	No	Unacceptable	Acceptable
1858	PUBLIC	Pre-Lease	--	--	0.1	--	--	1.3	0.8	0.0	0.1	1.3	0.8	0.0	0.1	No	No	Unacceptable	Acceptable
1859	PUBLIC	Phase II	--	--	0.1	0.0	0.8	1.1	0.9	0.0	0.0	1.1	1.7	0.0	0.8	No	No	Unacceptable	Acceptable
1865	PUBLIC	Phase II	0.1	0.3	0.1	0.0	2.2	0.5	1.6	0.0	0.0	0.5	4.1	0.1	2.5	No	No	Acceptable	Acceptable
1874	PUBLIC	Phase II	0.1	0.1	0.1	0.0	3.5	0.8	1.0	0.0	0.0	0.9	4.6	0.1	3.6	No	No	Acceptable	Acceptable
1878	PUBLIC	Phase II	0.1	0.0	0.1	--	--	1.4	1.4	0.0	0.0	1.4	1.4	0.1	0.0	No	No	Unacceptable	Acceptable
1885	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	No	No	Acceptable	Acceptable
1897	PUBLIC	Phase II	0.1	0.1	0.1	0.1	12.6	1.0	1.4	0.0	0.0	1.2	14.1	0.1	12.7	No	No	Unacceptable	Unacceptable
1899	PUBLIC	Phase II	0.0	4.2	0.1	0.1	10.4	0.6	2.0	0.0	0.1	0.8	16.6	0.2	14.7	No	No	Unacceptable	Unacceptable
1904	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.6	0.1	0.0	0.0	0.6	0.1	0.0	0.0	No	No	Acceptable	Acceptable
1995	PUBLIC	1,500 Ft Step Out	--	--	0.1	0.0	4.4	--	--	0.0	0.0	0.0	4.4	0.0	4.4	No	No	Acceptable	Acceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable
												Total CNECF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNECF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾				
2018	PUBLIC	Phase II	0.1	0.0	0.1	0.4	9.5	0.6	0.8	0.0	0.0	1.1	10.4	0.4	9.6	No	No	Unacceptable	Acceptable
2074	PUBLIC	Phase II	0.1	0.4	0.1	0.1	8.2	0.5	0.7	0.0	0.0	0.6	9.3	0.1	8.5	No	No	Acceptable	Acceptable
2075	PUBLIC	Phase II	--	--	0.0144	0.0	0.4	0.6	3.2	0.0	0.0	0.6	3.6	0.0	0.4	No	No	Acceptable	Acceptable
0214	WELL	Phase I	0.1	0.1	0.1	0.0	0.0	3.0	12.9	0.0	1.5	3.1	13.0	0.1	1.6	Yes	Yes	Unacceptable	Unacceptable
0217	WELL	Phase I	0.1	0.1	0.1	0.0	0.0	2.3	7.7	0.0	0.9	2.2	7.8	0.1	1.1	Yes	Yes	Unacceptable	Unacceptable
0225	WELL	1,500 Ft Step Out	--	--	0.1	0.1	19.0	--	--	0.0	0.0	0.1	19.0	0.1	19.0	No	No	Unacceptable	Unacceptable
0231	WELL	1,500 Ft Step Out	--	--	0.1	0.1	50.8	--	--	0.0	0.0	0.1	50.8	0.1	50.8	No	No	Unacceptable	Unacceptable
0234	WELL	1,500 Ft Step Out	--	--	0.1	0.1	88.0	0.2	351.0	0.1	46.2	0.3	439.0	0.2	134.2	No	Yes	Unacceptable	Unacceptable
0238	WELL	Phase I	0.1	0.1	0.1	0.6	421.8	1.9	9.4	0.0	0.4	2.6	431.4	0.7	422.3	Yes	Yes	Unacceptable	Unacceptable
0244	WELL	500 Ft Step Out	--	--	0.1	--	--	2.5	300.3	0.1	39.5	2.5	300.3	0.1	39.5	Yes	Yes	Unacceptable	Unacceptable
0246	WELL	Phase II	0.1	0.3	0.1	--	--	4.3	410.5	0.1	53.4	4.4	410.8	0.1	53.7	Yes	Yes	Unacceptable	Unacceptable
0250	WELL	500 Ft Step Out	--	--	0.1	--	--	2.8	232.9	0.0	30.6	2.8	232.9	0.0	30.6	Yes	Yes	Unacceptable	Unacceptable
0263	WELL	Phase I	0.0	0.0	0.1	0.0	0.0	2.2	4.4	0.0	0.6	2.3	4.4	0.0	0.6	Yes	Yes	Unacceptable	Unacceptable
0269	WELL	1,500 Ft Step Out	--	--	0.1	0.2	134.0	0.1	212.9	0.0	28.1	0.3	346.9	0.2	162.1	No	Yes	Unacceptable	Unacceptable
0270	WELL	500 Ft Step Out	--	--	0.1	--	--	2.6	110.0	0.0	14.4	2.6	110.0	0.0	14.4	Yes	Yes	Unacceptable	Unacceptable
0271	WELL	Phase I	0.1	1.0	0.1	0.0	0.0	2.6	10.0	0.0	1.1	2.7	11.0	0.1	2.1	Yes	Yes	Unacceptable	Unacceptable
0275	WELL	1,500 Ft Step Out	--	--	0.1	0.0	10.3	--	--	0.0	0.0	0.0	10.3	0.0	10.3	No	No	Unacceptable	Unacceptable
0276	WELL	1,500 Ft Step Out	--	--	0.1	0.3	45.9	--	--	0.0	0.0	0.3	45.9	0.3	45.9	No	No	Unacceptable	Unacceptable
0283	WELL	Phase I	0.1	0.1	0.1	0.0	0.0	3.9	10.5	0.0	1.4	4.0	10.6	0.1	1.4	Yes	Yes	Unacceptable	Unacceptable
0288	WELL	1,500 Ft Step Out	--	--	0.1	0.0	27.9	--	--	0.0	0.0	0.0	27.9	0.0	27.9	No	No	Unacceptable	Unacceptable
0302	WELL	Phase II	--	--	0.1	0.0	10.4	3.2	12.6	0.0	0.8	3.2	23.0	0.0	11.2	Yes	Yes	Unacceptable	Unacceptable
0309	WELL	Phase I	0.1	0.2	0.1	0.0	3.9	3.4	461.9	0.1	60.7	3.5	466.0	0.2	64.8	Yes	Yes	Unacceptable	Unacceptable
0326	WELL	1,500 Ft Step Out	--	--	0.1	0.0	4.1	0.0	41.2	0.0	5.4	0.0	45.2	0.0	9.5	No	No	Unacceptable	Acceptable
0332	WELL	500 Ft Step Out	--	--	0.1	--	--	2.7	413.9	0.1	54.4	2.7	413.9	0.1	54.4	Yes	Yes	Unacceptable	Unacceptable
0333	WELL	Phase II	0.1	0.2	0.1	0.1	44.9	2.5	284.9	0.1	36.3	2.7	329.9	0.2	81.4	Yes	Yes	Unacceptable	Unacceptable
0339	WELL	1,500 Ft Step Out	--	--	0.1	0.0	6.5	0.0	32.2	0.0	4.2	0.1	38.8	0.1	10.8	No	No	Unacceptable	Unacceptable
0341	WELL	1,500 Ft Step Out	--	--	0.1	0.5	98.5	--	--	0.0	0.0	0.5	98.5	0.5	98.5	No	No	Unacceptable	Unacceptable
0343	WELL	1,500 Ft Step Out	--	--	0.1	0.0	1.3	0.0	12.3	0.0	1.6	0.0	13.6	0.0	2.9	No	No	Unacceptable	Acceptable
0345	WELL	1,500 Ft Step Out	--	--	0.1	0.3	126.3	--	--	0.0	0.0	0.3	126.3	0.3	126.3	No	No	Unacceptable	Unacceptable
0354	WELL	1,500 Ft Step Out	--	--	0.1	0.0	4.4	0.0	28.0	0.0	3.7	0.0	32.4	0.0	8.1	No	No	Unacceptable	Acceptable
0366	WELL	500 Ft Step Out	--	--	0.1	--	--	2.6	400.7	0.1	52.7	2.6	400.7	0.1	52.7	Yes	Yes	Unacceptable	Unacceptable
0368	WELL	500 Ft Step Out	--	--	0.1	--	--	3.6	867.9	0.2	114.3	3.6	867.9	0.2	114.3	Yes	Yes	Unacceptable	Unacceptable
0371	WELL	1,500 Ft Step Out	--	--	0.1	0.2	137.8	--	--	0.0	0.0	0.2	137.8	0.2	137.8	No	No	Unacceptable	Unacceptable
0383	WELL	Phase I	0.0	0.1	0.1	0.0	0.0	2.9	29.9	0.0	4.1	2.9	30.0	0.1	4.2	Yes	Yes	Unacceptable	Unacceptable
0388	WELL	500 Ft Step Out	--	--	0.1	--	--	3.0	602.3	0.1	79.1	3.0	602.3	0.1	79.1	Yes	Yes	Unacceptable	Unacceptable
0395	WELL	Phase I	0.0	0.0	0.1	0.0	0.8	2.2	204.1	0.0	26.8	2.2	204.9	0.1	27.6	No	Yes	Unacceptable	Unacceptable
0402	WELL	Phase I	--	--	0.1	--	--	1.2	1.5	0.0	0.0	1.2	1.5	0.0	0.0	No	No	Unacceptable	Acceptable
0409	WELL	500 Ft Step Out	--	--	0.1	--	--	3.9	346.5	0.1	45.6	3.9	346.5	0.1	45.6	Yes	Yes	Unacceptable	Unacceptable
0411	WELL	500 Ft Step Out	--	--	0.1	--	--	3.6	117.0	0.0	15.4	3.6	117.0	0.0	15.4	Yes	Yes	Unacceptable	Unacceptable
0416	WELL	1,500 Ft Step Out	--	--	0.1	1.5	819.3	--	--	0.0	0.0	1.5	819.3	1.5	819.3	No	No	Unacceptable	Unacceptable
0427	WELL	1,500 Ft Step Out	--	--	0.1	0.0	18.9	0.0	31.0	0.0	4.1	0.0	49.9	0.0	23.0	No	No	Unacceptable	Unacceptable
0434	WELL	Phase I	0.1	0.0	0.1	0.0	0.0	4.5	108.4	0.0	13.0	4.5	108.4	0.1	13.0	Yes	Yes	Unacceptable	Unacceptable
0436	WELL	1,500 Ft Step Out	--	--	0.1	0.0	11.6	--	--	0.0	0.0	0.0	11.6	0.0	11.6	No	No	Unacceptable	Unacceptable

Table F-2: Summary of Incremental Risks by Residences & Study Area

Site ID	Water Source	Sampling Event	Soil RSL CNECF	Soil RSL CCEF	Vapor Attenuation Factor ⁽¹⁾	Soil Gas RSL CNECF	Soil Gas RSL CCEF	Includes Tap Water, Soil, and Soil Gas				Exceed Fecal or Total Coliform USMCL?	Exceed USMCL for any Constituent ⁽⁶⁾	Ing.+ Inh. ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable	Inh. Only ⁽⁷⁾ Risk Management Category Acceptable or Unacceptable				
								Tap Water Ing.+ Inh. ⁽²⁾ RSL CNECF	Tap Water Ing.+ Inh. ⁽²⁾ RSL CCEF	Tap Water Inh. Only ⁽³⁾ RSL CNECF	Tap Water Inh. Only ⁽³⁾ RSL CCEF					Total CNCEF Ing.+ Inh. ⁽⁴⁾	Total CCEF Ing.+ Inh. ⁽⁴⁾	Total CNCEF Inh. Only ⁽⁵⁾	Total CCEF Inh. Only ⁽⁵⁾
0440	WELL	Phase I	0.1	0.1	0.1	0.0	0.0	2.3	8.9	0.0	1.2	2.4	9.0	0.1	1.3	Yes	Yes	Unacceptable	Unacceptable
0454	WELL	500 Ft Step Out	--	--	0.1	--	--	2.9	479.0	0.1	63.0	2.9	479.0	0.1	63.0	Yes	Yes	Unacceptable	Unacceptable
0457	WELL	Phase I	0.0	0.0	0.1	0.0	0.0	2.1	0.7	0.0	0.0	2.1	0.7	0.0	0.0	Yes	Yes	Unacceptable	Unacceptable
0462	WELL	1,500 Ft Step Out	--	--	0.1	0.4	12.0	--	--	0.0	0.0	0.4	12.0	0.4	12.0	No	No	Unacceptable	Unacceptable
0476	WELL	Pre-Lease	--	--	0.1	--	--	3.4	158.5	0.0	20.9	3.4	158.5	0.0	20.9	Yes	Yes	Unacceptable	Unacceptable
0488	WELL	Phase II	--	--	0.1	0.1	11.1	2.6	13.3	0.0	0.7	2.7	24.4	0.1	11.8	Yes	Yes	Unacceptable	Unacceptable
0499	WELL	Phase I	0.0	0.1	0.1	0.0	0.0	2.9	3.8	0.0	0.5	2.9	4.0	0.0	0.7	Yes	Yes	Unacceptable	Unacceptable
0517	WELL	Phase I	0.0	0.0	0.1	0.0	0.0	3.7	0.0	0.0	0.0	3.8	0.0	0.0	0.0	Yes	Yes	Unacceptable	Unacceptable
0539	WELL	Phase I	0.0	0.0	0.1	0.0	0.0	3.3	0.0	0.0	0.0	3.3	0.0	0.0	0.0	Yes	Yes	Unacceptable	Unacceptable
0547	WELL	Phase I	0.1	0.1	0.1	0.0	0.0	2.4	5.3	0.0	0.6	2.4	5.4	0.1	0.7	Yes	Yes	Unacceptable	Unacceptable
1602	WELL	Phase I	0.1	0.7	0.1	0.0	0.0	1.8	0.0	0.0	0.0	1.9	0.8	0.1	0.7	Yes	Yes	Unacceptable	Unacceptable
1606	WELL	Phase I	0.0	0.1	0.1	0.0	0.0	3.9	64.6	0.0	8.7	3.9	64.6	0.1	8.7	Yes	Yes	Unacceptable	Unacceptable
1608	WELL	Phase I	0.1	0.2	0.1	0.0	0.0	3.0	15.0	0.0	2.1	3.0	15.2	0.1	2.3	Yes	Yes	Unacceptable	Unacceptable
1613	WELL	Phase II	--	--	0.1	--	--	1.5	5.1	0.0	0.0	1.5	5.1	0.0	0.0	Yes	No	Unacceptable	Unacceptable
1621	WELL	1,500 Ft Step Out	--	--	0.1	0.0	7.9	0.0	14.5	0.0	2.0	0.0	22.3	0.0	9.9	No	No	Unacceptable	Acceptable
1634	WELL	Phase I	0.0	0.5	0.1	0.0	0.0	4.9	24.3	0.0	3.3	5.0	24.8	0.0	3.7	Yes	Yes	Unacceptable	Unacceptable
1638	WELL	Phase II	0.0	0.0	0.1	--	--	2.9	28.8	0.0	2.4	3.0	28.8	0.0	2.4	Yes	Yes	Unacceptable	Unacceptable
1735	WELL	Phase I	0.0	0.1	0.1	0.0	0.0	2.7	80.0	0.0	10.8	2.8	80.1	0.1	10.9	Yes	Yes	Unacceptable	Unacceptable
2032	WELL	Phase II	--	--	0.1	0.0	0.0	3.6	16.4	0.0	0.6	3.6	16.4	0.0	0.6	Yes	Yes	Unacceptable	Unacceptable
VILLA	WELL	Phase I	0.1	0.1	0.1	0.0	5.4	2.5	5.6	0.0	0.8	2.5	11.1	0.1	6.2	Yes	Yes	Unacceptable	Unacceptable
Study Area 9																			
0200	PUBLIC	Phase II	--	--	0.1	--	--	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	No	No	Acceptable	Acceptable
0549	PUBLIC	Phase I	--	--	0.1	--	--	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	No	No	Acceptable	Acceptable
0551	PUBLIC	Phase II	0.1	6.2	0.12	0.1	1.1	0.1	0.1	0.0	0.0	0.2	7.5	0.1	7.3	No	No	Acceptable	Acceptable
0552	PUBLIC	Phase II	0.1	0.3	0.1	0.0	5.9	0.5	2.3	0.0	0.0	0.5	8.4	0.1	6.2	No	No	Acceptable	Acceptable
1589	PUBLIC	Phase I	0.0	0.1	0.1	0.0	1.7	0.4	0.7	0.0	0.0	0.4	2.5	0.0	1.8	No	No	Acceptable	Acceptable
1906 ⁽⁸⁾	PUBLIC	Pre-Lease	--	--	0.1	--	--	0.8	53.4	0.0	0.0	0.8	53.4	0.0	0.0	No	Yes	Unacceptable	Acceptable
2002	PUBLIC	Phase II	--	--	0.1	--	--	0.2	0.3	0.0	0.0	0.2	0.3	0.0	0.0	No	No	Acceptable	Acceptable
2003	PUBLIC	Phase II	0.0	0.0	0.1	0.0	2.3	0.2	0.6	0.0	0.0	0.2	2.9	0.0	2.3	No	No	Acceptable	Acceptable
2040	PUBLIC	Phase II	--	--	0.1	0.0	1.3	0.1	0.1	0.0	0.0	0.1	1.5	0.0	1.3	No	No	Acceptable	Acceptable
2078	PUBLIC	Phase II	0.0	3.5	0.1	0.1	5.3	0.7	1.1	0.0	0.0	0.8	9.9	0.1	8.8	No	No	Acceptable	Acceptable
2102	PUBLIC	Phase II	0.0	0.1	0.1	0.0	7.6	3.8	2.0	0.0	0.0	3.9	9.6	0.1	7.7	No	No	Unacceptable	Acceptable

Notes:
0.0 = Value is less than 0.1
-- = Value is zero or samples were not collected for that medium
CCEF - Cumulative Cancer Exceedance Factor
CNCEF - Cumulative Noncancer Exceedance Factor
Inh. - Inhalation
Ing. - Ingestion
Shaded cells indicate residence is Unacceptable based on RSL - Regional Screening Level
USMCL - United States Maximum Contaminant Level

⁽¹⁾ A vapor attenuation factor of 0.1 was applied in all instances to evaluate soil gas with the exception of multi-story residences that had a subsurface ventilated garages (i.e., podium-style construction) or apartment-type dwellings where the resident is above the ground floor of the structure (i.e., the resident lived on the second floor or higher, assuming that the first floor is the ground floor of the building). In these instances a multi-story attenuation factor was applied as described in Appendix B
⁽²⁾ Ing.+Inh. exposure scenario for residences assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice
⁽³⁾ Inh. Only exposure scenario for residences assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice
⁽⁴⁾ Ing.+Inh. exposure scenario for residences (total cumulative exceedance factor based on tap water, soil, and soil gas) assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice.
⁽⁵⁾ Inh. Only exposure scenario for residences (total cumulative exceedance factor based on tap water, soil, and soil gas) assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice.
⁽⁶⁾ Excluding constituents that are present at concentrations similar to those found in the environment (e.g., inorganic elements except for lead, copper, and thallium)
⁽⁷⁾ For explanation of the PHE Risk Management Categories see Section 4.3.
(i.e., dibromochloromethane, chloroform, and bromoform) using the THM USMCL rather than individual RSLs. The tap water concentration of THMs was less than the total THMs USMCL, therefore the risk at this location is considered Acceptable.
⁽⁸⁾ Residence is located outside of study area boundaries. It was included with the study area it was nearest to for analyses purposes.
⁽⁹⁾ Residence # 1877 was deemed inconclusive for the Ing. + Inh. exposure scenario due to a speciation data gap for radioactive chemicals, see Section 5.2.8

Table F-3: Study Area 1 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
125 Residences Sampled: 122 Public Water and 3 on Private Wells					
Total – Ingestion+Inhalation ⁶	26	0.0005 - 3.2	0.0004 - 84.2	<ul style="list-style-type: none"> ▪ Tap Water RSLs (17) ▪ Tap Water USMCLs⁸ (4) ▪ Soil (0) ▪ Soil Gas (5) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Bis(2-ethylhexyl)phthalate ▪ Copper ▪ Fluoride ▪ Lead ▪ Tetrachloroethene ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Private Well</p> <ul style="list-style-type: none"> ▪ Tetrachloroethene ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,2-Dichloropropane ▪ 1,4-Dichlorobenzene ▪ Benzene ▪ Bromoform ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Methyl tert-Butyl Ether ▪ Naphthalene ▪ Tetrachloroethene ▪ Trichloroethene

Table F-3: Study Area 1 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
125 Residences Sampled: 122 Public Water and 3 on Private Wells					
Total – Inhalation Only ⁷	8	0.00002 - 0.21	0.06 - 82.0	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (3) ▪ Soil (0) ▪ Soil Gas (5) 	<ul style="list-style-type: none"> ▪ Public Water Supply ▪ Total Coliforms ▪ Soil ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Soil Gas ▪ 1,2-Dichloropropane ▪ 1,4-Dichlorobenzene ▪ Benzene ▪ Bromoform ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Methyl tert-Butyl Ether ▪ Naphthalene ▪ Tetrachloroethene ▪ Trichloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10 or tap water concentrations that exceed the USMCL and the associated number of residences

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedances of chemical or microorganism USMCLs

⁹Exceedances of microorganism USMCLs only

Table F-4: Study Area 2 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
30 Residences Sampled: 30 on Public Water					
Total – Ingestion+Inhalation ⁶	18	0.22 - 6.3	0.009 - 103.1	<ul style="list-style-type: none"> ▪ Tap Water RSLs (16) ▪ Tap Water USMCLs⁸ (2) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ Lead ▪ Tetrachloroethene ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Tetrachloroethene
Total – Inhalation Only ⁷	2	0.0004 - 0.07	0.21 - 13.3	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (1) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ Total Coliforms Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Tetrachloroethene

Notes:

¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1×10^{-5} or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10 or tap water concentrations that exceed the USMCL and the associated number of residences

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedances of chemical or microorganism USMCLs

⁹Exceedances of microorganism USMCLs only

Table F-5: Study Area 3 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
21 Residences Sampled: 21 on Public Water					
Total – Ingestion+Inhalation ⁶	3	0.09 - 2.1	0.01 - 9.6	<ul style="list-style-type: none"> ▪ Tap Water RSLs (3) ▪ Tap Water USMCLs⁸ (0) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ Lead ▪ Tetrachloroethene ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ 1,2-Dichloropropane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Tetrachloroethene
Total – Inhalation Only ⁷	0	0.0000004 - 0.32	0.0001 - 9.1	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (0) ▪ Soil (0) ▪ Soil Gas (0) 	Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ 1,2-Dichloropropane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Tetrachloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10 or tap water concentrations that exceed the USMCL and the associated number of residences

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedances of chemical or microorganism USMCLs

⁹Exceedances of microorganism USMCLs only

Table F-6: Study Area 4 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
19 Residences Sampled: 19 on Public Water					
Total – Ingestion+Inhalation ⁶	4	0.17 – 2.4	0.16 - 118.0	<ul style="list-style-type: none"> ▪ Tap Water RSLs (2) ▪ Tap Water USMCLs⁸ (1) ▪ Soil (0) ▪ Soil Gas (1) 	Public Water Supply <ul style="list-style-type: none"> ▪ Tetrachloroethene ▪ Uranium ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexane ▪ Tetrachloroethene
Total – Inhalation Only ⁷	2	0.00002 – 2.2	0.06 - 116.5	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (1) ▪ Soil (0) ▪ Soil Gas (1) 	Public Water Supply <ul style="list-style-type: none"> ▪ Total Coliforms Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexane ▪ Tetrachloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10 or tap water concentrations that exceed the USMCL and the associated number of residences

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedances of chemical or microorganism USMCLs

⁹Exceedances of microorganism USMCLs only

Table F-7: Study Area 5 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
114 Residences Sampled: 103 Public Water and 11 on Private Wells					
Total – Ingestion + Inhalation ⁶	31	0.10 – 4.5	0.0004 - 257.1	<ul style="list-style-type: none"> ▪ Tap Water RSLs (20) ▪ Tap Water USMCLs⁸ (16) ▪ Soil (2) ▪ Soil Gas (9) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Copper ▪ Fecal Coliform ▪ Fluoride ▪ Lead ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Private Well</p> <ul style="list-style-type: none"> ▪ Fecal Coliform ▪ Fluoride ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene

Table F-7: Study Area 5 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
114 Residences Sampled: 103 Public Water and 11 on Private Wells					
Total – Inhalation Only ⁷	21	0.0001 - 0.15	0.003 - 89.6	<ul style="list-style-type: none"> ▪ Tap Water RSLs (5) ▪ Tap Water USMCLs⁹ (13) ▪ Soil (2) ▪ Soil Gas (9) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Fecal Coliform ▪ Total Coliforms <p>Private Well</p> <ul style="list-style-type: none"> ▪ Fecal Coliform ▪ Tetrachloroethene ▪ Total Coliforms <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10 or tap water concentrations that exceed the USMCL and the associated number of residences

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedances of chemical or microorganism USMCLs

⁹Exceedances of microorganism USMCLs only

Table F-8: Study Area 6 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
59 Residences Sampled: 58 Public Water and one on Private Well					
Total – Ingestion + Inhalation ⁶	20 ⁽¹⁰⁾	0.0006 – 33.6	0.0004 - 29193.6	<ul style="list-style-type: none"> ▪ Tap Water RSLs (13) ▪ Tap Water USMCLs⁸ (6) ▪ Soil (0) ▪ Soil Gas (5) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Fluoride ▪ Lead ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Thallium ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Private Well</p> <ul style="list-style-type: none"> ▪ Carbon Tetrachloride ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Total Coliforms ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ 1,3-Butadiene ▪ Acrylonitrile ▪ Benzene ▪ Carbon Tetrachloride ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene ▪ Vinyl Chloride

Table F-8: Study Area 6 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
59 Residences Sampled: 58 Public Water and one on Private Well					
Total – Inhalation Only ⁷	6	0.00002 – 30.5	0.09 - 29177.6	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (2) ▪ Soil (0) ▪ Soil Gas (5) 	<ul style="list-style-type: none"> Public Water Supply <ul style="list-style-type: none"> ▪ Total Coliforms Private Well <ul style="list-style-type: none"> ▪ Carbon Tetrachloride ▪ Total Coliforms Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) Soil Gas <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ 1,3-Butadiene ▪ Acrylonitrile ▪ Benzene ▪ Carbon Tetrachloride ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene ▪ Vinyl Chloride

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10 or tap water concentrations that exceed the USMCL and the associated number of residences

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedances of chemical or microorganism USMCLs

⁹Exceedances of microorganism USMCLs only

¹⁰The risk result at one location #1877 was inconclusive due to a data gap associated with the lack for speciation for radionuclides and was not included in this count

Table F-9: Study Area 7 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
41 Residences Sampled: 40 Public Water and one on Private Well					
Total – Ingestion+Inhalation ⁶	18	0.12 – 3.4	0.08 - 62.2	<ul style="list-style-type: none"> ▪ Tap Water RSLs (17) ▪ Tap Water USMCLs⁸ (7) ▪ Soil (0) ▪ Soil Gas (1) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Lead ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Private Well</p> <ul style="list-style-type: none"> ▪ Fluoride ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Total Coliforms ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene

Table F-9: Study Area 7 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
41 Residences Sampled: 40 Public Water and one on Private Well					
Total – Inhalation Only ⁷	8	0.000005 - 0.25	0.0004 - 12.5	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (6) ▪ Soil (0) ▪ Soil Gas (1) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Tetrachloroethene ▪ Total Coliforms <p>Private Well</p> <ul style="list-style-type: none"> ▪ Tetrachloroethene ▪ Total Coliforms <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,2,2-Tetrachloroethane ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene

Notes:

¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1×10^{-5} or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10 or tap water concentrations that exceed the USMCL and the associated number of residences

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedances of chemical or microorganism USMCLs

⁹Exceedances of microorganism USMCLs only

Table F-10: Study Area 8 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
123 Residences Sampled: 63 Public Water and 60 on Private Wells					
Total – Ingestion+Inhalation ⁶	89	0.002 – 13.7	0.01 - 867.9	<ul style="list-style-type: none"> ▪ Tap Water RSLs (67) ▪ Tap Water USMCLs⁸ (49) ▪ Soil (0) ▪ Soil Gas (28) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Copper ▪ Fecal Coliform ▪ Lead ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Private Well</p> <ul style="list-style-type: none"> ▪ Copper ▪ Fecal Coliform ▪ Fluoride ▪ Lead ▪ Nitrate (measured as NO3-) ▪ Tetrachloroethene ▪ Total Coliforms ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) ▪ Uranium <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ 1,1,2,2-Tetrachloroethane ▪ 1,2-Dichloropropane ▪ 1,3-Butadiene ▪ 1,4-Dichlorobenzene ▪ Acrylonitrile ▪ Benzene ▪ Carbon Tetrachloride ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Hexane ▪ Tetrachloroethene ▪ Trichloroethene

Table F-10: Study Area 8 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
123 Residences Sampled: 63 Public Water and 60 on Private Wells					
Total – Inhalation Only ⁷	71	0.0001 - 2.7	0.01 - 819.3	<ul style="list-style-type: none"> ▪ Tap Water RSLs (19) ▪ Tap Water USMCLs⁹ (45) ▪ Soil (0) ▪ Soil Gas (28) 	<p>Public Water Supply</p> <ul style="list-style-type: none"> ▪ Fecal Coliform ▪ Tetrachloroethene ▪ Total Coliforms <p>Private Well</p> <ul style="list-style-type: none"> ▪ Fecal Coliform ▪ Tetrachloroethene ▪ Total Coliforms <p>Soil</p> <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) <p>Soil Gas</p> <ul style="list-style-type: none"> ▪ 1,1,1,2-Tetrachloroethane ▪ 1,1,2,2-Tetrachloroethane ▪ 1,2-Dichloropropane ▪ 1,3-Butadiene ▪ 1,4-Dichlorobenzene ▪ Acrylonitrile ▪ Benzene ▪ Carbon Tetrachloride ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Hexane ▪ Tetrachloroethene ▪ Trichloroethene

Notes:
¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1x10⁻⁵ or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10 or tap water concentrations that exceed the USMCL and the associated number of residences

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water IS used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water IS NOT used for drinking, cooking, brushing teeth, and making ice

⁸Exceedances of chemical or microorganism USMCLs

⁹Exceedances of microorganism USMCLs only

Table F-11: Study Area 9 – Incremental Risk Summary

Exposure Scenario	Number of Residences with Unacceptable Risks ¹	Range of Total CNCEFs ²	Range of Total CCEFs ³	Media Responsible for Majority of Risks ⁴ (Number of Residences with Exceedances)	Constituents Responsible for the Majority of Risks ⁵
11 Residences Sampled: 11 on Public Water					
Total – Ingestion+Inhalation ⁶	2	0.11 – 3.9	0.11 – 53.4	<ul style="list-style-type: none"> ▪ Tap Water RSLs (2) ▪ Tap Water USMCLs⁸ (1) ▪ Soil (0) ▪ Soil Gas (0) 	Public Water Supply <ul style="list-style-type: none"> ▪ 4-Chloroaniline ▪ Lead ▪ Uranium ▪ Total Trihalomethanes ▪ Total Dioxins/Furans (2,3,7,8-TCDD TEQs) Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene
Total – Inhalation Only ⁷	0	0.002 – 0.11	1.3 – 8.8	<ul style="list-style-type: none"> ▪ Tap Water RSLs (0) ▪ Tap Water USMCLs⁹ (0) ▪ Soil (0) ▪ Soil Gas (0) 	Soil <ul style="list-style-type: none"> ▪ Total Carcinogenic PAHS (BaP TEQs) Soil Gas <ul style="list-style-type: none"> ▪ Benzene ▪ Chloroform ▪ Ethylbenzene ▪ Hexachlorobutadiene ▪ Tetrachloroethene

Notes:

¹For explanation on the PHE Risk Management Categories, see Section 4.3

²An NCEF of one is equivalent to a hazard index of one

³A CEF of 10 is equivalent to a cancer risk of 1×10^{-5} or one in 100,000

⁴Media that have a CNCEF greater than one or a CCEF greater than 10 or tap water concentrations that exceed the USMCL and the associated number of residences

⁵Constituents that have exceedance factors greater than one (i.e., concentration was greater than RSL)

⁶Assuming that tap water **IS** used for drinking, cooking, brushing teeth, and making ice

⁷Assuming that tap water **IS NOT** used for drinking, cooking, brushing teeth, and making ice

⁸Exceedances of chemical or microorganism USMCLs

⁹Exceedances of microorganism USMCLs only

Table F-12: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
1,1,1,2-Tetrachloroethane	9.73E-05	1.65E-04	1.27E-04	1.01E-04	1.22E-04	3.72E-04	1.10E-04	1.46E-04	1.12E-04	--
1,1,1-Trichloroethane	1.22E-04	1.67E-04	1.27E-04	1.18E-04	1.26E-04	1.42E-04	1.24E-04	1.99E-04	1.21E-04	1.39E-04
1,1,2,2-Tetrachloroethane	8.04E-05	1.27E-04	1.09E-04	8.67E-05	9.53E-05	1.37E-04	1.16E-04	1.22E-04	1.12E-04	1.52E-04
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	7.41E-04	5.73E-04	6.46E-04	7.57E-04	7.27E-04	6.99E-04	6.93E-04	7.20E-04	7.18E-04	--
1,1,2-Trichloroethane	--	7.57E-05	5.23E-05	--	5.80E-05	6.87E-05	--	7.38E-05	5.79E-05	1.20E-04
1,1'-Biphenyl	3.52E-07	5.25E-07	1.02E-06	4.51E-07	1.14E-06	2.00E-06	1.68E-06	9.16E-07	9.42E-07	--
1,1-Dichloroethane	3.53E-05	--	3.57E-05	--	3.93E-05	4.21E-05	3.66E-05	6.66E-05	3.21E-05	8.91E-05
1,1-Dichloroethene	6.09E-05	9.84E-05	6.25E-05	6.42E-05	6.93E-05	6.85E-05	6.17E-05	9.50E-05	5.72E-05	8.89E-05
1,2,3-Trichlorobenzene	4.80E-04	1.48E-03	3.55E-04	5.05E-04	7.93E-04	5.84E-04	3.74E-04	7.02E-04	4.47E-04	--
1,2,3-Trichloropropane	4.27E-05	--	7.30E-05	--	6.12E-05	5.73E-05	4.32E-05	7.44E-05	--	--
1,2,4-Trichlorobenzene	7.85E-04	1.72E-03	7.29E-04	5.91E-04	1.04E-03	9.11E-04	7.25E-04	1.39E-03	7.02E-04	2.11E-04
1,2,4-Trimethylbenzene	1.05E-03	3.17E-03	1.56E-03	1.03E-03	7.48E-04	9.97E-04	1.48E-03	1.23E-03	1.15E-03	1.02E-03
1,2-Dibromo-3-Chloropropane	7.03E-05	1.04E-04	1.16E-04	6.34E-05	9.07E-05	9.78E-05	1.06E-04	9.37E-05	9.11E-05	--
1,2-Dibromoethane	7.00E-05	1.11E-04	--	7.62E-05	1.01E-04	9.96E-05	--	1.29E-04	7.05E-05	1.69E-04
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	1.57E-04	2.40E-04	1.64E-04	1.56E-04	1.66E-04	1.52E-04	1.47E-04	2.25E-04	1.60E-04	--
1,2-Dichlorobenzene	1.71E-04	1.95E-04	2.47E-04	1.36E-04	1.87E-04	4.69E-04	2.49E-04	4.76E-04	2.50E-04	--
1,2-Dichloroethane	7.26E-05	1.13E-04	8.49E-05	1.66E-04	1.06E-04	9.37E-05	9.12E-05	1.43E-04	9.27E-05	1.84E-04
1,2-Dichloropropane	8.49E-03	4.43E-03	6.74E-03	2.73E-03	6.91E-03	5.71E-03	1.05E-02	6.43E-03	2.96E-03	7.34E-05
1,3,5-Trimethylbenzene	3.54E-04	9.53E-04	4.78E-04	3.07E-04	3.19E-04	3.22E-04	4.42E-04	4.73E-04	3.51E-04	2.10E-04
1,3-Butadiene	--	4.56E-04	3.38E-04	--	3.04E-04	3.11E-04	4.28E-04	4.13E-04	3.37E-04	9.10E-04
1,3-Dichlorobenzene	1.62E-04	1.82E-04	2.36E-04	1.25E-04	1.55E-04	3.72E-04	2.27E-04	1.77E-04	2.13E-04	--
1,4-Dichlorobenzene	1.88E-04	2.34E-04	3.04E-04	1.56E-04	2.07E-04	5.10E-04	3.00E-04	2.48E-04	3.11E-04	2.77E-04
2,4,5-Trichlorophenol	8.16E-07	9.37E-07	1.01E-06	6.72E-07	1.04E-06	7.29E-07	5.92E-07	5.22E-07	--	--
2,4,6-Trichlorophenol	7.08E-07	6.54E-07	5.04E-07	3.72E-07	1.02E-06	6.30E-07	4.52E-07	6.00E-07	4.55E-07	--
2,4-Dichlorophenol	8.72E-07	6.84E-07	4.81E-07	5.07E-07	1.22E-06	8.47E-07	6.69E-07	4.33E-07	4.39E-07	--
2,4-Dimethylphenol	1.22E-06	2.23E-06	5.97E-06	2.69E-06	5.97E-06	5.73E-06	1.77E-05	6.93E-06	1.09E-05	--
2,6-Dichlorophenol	3.90E-07	4.09E-07	5.40E-07	3.32E-07	7.42E-07	5.66E-07	4.72E-07	3.16E-07	3.59E-07	--
2,6-Dinitrotoluene	2.10E-07	2.23E-07	3.54E-07	--	--	--	2.53E-07	--	--	--
2-Butanone (methyl ethyl ketone)	1.83E-03	2.66E-03	3.07E-03	2.03E-03	3.02E-03	2.54E-03	2.62E-03	2.11E-03	2.86E-03	4.55E-04
2-Chloronaphthalene	1.91E-07	--	--	1.79E-07	2.18E-07	1.60E-07	--	1.69E-07	--	--
2-Methylnaphthalene	2.91E-07	6.52E-07	8.46E-07	3.65E-07	7.04E-07	1.18E-06	1.04E-06	5.07E-07	7.17E-07	--
2-Methylphenol (o-Cresol)	8.21E-07	1.43E-06	4.71E-06	1.86E-06	7.01E-06	6.72E-06	1.08E-05	6.47E-06	9.53E-06	--
2-Nitrophenol	3.40E-07	3.50E-07	6.62E-07	3.56E-07	6.43E-07	5.18E-07	4.01E-07	6.43E-07	5.17E-07	--
3&4-Methylphenol	3.27E-06	4.71E-06	1.69E-05	7.02E-06	1.97E-05	1.79E-05	4.21E-05	2.35E-05	3.04E-05	--

Table F-12: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
3-Nitroaniline	--	--	--	--	2.95E-07	--	--	--	--	--
4,4-DDD	--	--	--	--	4.80E-07	--	--	4.11E-07	--	--
4-Chloro-3-Methylphenol	7.41E-07	8.78E-07	8.55E-07	8.64E-07	1.81E-06	4.15E-07	1.10E-06	4.73E-07	6.33E-07	--
4-Chloroaniline	--	1.71E-07	--	--	--	--	1.79E-07	--	--	--
4-Nitrophenol	--	1.01E-06	8.25E-07	--	7.91E-07	1.14E-06	5.78E-07	7.51E-07	7.00E-07	--
Acenaphthene	2.56E-07	2.45E-07	3.66E-07	1.88E-07	1.60E-06	5.00E-07	3.68E-07	2.38E-07	3.56E-07	--
Acenaphthylene	3.12E-07	7.38E-07	2.26E-06	3.19E-07	2.35E-06	2.95E-06	4.24E-06	1.06E-06	2.31E-06	--
Acetaldehyde	9.73E-03	1.07E-02	6.96E-03	1.04E-02	1.06E-02	9.98E-03	7.49E-03	1.79E-02	9.75E-03	7.75E-03
Acetone	1.60E-02	4.67E-02	4.50E+00	1.64E-02	1.64E-02	1.82E-02	2.04E-02	1.86E-02	1.73E-02	5.82E-02
Acetonitrile	4.21E-04	6.71E-03	5.99E-04	8.93E-04	7.89E-04	7.07E-04	5.65E-04	1.40E-03	6.92E-04	6.08E-04
Acetophenone	6.80E-03	1.31E-02	8.41E-03	7.67E-03	6.82E-03	3.89E-03	1.01E-02	3.94E-03	7.27E-03	--
Acrolein	2.56E-03	2.01E-03	3.46E-03	1.50E-03	2.59E-03	2.52E-03	5.16E-03	1.95E-03	2.90E-03	6.15E-04
Acrylonitrile	1.68E-04	2.21E-04	1.49E-04	1.25E-04	1.52E-04	1.52E-04	1.43E-04	2.01E-04	1.49E-04	1.07E-04
alpha-Chlordane	--	--	3.83E-07	--	--	--	--	--	3.29E-07	--
Aluminum	3.19E-04	6.90E-04	5.39E-04	2.63E-04	7.53E-04	6.00E-04	7.30E-04	9.41E-04	1.17E-03	--
Aniline	2.69E-07	2.12E-07	--	--	--	--	2.02E-07	4.32E-07	--	--
Anthracene	2.49E-07	1.22E-06	1.46E-06	4.64E-07	8.40E-07	9.05E-07	3.57E-06	1.06E-06	2.00E-06	2.38E-07
Antimony	--	7.99E-06	1.18E-05	--	8.25E-06	1.11E-05	7.80E-06	1.17E-05	4.81E-06	--
Arsenic	2.50E-06	3.72E-06	9.28E-06	2.14E-06	3.95E-06	3.62E-06	1.82E-06	1.05E-06	2.29E-06	5.59E-06
Barium	1.30E-05	3.98E-05	2.39E-05	1.06E-05	1.25E-05	1.96E-05	2.31E-05	1.79E-05	2.15E-05	--
Benzaldehyde	1.38E-03	6.58E-04	7.04E-04	8.29E-04	8.24E-04	6.23E-04	7.79E-04	3.12E-03	8.62E-04	--
Benzene	1.27E-03	3.03E-03	2.28E-03	1.24E-03	1.80E-03	1.96E-03	2.68E-03	2.12E-02	1.93E-03	1.62E-03
Benzo(a)anthracene	1.79E-07	--	5.98E-07	2.86E-07	6.90E-07	5.66E-07	1.98E-06	6.36E-07	9.47E-07	1.26E-07
Benzo(a)pyrene	1.55E-07	1.46E-07	4.51E-07	1.96E-07	6.98E-07	1.53E-06	1.72E-06	5.21E-07	7.30E-07	1.80E-07
Benzo(b)fluoranthene	3.29E-07	--	4.03E-07	5.35E-07	6.29E-07	5.46E-07	1.11E-06	4.51E-07	6.46E-07	1.43E-07
Benzo(g,h,i)perylene	3.07E-07	3.20E-07	6.05E-07	3.30E-07	6.28E-07	6.46E-07	1.57E-06	4.49E-07	7.43E-07	--
Benzo(k)fluoranthene	3.34E-07	--	3.99E-07	3.87E-07	6.40E-07	5.62E-07	1.30E-06	6.25E-07	6.42E-07	1.30E-07
Beryllium	--	1.34E-07	1.54E-07	--	1.59E-07	9.88E-08	9.98E-08	1.15E-07	1.30E-07	--
Bis(2-ethylhexyl)phthalate	1.55E-05	1.94E-04	1.83E-04	3.34E-04	2.21E-05	1.40E-05	3.93E-05	5.57E-05	2.13E-05	--
Bromodichloromethane	1.08E-04	1.54E-04	--	1.30E-04	1.53E-04	1.37E-04	1.02E-04	1.42E-04	1.06E-04	--
Bromoform	6.52E-05	1.10E-04	--	6.60E-05	7.18E-05	7.94E-05	6.68E-05	9.78E-05	--	1.50E-04
Bromomethane	8.42E-05	8.22E-05	7.45E-05	7.11E-05	1.17E-04	7.74E-05	5.67E-05	1.08E-04	7.13E-05	1.58E-04
Butylbenzylphthalate	2.90E-06	--	3.19E-06	4.42E-06	2.00E-06	7.21E-07	2.26E-05	1.11E-06	8.51E-06	--
Butyraldehyde	2.47E-04	5.40E-04	4.18E-04	3.05E-04	3.74E-04	3.61E-04	5.62E-04	3.76E-04	4.61E-04	--

Table F-12: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
Cadmium (Diet)	2.66E-07	5.47E-07	7.91E-07	1.58E-07	4.03E-07	7.61E-07	8.29E-07	4.82E-07	4.67E-07	3.75E-07
Carbazole	--	1.64E-07	1.70E-07	--	1.68E-07	2.09E-07	2.85E-07	2.08E-07	1.73E-07	--
Carbon Disulfide	3.26E-03	4.85E-03	3.33E-03	1.91E-03	5.11E-03	3.04E-03	1.95E-03	2.49E-03	2.03E-03	6.70E-05
Carbon Tetrachloride	6.39E-04	6.33E-04	5.98E-04	6.30E-04	6.81E-04	6.57E-04	6.58E-04	6.49E-04	6.27E-04	5.66E-04
Chlorobenzene	7.02E-05	9.22E-05	8.31E-05	6.31E-05	7.77E-05	1.07E-04	7.92E-05	1.43E-04	7.27E-05	6.05E-05
Chloroethane	1.07E-04	1.09E-04	--	--	7.37E-05	7.53E-05	6.22E-05	9.82E-05	6.39E-05	6.47E-05
Chloroform	1.55E-04	1.64E-04	1.26E-04	3.34E-04	1.30E-04	2.06E-04	1.85E-04	2.63E-04	1.50E-04	2.73E-04
Chloromethane	1.56E-03	2.93E-03	1.53E-03	2.21E-03	1.81E-03	2.01E-03	2.09E-03	5.52E-03	3.50E-03	1.51E-03
Chromium	1.80E-06	7.77E-06	5.16E-06	1.91E-06	2.55E-06	5.21E-06	4.14E-06	2.86E-06	4.76E-06	4.74E-06
Chrysene	2.69E-07	3.38E-07	1.15E-06	4.92E-07	1.22E-06	1.42E-06	2.80E-06	1.03E-06	1.52E-06	1.70E-07
cis-1,2-Dichloroethene	5.28E-05	1.11E-04	5.67E-05	--	6.25E-05	6.63E-05	1.23E-04	7.86E-05	6.55E-05	--
cis-1,3-Dichloropropene	3.79E-05	5.40E-05	4.78E-05	2.68E-05	2.56E-04	3.88E-04	1.33E-04	1.67E-04	4.88E-05	--
Cobalt	1.80E-07	3.93E-07	4.01E-07	1.39E-07	2.36E-07	4.15E-07	3.53E-07	2.58E-07	4.57E-07	--
Copper	--	7.75E-04	--	--	--	--	5.79E-04	--	3.06E-04	--
Crotonaldehyde	3.14E-05	4.35E-05	6.11E-05	3.48E-05	4.87E-05	3.88E-05	4.31E-05	6.13E-05	1.86E-05	--
Cyclohexane	1.95E-03	1.38E-03	2.97E-03	2.13E-03	1.43E-03	2.05E-03	2.50E-03	3.58E-02	1.03E-03	9.48E-04
Dibenzo(a,h)anthracene	1.16E-07	--	1.20E-07	--	1.67E-07	1.59E-07	4.16E-07	--	--	--
Dibenzofuran	1.12E-06	1.23E-06	3.52E-06	1.48E-06	3.92E-06	4.08E-06	5.91E-06	3.40E-06	4.04E-06	--
Dibromochloromethane	--	--	--	--	1.75E-04	1.89E-04	1.40E-04	2.07E-04	1.27E-04	--
Dibromomethane	9.14E-05	1.47E-04	1.14E-04	8.32E-05	1.43E-04	1.42E-04	9.94E-05	1.22E-04	9.31E-05	--
Dichlorodifluoromethane (Freon 12)	2.35E-03	2.36E-03	3.76E-03	2.24E-03	2.61E-03	2.74E-03	2.51E-03	3.94E-03	3.24E-03	--
Dieldrin	--	4.65E-07	1.08E-06	--	7.01E-07	--	8.69E-07	6.59E-07	4.70E-07	2.50E-07
Diethylphthalate	5.85E-06	7.64E-06	5.76E-06	2.85E-06	1.28E-05	5.56E-06	7.46E-06	6.50E-06	8.26E-06	--
Dimethylphthalate	3.50E-07	6.49E-07	4.04E-07	5.29E-07	2.83E-07	6.24E-07	4.91E-07	2.50E-07	3.70E-07	--
Di-n-butylphthalate	3.87E-05	3.66E-05	4.77E-05	3.75E-05	4.76E-05	4.04E-05	1.92E-05	1.95E-05	3.49E-05	--
Di-n-octylphthalate	--	--	--	3.57E-07	4.36E-07	--	6.15E-07	--	5.63E-07	--
Diphenylamine	4.37E-07	8.67E-07	3.07E-07	3.54E-07	3.24E-07	4.31E-07	3.05E-07	4.47E-07	3.11E-07	--
Endosulfan I	--	--	8.69E-07	--	--	8.66E-07	8.12E-07	--	8.72E-07	--
Endosulfan Sulfate	--	--	--	--	1.42E-06	--	2.15E-06	--	--	--
Ethylbenzene	7.84E-04	2.31E-03	1.47E-03	7.69E-04	7.41E-04	1.07E-03	1.22E-03	1.81E-03	1.07E-03	6.36E-04
Fluoranthene	1.43E-06	2.99E-06	4.23E-06	1.25E-06	3.47E-06	4.53E-06	8.76E-06	3.19E-06	4.58E-06	--
Fluorene	1.04E-06	1.69E-06	2.81E-06	1.02E-06	2.65E-06	2.88E-06	5.23E-06	2.39E-06	3.29E-06	4.80E-06
Formaldehyde	2.74E-03	3.12E-03	3.44E-03	3.05E-03	2.60E-03	3.10E-03	3.89E-03	2.80E-03	3.30E-03	1.15E-02
Gravimetrics-PM10	4.57E-02	8.27E-02	6.67E-02	3.61E-02	6.76E-02	6.99E-02	6.90E-02	6.54E-02	7.65E-02	2.22E-02

Table F-12: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
Hexachlorobutadiene	5.56E-04	5.97E-04	5.55E-04	3.57E-04	3.54E-04	5.09E-04	4.94E-04	3.93E-04	4.83E-04	2.02E-04
Hexachloroethane	2.79E-05	--	3.66E-05	--	4.85E-05	3.76E-05	3.08E-05	4.38E-05	--	--
Hexaldehyde	2.25E-04	2.05E-04	2.01E-04	2.13E-04	1.64E-04	4.47E-04	2.49E-04	3.06E-04	1.82E-04	--
Hexane	2.31E-02	2.75E-02	6.69E-02	8.96E-03	6.31E-01	9.15E-01	4.26E-03	2.63E-01	2.06E-02	2.40E-03
Indeno(1,2,3-c,d)pyrene	--	--	8.34E-07	--	1.01E-06	9.80E-07	1.73E-06	9.39E-07	9.69E-07	--
Isobutyl Alcohol	8.33E-04	1.30E-03	6.30E-04	9.20E-04	1.32E-03	1.48E-03	1.09E-03	1.49E-03	1.18E-03	--
Isopropylbenzene	7.76E-05	1.89E-04	1.17E-04	6.45E-05	8.31E-05	8.79E-05	1.05E-04	2.83E-04	1.17E-04	8.74E-05
Lead	7.44E-06	1.34E-05	2.61E-05	5.76E-06	1.65E-05	2.78E-05	3.06E-05	2.99E-05	1.77E-05	4.80E-06
Manganese (Diet)	7.31E-06	2.17E-05	2.13E-05	6.71E-06	1.58E-05	1.61E-05	1.32E-05	1.39E-05	2.11E-05	2.03E-05
Mercury	3.04E-06	2.71E-06	2.87E-06	3.30E-06	2.83E-06	3.19E-06	3.65E-06	4.44E-06	3.27E-06	--
Methacrylaldehyde	1.30E-04	1.63E-04	2.05E-04	9.36E-05	1.61E-04	1.61E-04	3.19E-04	4.69E-04	2.05E-04	--
Methyl Acetate	2.70E-04	3.45E-04	6.96E-04	2.19E-04	3.81E-04	4.72E-04	7.55E-04	4.22E-04	4.77E-04	--
Methyl tert-Butyl Ether	7.18E-04	3.00E-03	3.01E-03	4.57E-04	4.53E-04	4.67E-04	7.10E-04	7.22E-04	8.13E-04	4.05E-04
Methylcyclohexane	1.93E-03	9.88E-04	1.38E-03	2.67E-03	6.35E-04	1.01E-03	1.09E-03	2.85E-02	1.18E-03	9.30E-04
Methylene Chloride	2.13E-03	2.28E-03	2.26E-03	9.00E-04	1.45E-03	1.63E-03	3.00E-03	1.57E-03	1.24E-03	7.52E-04
M-tolualdehyde	3.12E-04	2.14E-04	1.81E-04	1.83E-04	1.73E-04	3.66E-04	3.38E-04	2.20E-04	1.84E-04	--
Naphthalene	7.24E-05	1.94E-04	8.14E-05	5.52E-05	7.64E-05	7.76E-05	8.21E-05	7.06E-05	5.12E-05	7.96E-05
Nitrobenzene	--	--	--	--	1.89E-07	--	2.37E-07	--	--	--
N-valeraldehyde	1.36E-04	1.52E-04	2.09E-04	9.43E-05	1.42E-04	1.98E-04	2.15E-04	2.35E-04	1.60E-04	--
o-Toluidine	--	--	--	--	--	--	2.44E-07	--	--	--
Pentachlorobenzene	--	1.87E-07	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	1.59E-04	--	1.45E-04	1.51E-04	--	--	--	--
Phenanthrene	5.58E-06	1.11E-05	1.70E-05	6.48E-06	1.32E-05	1.36E-05	2.80E-05	1.13E-05	1.68E-05	1.06E-05
Phenol	9.95E-07	2.01E-06	5.71E-06	1.77E-06	9.82E-06	9.71E-06	1.38E-05	8.74E-06	9.28E-06	--
Propionaldehyde	2.24E-04	4.25E-04	3.19E-04	2.50E-04	2.45E-04	2.95E-04	5.13E-04	2.60E-04	3.27E-04	3.71E-04
Pyrene	1.22E-06	3.32E-06	3.90E-06	1.13E-06	2.75E-06	3.55E-06	8.09E-06	2.68E-06	3.96E-06	1.20E-06
Styrene	9.58E-04	6.23E-04	1.16E-03	1.12E-03	5.77E-04	1.21E-03	2.71E-03	8.17E-04	5.44E-04	1.43E-03
Tetrachloroethene	1.83E-03	4.42E-03	2.39E-03	4.09E-03	2.73E-03	3.76E-03	2.53E-03	4.80E-03	3.99E-03	2.48E-04
Thallium	1.35E-06	1.25E-06	9.37E-07	8.75E-07	1.11E-06	1.01E-06	9.15E-07	1.08E-06	7.23E-07	--
Tin	2.64E-06	1.03E-05	7.35E-06	1.83E-06	3.52E-06	4.71E-06	4.72E-06	5.56E-06	4.40E-06	--
Toluene	4.67E-03	1.21E-02	8.34E-03	5.44E-03	3.86E-03	5.01E-03	6.47E-03	3.01E-02	5.55E-03	3.64E-03
Total Carcinogenic PAHS (BaP TEQs)	3.42E-07	3.27E-07	5.43E-07	4.04E-07	9.01E-07	1.73E-06	2.36E-06	7.14E-07	9.37E-07	2.05E-07
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	4.03E-11	3.87E-11	3.20E-10	4.62E-11	3.46E-10	2.53E-09	5.18E-10	1.36E-09	1.95E-09	--
trans-1,2-Dichloroethene	6.10E-05	1.02E-04	6.85E-05	6.34E-05	6.83E-05	6.92E-05	6.63E-05	9.61E-05	--	--

Table F-12: Naples Ambient Air Exposure Point Concentrations Compared to 2007 USEPA Air Toxics Database Ambient Air Exposure Point Concentrations

Constituent	Study Area and Government-Related Facility EPCs ⁽¹⁾									2007 USEPA Air Toxics Ambient Air EPC ⁽²⁾ mg/m ³
	Study Area 1	Study Area 2	Study Area 3	Study Area 4 ⁽³⁾	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	
	JFC NATO mg/m ³	Consulate mg/m ³	CAPO mg/m ³	Carney Park mg/m ³	Receiver Site mg/m ³	Support Site mg/m ³	Parco Eva mg/m ³	Villa mg/m ³	Parco Le Ginestra mg/m ³	
trans-1,3-Dichloropropene	4.23E-05	7.19E-05	6.85E-05	4.56E-05	2.37E-04	3.99E-04	1.59E-04	1.55E-04	7.60E-05	--
Trans-1,4-Dichloro-2-Butene	--	--	--	--	-- ⁽⁴⁾	--	--	--	--	--
Trichloroethene	1.01E-04	2.03E-04	2.42E-04	1.08E-04	1.33E-04	1.35E-04	1.34E-04	1.69E-04	1.43E-04	1.93E-04
Trichlorofluoromethane	1.68E-03	1.64E-03	1.66E-03	1.61E-03	1.76E-03	1.77E-03	1.78E-03	1.73E-03	1.76E-03	--
Vanadium	6.25E-06	9.25E-06	1.18E-05	6.62E-06	7.03E-06	--	6.04E-06	6.63E-06	6.83E-06	--
Vinyl Acetate	9.36E-04	7.95E-04	6.51E-04	4.49E-04	6.01E-04	9.42E-04	4.88E-04	6.29E-04	7.73E-04	--
Vinyl Chloride	4.55E-05	8.34E-05	--	--	4.34E-05	--	4.25E-05	5.61E-05	3.97E-05	6.28E-05
Xylenes, Total	3.96E-03	1.23E-02	7.22E-03	3.51E-03	3.49E-03	4.63E-03	5.95E-03	6.88E-03	5.03E-03	6.92E-04

Notes:

-- = Constituent was not detected at this location.

Shaded cells indicate where the exposure point concentration exceeded the 2007 USEPA Air Toxics Ambient Air Concentration
⁽¹⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level was, "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

⁽²⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level was, "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

⁽³⁾ This facility is located within Study Area 1 but data collected from this facility was used to evaluate air for Study Area 4.

⁽⁴⁾ Trans-1,4-Dichloro-2-Butene was only detected in 1 of 52 (1.92%) samples analyzed in Study Area 5 and was only detected in 1 of 455 (0.2%) ambient air samples from all nine study areas. The single detection was observed in a sample from residence #1756 located on the Italian economy and is not considered representative of the ambient air in Study Area 5. Therefore, trans-1,4-dichloro-2-butene was not evaluated further in the SRE for exposures associated with ambient air.

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 1 JFC NATO		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	9.7E-05	3.0E-01	--
1,1,1-Trichloroethane	--	5.2E+00	1.4E-04	--	2.7E-05	1.2E-04	--	2.3E-05
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	8.04E-05	1.9E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	3.1E+01	--	--	--	7.4E-04	--	2.4E-05
1,1,2-Trichloroethane	1.5E-04	--	1.2E-04	7.9E-01	--	--	--	--
1,1'-Biphenyl	--	--	--	--	--	3.5E-07	--	--
1,1-Dichloroethane	1.5E-03	--	8.9E-05	5.9E-02	--	3.5E-05	2.3E-02	--
1,1-Dichloroethene	--	2.1E-01	8.9E-05	--	4.3E-04	6.1E-05	--	2.9E-04
1,2,3-Trichlorobenzene	--	--	--	--	--	4.8E-04	--	--
1,2,3-Trichloropropane	--	3.1E-04	--	--	--	4.3E-05	--	1.4E-01
1,2,4-Trichlorobenzene	--	2.1E-03	2.1E-04	--	1.0E-01	7.9E-04	--	3.8E-01
1,2,4-Trimethylbenzene	--	7.3E-03	1.0E-03	--	1.4E-01	1.0E-03	--	1.4E-01
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	7.03E-05	4.4E+02	3.4E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	7.00E-05	1.7E+01	7.5E-03
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	1.6E-04	--	--
1,2-Dichlorobenzene	--	2.1E-01	--	--	--	1.7E-04	--	8.2E-04
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	7.26E-05	7.8E-01	2.9E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	8.49E-03	3.5E+01	2.0E+00
1,3,5-Trimethylbenzene	--	--	2.1E-04	--	--	3.5E-04	--	--
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	1.6E-04	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	1.88E-04	8.5E-01	2.3E-04
2,4,5-Trichlorophenol	--	--	--	--	--	8.2E-07	--	--
2,4,6-Trichlorophenol	7.9E-04	--	--	--	--	7.1E-07	9.0E-04	--
2,4-Dichlorophenol	--	--	--	--	--	8.7E-07	--	--
2,4-Dimethylphenol	--	--	--	--	--	1.2E-06	--	--
2,6-Dichlorophenol	--	--	--	--	--	3.9E-07	--	--
2,6-Dinitrotoluene	--	--	--	--	--	2.1E-07	--	--
2-Butanone (methyl ethyl ketone)	--	5.2E+00	4.6E-04	--	8.7E-05	1.8E-03	--	3.5E-04
2-Chloronaphthalene	--	--	--	--	--	1.9E-07	--	--
2-Methylnaphthalene	--	--	--	--	--	2.9E-07	--	--
2-Methylphenol (o-Cresol)	--	6.3E-01	--	--	--	8.2E-07	--	1.3E-06
2-Nitrophenol	--	--	--	--	--	3.4E-07	--	--
3&4-Methylphenol	--	6.3E-01	--	--	--	3.3E-06	--	5.2E-06
3-Nitroaniline	--	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 1 JFC NATO		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
4,4-DDD	3.5E-05	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	7.4E-07	--	--
4-Chloroaniline	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	2.6E-07	--	--
Acenaphthylene	--	--	--	--	--	3.1E-07	--	--
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	9.73E-03	8.8E+00	1.0E+00
Acetone	--	3.2E+01	5.8E-02	--	1.8E-03	1.6E-02	--	5.0E-04
Acetonitrile	--	6.3E-02	6.1E-04	--	9.7E-03	4.2E-04	--	6.7E-03
Acetophenone	--	--	--	--	--	6.8E-03	--	--
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.56E-03	--	1.2E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.68E-04	4.7E+00	8.0E-02
alpha-Chlordane	2.4E-05	7.3E-04	--	--	--	--	--	--
Aluminum	--	5.2E-03	--	--	--	3.2E-04	--	6.1E-02
Aniline	1.5E-03	1.0E-03	--	--	--	2.7E-07	1.8E-04	2.6E-04
Anthracene	--	--	2.4E-07	--	--	2.5E-07	--	--
Antimony	--	--	--	--	--	--	--	--
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	2.50E-06	4.4E+00	1.6E-01
Barium	--	5.2E-04	--	--	--	1.3E-05	--	2.5E-02
Benzaldehyde	--	--	--	--	--	1.4E-03	--	--
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.27E-03	4.1E+00	4.0E-02
Benzo(a)anthracene	--	--	1.3E-07	--	--	1.8E-07	--	--
Benzo(a)pyrene	--	--	1.80E-07	--	--	1.55E-07	--	--
Benzo(b)fluoranthene	--	--	1.4E-07	--	--	3.3E-07	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	3.1E-07	--	--
Benzo(k)fluoranthene	--	--	1.3E-07	--	--	3.3E-07	--	--
Beryllium	1.0E-06	2.1E-05	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	7.4E-06	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.0E-03	--	--	--	--	1.6E-05	1.5E-02	--
Bromodichloromethane	6.6E-05	--	--	--	--	1.08E-04	1.6E+00	--
Bromoform	2.2E-03	--	1.5E-04	6.8E-02	--	6.5E-05	2.9E-02	--
Bromomethane	--	5.2E-03	1.6E-04	--	3.0E-02	8.4E-05	--	1.6E-02
Butylbenzylphthalate	--	--	--	--	--	2.9E-06	--	--
Butyraldehyde	--	--	--	--	--	2.5E-04	--	--
Cadmium (Diet)	1.4E-06	1.0E-05	3.8E-07	2.8E-01	3.6E-02	2.7E-07	2.0E-01	2.6E-02

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 1 JFC NATO		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Carbazole	--	--	--	--	--	--	--	--
Carbon Disulfide	--	7.3E-01	6.7E-05	--	9.2E-05	3.3E-03	--	4.5E-03
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.39E-04	3.9E+00	3.2E-03
Chlorobenzene	--	5.2E-02	6.0E-05	--	1.2E-03	7.0E-05	--	1.3E-03
Chloroethane	--	1.0E+01	6.5E-05	--	6.2E-06	1.1E-04	--	1.0E-05
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.55E-04	1.5E+00	1.5E-03
Chloromethane	--	9.4E-02	1.5E-03	--	1.6E-02	1.6E-03	--	1.7E-02
Chromium	--	--	4.7E-06	--	--	1.8E-06	--	--
Chrysene	--	--	1.7E-07	--	--	2.7E-07	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	5.3E-05	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	3.8E-05	--	--
Cobalt	2.7E-07	6.3E-06	--	--	--	1.80E-07	6.7E-01	2.9E-02
Copper	--	--	--	--	--	--	--	--
Crotonaldehyde	--	--	--	--	--	3.1E-05	--	--
Cyclohexane	--	6.3E+00	9.5E-04	--	1.5E-04	1.9E-03	--	3.1E-04
Dibenzo(a,h)anthracene	--	--	--	--	--	1.2E-07	--	--
Dibenzofuran	--	--	--	--	--	1.1E-06	--	--
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dibromomethane	--	4.2E-03	--	--	--	9.1E-05	--	2.2E-02
Dichlorodifluoromethane (Freon 12)	--	2.1E-01	--	--	--	2.3E-03	--	1.1E-02
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	--	--	--
Diethylphthalate	--	--	--	--	--	5.9E-06	--	--
Dimethylphthalate	--	--	--	--	--	3.5E-07	--	--
Di-n-butylphthalate	--	--	--	--	--	3.9E-05	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	--	4.4E-07	--	--
Endosulfan I	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	7.84E-04	8.1E-01	7.5E-04
Fluoranthene	--	--	--	--	--	1.4E-06	--	--
Fluorene	--	--	4.8E-06	--	--	1.0E-06	--	--
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	2.74E-03	1.5E+01	2.7E-01
Gravimetrics-PM10	--	--	2.2E-02	--	--	4.6E-02	--	--
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.56E-04	5.0E+00	--
Hexachloroethane	6.1E-04	--	--	--	--	2.8E-05	4.6E-02	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 1 JFC NATO		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Hexaldehyde	--	--	--	--	--	2.3E-04	--	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.3E-02	--	3.2E-02
Indeno(1,2,3-c,d)pyrene	--	--	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	--	8.3E-04	--	--
Isopropylbenzene	--	4.2E-01	8.7E-05	--	2.1E-04	7.8E-05	--	1.9E-04
Lead	--	1.7E-03	4.8E-06	--	2.8E-03	7.4E-06	--	4.4E-03
Manganese (Diet)	--	5.2E-05	2.0E-05	--	3.9E-01	7.3E-06	--	1.4E-01
Mercury	--	3.1E-04	--	--	--	3.0E-06	--	9.7E-03
Methacrylaldehyde	--	--	--	--	--	1.3E-04	--	--
Methyl Acetate	--	--	--	--	--	2.7E-04	--	--
Methyl tert-Butyl Ether	9.4E-03	3.1E+00	4.05E-04	4.3E-02	1.3E-04	7.18E-04	7.7E-02	2.3E-04
Methylcyclohexane	--	--	9.3E-04	--	--	1.9E-03	--	--
Methylene Chloride	5.2E-03	1.1E+00	7.5E-04	1.5E-01	6.9E-04	2.1E-03	4.1E-01	1.9E-03
M-tolualdehyde	--	--	--	--	--	3.1E-04	--	--
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.24E-05	1.0E+00	2.3E-02
Nitrobenzene	6.1E-05	9.4E-03	--	--	--	--	--	--
N-valeraldehyde	--	--	--	--	--	1.4E-04	--	--
o-Toluidine	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--
Phenanthrene	--	--	1.1E-05	--	--	5.6E-06	--	--
Phenol	--	2.1E-01	--	--	--	9.9E-07	--	4.8E-06
Propionaldehyde	--	8.3E-03	3.7E-04	--	4.4E-02	2.2E-04	--	2.7E-02
Pyrene	--	--	1.2E-06	--	--	1.2E-06	--	--
Styrene	--	1.0E+00	1.4E-03	--	1.4E-03	9.6E-04	--	9.2E-04
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	1.83E-03	4.5E+00	6.5E-03
Thallium	--	--	--	--	--	1.3E-06	--	--
Tin	--	--	--	--	--	2.6E-06	--	--
Toluene	--	5.2E+00	3.6E-03	--	7.0E-04	4.7E-03	--	9.0E-04
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	3.42E-07	3.9E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	4.03E-11	6.3E-01	9.7E-04
trans-1,2-Dichloroethene	--	6.3E-02	--	--	--	6.1E-05	--	9.7E-04
trans-1,3-Dichloropropene	--	--	--	--	--	4.2E-05	--	--
Trichloroethene	1.2E-03	--	1.9E-04	1.6E-01	--	1.0E-04	8.3E-02	--
Trichlorofluoromethane	--	7.3E-01	--	--	--	1.7E-03	--	2.3E-03

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 1 JFC NATO		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
Vanadium	--	--	--	--	--	6.3E-06	--	--
Vinyl Acetate	--	2.1E-01	--	--	--	9.4E-04	--	4.5E-03
Vinyl Chloride	1.6E-04	1.0E-01	6.3E-05	3.9E-01	6.0E-04	4.5E-05	2.8E-01	4.4E-04
Xylenes, Total	--	1.0E-01	6.9E-04	--	6.7E-03	4.0E-03	--	3.8E-02
TOTAL⁽⁴⁾:				159.55	33.12		552.86	127.75
TOTAL⁽⁵⁾:				159.55	33.12		110.49	127.11

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 2 Consulate		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.6E-04	5.0E-01	--
1,1,1-Trichloroethane	--	5.2E+00	1.4E-04	--	2.7E-05	1.7E-04	--	3.2E-05
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.27E-04	3.0E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	3.1E+01	--	--	--	5.7E-04	--	1.8E-05
1,1,2-Trichloroethane	1.5E-04	--	1.2E-04	7.9E-01	--	7.6E-05	5.0E-01	--
1,1'-Biphenyl	--	--	--	--	--	5.2E-07	--	--
1,1-Dichloroethane	1.5E-03	--	8.9E-05	5.9E-02	--	--	--	--
1,1-Dichloroethene	--	2.1E-01	8.9E-05	--	4.3E-04	9.8E-05	--	4.7E-04
1,2,3-Trichlorobenzene	--	--	--	--	--	1.5E-03	--	--
1,2,3-Trichloropropane	--	3.1E-04	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	2.1E-03	2.1E-04	--	1.0E-01	1.7E-03	--	8.2E-01
1,2,4-Trimethylbenzene	--	7.3E-03	1.0E-03	--	1.4E-01	3.2E-03	--	4.3E-01
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	1.04E-04	6.5E+02	5.0E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	1.11E-04	2.7E+01	1.2E-02
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	2.4E-04	--	--
1,2-Dichlorobenzene	--	2.1E-01	--	--	--	2.0E-04	--	9.3E-04
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.13E-04	1.2E+00	4.5E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	4.43E-03	1.8E+01	1.1E+00
1,3,5-Trimethylbenzene	--	--	2.1E-04	--	--	9.5E-04	--	--
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	4.56E-04	5.6E+00	2.2E-01
1,3-Dichlorobenzene	--	--	--	--	--	1.8E-04	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	2.34E-04	1.1E+00	2.8E-04
2,4,5-Trichlorophenol	--	--	--	--	--	9.4E-07	--	--
2,4,6-Trichlorophenol	7.9E-04	--	--	--	--	6.5E-07	8.3E-04	--
2,4-Dichlorophenol	--	--	--	--	--	6.8E-07	--	--
2,4-Dimethylphenol	--	--	--	--	--	2.2E-06	--	--
2,6-Dichlorophenol	--	--	--	--	--	4.1E-07	--	--
2,6-Dinitrotoluene	--	--	--	--	--	2.2E-07	--	--
2-Butanone (methyl ethyl ketone)	--	5.2E+00	4.6E-04	--	8.7E-05	2.7E-03	--	5.1E-04
2-Chloronaphthalene	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	6.5E-07	--	--
2-Methylphenol (o-Cresol)	--	6.3E-01	--	--	--	1.4E-06	--	2.3E-06
2-Nitrophenol	--	--	--	--	--	3.5E-07	--	--
3&4-Methylphenol	--	6.3E-01	--	--	--	4.7E-06	--	7.5E-06
3-Nitroaniline	--	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 2 Consulate		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
4,4-DDD	3.5E-05	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	8.8E-07	--	--
4-Chloroaniline	--	--	--	--	--	1.7E-07	--	--
4-Nitrophenol	--	--	--	--	--	1.0E-06	--	--
Acenaphthene	--	--	--	--	--	2.5E-07	--	--
Acenaphthylene	--	--	--	--	--	7.4E-07	--	--
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.07E-02	9.6E+00	1.1E+00
Acetone	--	3.2E+01	5.8E-02	--	1.8E-03	4.7E-02	--	1.4E-03
Acetonitrile	--	6.3E-02	6.1E-04	--	9.7E-03	6.7E-03	--	1.1E-01
Acetophenone	--	--	--	--	--	1.3E-02	--	--
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.01E-03	--	9.6E+01
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	2.21E-04	6.2E+00	1.1E-01
alpha-Chlordane	2.4E-05	7.3E-04	--	--	--	--	--	--
Aluminum	--	5.2E-03	--	--	--	6.9E-04	--	1.3E-01
Aniline	1.5E-03	1.0E-03	--	--	--	2.1E-07	1.4E-04	2.0E-04
Anthracene	--	--	2.4E-07	--	--	1.2E-06	--	--
Antimony	--	--	--	--	--	8.0E-06	--	--
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	3.72E-06	6.6E+00	2.4E-01
Barium	--	5.2E-04	--	--	--	4.0E-05	--	7.6E-02
Benzaldehyde	--	--	--	--	--	6.6E-04	--	--
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	3.03E-03	9.7E+00	9.7E-02
Benzo(a)anthracene	--	--	1.3E-07	--	--	--	--	--
Benzo(a)pyrene	--	--	1.80E-07	--	--	1.46E-07	--	--
Benzo(b)fluoranthene	--	--	1.4E-07	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	3.2E-07	--	--
Benzo(k)fluoranthene	--	--	1.3E-07	--	--	--	--	--
Beryllium	1.0E-06	2.1E-05	--	--	--	1.3E-07	1.3E-01	6.4E-03
Bis(2-Chloroethyl)ether	7.4E-06	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.0E-03	--	--	--	--	1.9E-04	1.9E-01	--
Bromodichloromethane	6.6E-05	--	--	--	--	1.54E-04	2.3E+00	--
Bromoform	2.2E-03	--	1.5E-04	6.8E-02	--	1.1E-04	5.0E-02	--
Bromomethane	--	5.2E-03	1.6E-04	--	3.0E-02	8.2E-05	--	1.6E-02
Butylbenzylphthalate	--	--	--	--	--	--	--	--
Butyraldehyde	--	--	--	--	--	5.4E-04	--	--
Cadmium (Diet)	1.4E-06	1.0E-05	3.8E-07	2.8E-01	3.6E-02	5.5E-07	4.1E-01	5.3E-02

**Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs
(Detected Constituents Only)**

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 2 Consulate		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Carbazole	--	--	--	--	--	1.6E-07	--	--
Carbon Disulfide	--	7.3E-01	6.7E-05	--	9.2E-05	4.8E-03	--	6.6E-03
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.33E-04	3.9E+00	3.2E-03
Chlorobenzene	--	5.2E-02	6.0E-05	--	1.2E-03	9.2E-05	--	1.8E-03
Chloroethane	--	1.0E+01	6.5E-05	--	6.2E-06	1.1E-04	--	1.0E-05
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.64E-04	1.5E+00	1.6E-03
Chloromethane	--	9.4E-02	1.5E-03	--	1.6E-02	2.9E-03	--	3.1E-02
Chromium	--	--	4.7E-06	--	--	7.8E-06	--	--
Chrysene	--	--	1.7E-07	--	--	3.4E-07	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	1.1E-04	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	5.4E-05	--	--
Cobalt	2.7E-07	6.3E-06	--	--	--	3.93E-07	1.5E+00	6.3E-02
Copper	--	--	--	--	--	7.7E-04	--	--
Crotonaldehyde	--	--	--	--	--	4.4E-05	--	--
Cyclohexane	--	6.3E+00	9.5E-04	--	1.5E-04	1.4E-03	--	2.2E-04
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	1.2E-06	--	--
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dibromomethane	--	4.2E-03	--	--	--	1.5E-04	--	3.5E-02
Dichlorodifluoromethane (Freon 12)	--	2.1E-01	--	--	--	2.4E-03	--	1.1E-02
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	4.65E-07	8.8E-01	--
Diethylphthalate	--	--	--	--	--	7.6E-06	--	--
Dimethylphthalate	--	--	--	--	--	6.5E-07	--	--
Di-n-butylphthalate	--	--	--	--	--	3.7E-05	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	--	8.7E-07	--	--
Endosulfan I	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	2.31E-03	2.4E+00	2.2E-03
Fluoranthene	--	--	--	--	--	3.0E-06	--	--
Fluorene	--	--	4.8E-06	--	--	1.7E-06	--	--
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.12E-03	1.7E+01	3.1E-01
Gravimetrics-PM10	--	--	2.2E-02	--	--	8.3E-02	--	--
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.97E-04	5.4E+00	--
Hexachloroethane	6.1E-04	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 2 Consulate		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Hexaldehyde	--	--	--	--	--	2.0E-04	--	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.8E-02	--	3.8E-02
Indeno(1,2,3-c,d)pyrene	--	--	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	--	1.3E-03	--	--
Isopropylbenzene	--	4.2E-01	8.7E-05	--	2.1E-04	1.9E-04	--	4.5E-04
Lead	--	1.7E-03	4.8E-06	--	2.8E-03	1.3E-05	--	7.9E-03
Manganese (Diet)	--	5.2E-05	2.0E-05	--	3.9E-01	2.2E-05	--	4.2E-01
Mercury	--	3.1E-04	--	--	--	2.7E-06	--	8.7E-03
Methacrylaldehyde	--	--	--	--	--	1.6E-04	--	--
Methyl Acetate	--	--	--	--	--	3.4E-04	--	--
Methyl tert-Butyl Ether	9.4E-03	3.1E+00	4.05E-04	4.3E-02	1.3E-04	3.00E-03	3.2E-01	9.6E-04
Methylcyclohexane	--	--	9.3E-04	--	--	9.9E-04	--	--
Methylene Chloride	5.2E-03	1.1E+00	7.5E-04	1.5E-01	6.9E-04	2.3E-03	4.4E-01	2.1E-03
M-tolualdehyde	--	--	--	--	--	2.1E-04	--	--
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	1.94E-04	2.7E+00	6.2E-02
Nitrobenzene	6.1E-05	9.4E-03	--	--	--	--	--	--
N-valeraldehyde	--	--	--	--	--	1.5E-04	--	--
o-Toluidine	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	1.9E-07	--	--
Pentachloroethane	--	--	--	--	--	--	--	--
Phenanthrene	--	--	1.1E-05	--	--	1.1E-05	--	--
Phenol	--	2.1E-01	--	--	--	2.0E-06	--	9.6E-06
Propionaldehyde	--	8.3E-03	3.7E-04	--	4.4E-02	4.3E-04	--	5.1E-02
Pyrene	--	--	1.2E-06	--	--	3.3E-06	--	--
Styrene	--	1.0E+00	1.4E-03	--	1.4E-03	6.2E-04	--	6.0E-04
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	4.42E-03	1.1E+01	1.6E-02
Thallium	--	--	--	--	--	1.2E-06	--	--
Tin	--	--	--	--	--	1.0E-05	--	--
Toluene	--	5.2E+00	3.6E-03	--	7.0E-04	1.2E-02	--	2.3E-03
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	3.27E-07	3.7E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	3.87E-11	6.0E-01	9.3E-04
trans-1,2-Dichloroethene	--	6.3E-02	--	--	--	1.0E-04	--	1.6E-03
trans-1,3-Dichloropropene	--	--	--	--	--	7.2E-05	--	--
Trichloroethene	1.2E-03	--	1.9E-04	1.6E-01	--	2.0E-04	1.7E-01	--
Trichlorofluoromethane	--	7.3E-01	--	--	--	1.6E-03	--	2.2E-03

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 2 Consulate		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
Vanadium	--	--	--	--	--	9.3E-06	--	--
Vinyl Acetate	--	2.1E-01	--	--	--	7.9E-04	--	3.8E-03
Vinyl Chloride	1.6E-04	1.0E-01	6.3E-05	3.9E-01	6.0E-04	8.3E-05	5.2E-01	8.0E-04
Xylenes, Total	--	1.0E-01	6.9E-04	--	6.7E-03	1.2E-02	--	1.2E-01
TOTAL⁽⁴⁾:				159.55	33.12		790.57	102.49
TOTAL⁽⁵⁾:				159.55	33.12		135.57	101.65

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 3 CAPO		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.3E-04	3.9E-01	--
1,1,1-Trichloroethane	--	5.2E+00	1.4E-04	--	2.7E-05	1.3E-04	--	2.4E-05
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.09E-04	2.6E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	3.1E+01	--	--	--	6.5E-04	--	2.1E-05
1,1,2-Trichloroethane	1.5E-04	--	1.2E-04	7.9E-01	--	5.2E-05	3.4E-01	--
1,1'-Biphenyl	--	--	--	--	--	1.0E-06	--	--
1,1-Dichloroethane	1.5E-03	--	8.9E-05	5.9E-02	--	3.6E-05	2.3E-02	--
1,1-Dichloroethene	--	2.1E-01	8.9E-05	--	4.3E-04	6.2E-05	--	3.0E-04
1,2,3-Trichlorobenzene	--	--	--	--	--	3.6E-04	--	--
1,2,3-Trichloropropane	--	3.1E-04	--	--	--	7.3E-05	--	2.3E-01
1,2,4-Trichlorobenzene	--	2.1E-03	2.1E-04	--	1.0E-01	7.3E-04	--	3.5E-01
1,2,4-Trimethylbenzene	--	7.3E-03	1.0E-03	--	1.4E-01	1.6E-03	--	2.1E-01
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	1.16E-04	7.3E+02	5.6E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	1.6E-04	--	--
1,2-Dichlorobenzene	--	2.1E-01	--	--	--	2.5E-04	--	1.2E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	8.49E-05	9.1E-01	3.4E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	6.74E-03	2.8E+01	1.6E+00
1,3,5-Trimethylbenzene	--	--	2.1E-04	--	--	4.8E-04	--	--
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.38E-04	4.2E+00	1.6E-01
1,3-Dichlorobenzene	--	--	--	--	--	2.4E-04	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	3.04E-04	1.4E+00	3.6E-04
2,4,5-Trichlorophenol	--	--	--	--	--	1.0E-06	--	--
2,4,6-Trichlorophenol	7.9E-04	--	--	--	--	5.0E-07	6.4E-04	--
2,4-Dichlorophenol	--	--	--	--	--	4.8E-07	--	--
2,4-Dimethylphenol	--	--	--	--	--	6.0E-06	--	--
2,6-Dichlorophenol	--	--	--	--	--	5.4E-07	--	--
2,6-Dinitrotoluene	--	--	--	--	--	3.5E-07	--	--
2-Butanone (methyl ethyl ketone)	--	5.2E+00	4.6E-04	--	8.7E-05	3.1E-03	--	5.9E-04
2-Chloronaphthalene	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	8.5E-07	--	--
2-Methylphenol (o-Cresol)	--	6.3E-01	--	--	--	4.7E-06	--	7.5E-06
2-Nitrophenol	--	--	--	--	--	6.6E-07	--	--
3&4-Methylphenol	--	6.3E-01	--	--	--	1.7E-05	--	2.7E-05
3-Nitroaniline	--	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 3 CAPO		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
4,4-DDD	3.5E-05	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	8.6E-07	--	--
4-Chloroaniline	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	8.2E-07	--	--
Acenaphthene	--	--	--	--	--	3.7E-07	--	--
Acenaphthylene	--	--	--	--	--	2.3E-06	--	--
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	6.96E-03	6.3E+00	7.4E-01
Acetone	--	3.2E+01	5.8E-02	--	1.8E-03	4.5E+00	--	1.4E-01
Acetonitrile	--	6.3E-02	6.1E-04	--	9.7E-03	6.0E-04	--	9.6E-03
Acetophenone	--	--	--	--	--	8.4E-03	--	--
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	3.46E-03	--	1.7E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.49E-04	4.2E+00	7.1E-02
alpha-Chlordane	2.4E-05	7.3E-04	--	--	--	3.8E-07	1.6E-02	5.2E-04
Aluminum	--	5.2E-03	--	--	--	5.4E-04	--	1.0E-01
Aniline	1.5E-03	1.0E-03	--	--	--	--	--	--
Anthracene	--	--	2.4E-07	--	--	1.5E-06	--	--
Antimony	--	--	--	--	--	1.2E-05	--	--
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	9.28E-06	1.6E+01	5.9E-01
Barium	--	5.2E-04	--	--	--	2.4E-05	--	4.6E-02
Benzaldehyde	--	--	--	--	--	7.0E-04	--	--
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	2.28E-03	7.3E+00	7.3E-02
Benzo(a)anthracene	--	--	1.3E-07	--	--	6.0E-07	--	--
Benzo(a)pyrene	--	--	1.80E-07	--	--	4.51E-07	--	--
Benzo(b)fluoranthene	--	--	1.4E-07	--	--	4.0E-07	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	6.1E-07	--	--
Benzo(k)fluoranthene	--	--	1.3E-07	--	--	4.0E-07	--	--
Beryllium	1.0E-06	2.1E-05	--	--	--	1.5E-07	1.5E-01	7.4E-03
Bis(2-Chloroethyl)ether	7.4E-06	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.0E-03	--	--	--	--	1.8E-04	1.8E-01	--
Bromodichloromethane	6.6E-05	--	--	--	--	--	--	--
Bromoform	2.2E-03	--	1.5E-04	6.8E-02	--	--	--	--
Bromomethane	--	5.2E-03	1.6E-04	--	3.0E-02	7.4E-05	--	1.4E-02
Butylbenzylphthalate	--	--	--	--	--	3.2E-06	--	--
Butyraldehyde	--	--	--	--	--	4.2E-04	--	--
Cadmium (Diet)	1.4E-06	1.0E-05	3.8E-07	2.8E-01	3.6E-02	7.9E-07	5.9E-01	7.6E-02

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 3 CAPO		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Carbazole	--	--	--	--	--	1.7E-07	--	--
Carbon Disulfide	--	7.3E-01	6.7E-05	--	9.2E-05	3.3E-03	--	4.6E-03
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	5.98E-04	3.7E+00	3.0E-03
Chlorobenzene	--	5.2E-02	6.0E-05	--	1.2E-03	8.3E-05	--	1.6E-03
Chloroethane	--	1.0E+01	6.5E-05	--	6.2E-06	--	--	--
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.26E-04	1.2E+00	1.2E-03
Chloromethane	--	9.4E-02	1.5E-03	--	1.6E-02	1.5E-03	--	1.6E-02
Chromium	--	--	4.7E-06	--	--	5.2E-06	--	--
Chrysene	--	--	1.7E-07	--	--	1.1E-06	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	5.7E-05	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	4.8E-05	--	--
Cobalt	2.7E-07	6.3E-06	--	--	--	4.01E-07	1.5E+00	6.4E-02
Copper	--	--	--	--	--	--	--	--
Crotonaldehyde	--	--	--	--	--	6.1E-05	--	--
Cyclohexane	--	6.3E+00	9.5E-04	--	1.5E-04	3.0E-03	--	4.7E-04
Dibenzo(a,h)anthracene	--	--	--	--	--	1.2E-07	--	--
Dibenzofuran	--	--	--	--	--	3.5E-06	--	--
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dibromomethane	--	4.2E-03	--	--	--	1.1E-04	--	2.7E-02
Dichlorodifluoromethane (Freon 12)	--	2.1E-01	--	--	--	3.8E-03	--	1.8E-02
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	1.08E-06	2.0E+00	--
Diethylphthalate	--	--	--	--	--	5.8E-06	--	--
Dimethylphthalate	--	--	--	--	--	4.0E-07	--	--
Di-n-butylphthalate	--	--	--	--	--	4.8E-05	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	--	3.1E-07	--	--
Endosulfan I	--	--	--	--	--	8.7E-07	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.47E-03	1.5E+00	1.4E-03
Fluoranthene	--	--	--	--	--	4.2E-06	--	--
Fluorene	--	--	4.8E-06	--	--	2.8E-06	--	--
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.44E-03	1.8E+01	3.4E-01
Gravimetrics-PM10	--	--	2.2E-02	--	--	6.7E-02	--	--
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.55E-04	5.0E+00	--
Hexachloroethane	6.1E-04	--	--	--	--	3.7E-05	6.0E-02	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 3 CAPO		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Hexaldehyde	--	--	--	--	--	2.0E-04	--	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	6.7E-02	--	9.2E-02
Indeno(1,2,3-c,d)pyrene	--	--	--	--	--	8.3E-07	--	--
Isobutyl Alcohol	--	--	--	--	--	6.3E-04	--	--
Isopropylbenzene	--	4.2E-01	8.7E-05	--	2.1E-04	1.2E-04	--	2.8E-04
Lead	--	1.7E-03	4.8E-06	--	2.8E-03	2.6E-05	--	1.5E-02
Manganese (Diet)	--	5.2E-05	2.0E-05	--	3.9E-01	2.1E-05	--	4.1E-01
Mercury	--	3.1E-04	--	--	--	2.9E-06	--	9.2E-03
Methacrylaldehyde	--	--	--	--	--	2.1E-04	--	--
Methyl Acetate	--	--	--	--	--	7.0E-04	--	--
Methyl tert-Butyl Ether	9.4E-03	3.1E+00	4.05E-04	4.3E-02	1.3E-04	3.01E-03	3.2E-01	9.6E-04
Methylcyclohexane	--	--	9.3E-04	--	--	1.4E-03	--	--
Methylene Chloride	5.2E-03	1.1E+00	7.5E-04	1.5E-01	6.9E-04	2.3E-03	4.4E-01	2.1E-03
M-tolualdehyde	--	--	--	--	--	1.8E-04	--	--
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	8.14E-05	1.1E+00	2.6E-02
Nitrobenzene	6.1E-05	9.4E-03	--	--	--	--	--	--
N-valeraldehyde	--	--	--	--	--	2.1E-04	--	--
o-Toluidine	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	1.6E-04	--	--
Phenanthrene	--	--	1.1E-05	--	--	1.7E-05	--	--
Phenol	--	2.1E-01	--	--	--	5.7E-06	--	2.7E-05
Propionaldehyde	--	8.3E-03	3.7E-04	--	4.4E-02	3.2E-04	--	3.8E-02
Pyrene	--	--	1.2E-06	--	--	3.9E-06	--	--
Styrene	--	1.0E+00	1.4E-03	--	1.4E-03	1.2E-03	--	1.1E-03
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	2.39E-03	5.8E+00	8.4E-03
Thallium	--	--	--	--	--	9.4E-07	--	--
Tin	--	--	--	--	--	7.3E-06	--	--
Toluene	--	5.2E+00	3.6E-03	--	7.0E-04	8.3E-03	--	1.6E-03
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	5.43E-07	6.2E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	3.20E-10	5.0E+00	7.7E-03
trans-1,2-Dichloroethene	--	6.3E-02	--	--	--	6.8E-05	--	1.1E-03
trans-1,3-Dichloropropene	--	--	--	--	--	6.9E-05	--	--
Trichloroethene	1.2E-03	--	1.9E-04	1.6E-01	--	2.4E-04	2.0E-01	--
Trichlorofluoromethane	--	7.3E-01	--	--	--	1.7E-03	--	2.3E-03

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 3 CAPO		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
Vanadium	--	--	--	--	--	1.2E-05	--	--
Vinyl Acetate	--	2.1E-01	--	--	--	6.5E-04	--	3.1E-03
Vinyl Chloride	1.6E-04	1.0E-01	6.3E-05	3.9E-01	6.0E-04	--	--	--
Xylenes, Total	--	1.0E-01	6.9E-04	--	6.7E-03	7.2E-03	--	6.9E-02
TOTAL⁽⁴⁾:				159.55	33.12		845.98	171.87
TOTAL⁽⁵⁾:				159.55	33.12		112.17	170.79

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 4 ⁽³⁾ Carney Park		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.0E-04	3.1E-01	--
1,1,1-Trichloroethane	--	5.2E+00	1.4E-04	--	2.7E-05	1.2E-04	--	2.3E-05
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	8.67E-05	2.1E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	3.1E+01	--	--	--	7.6E-04	--	2.4E-05
1,1,2-Trichloroethane	1.5E-04	--	1.2E-04	7.9E-01	--	--	--	--
1,1'-Biphenyl	--	--	--	--	--	4.5E-07	--	--
1,1-Dichloroethane	1.5E-03	--	8.9E-05	5.9E-02	--	--	--	--
1,1-Dichloroethene	--	2.1E-01	8.9E-05	--	4.3E-04	6.4E-05	--	3.1E-04
1,2,3-Trichlorobenzene	--	--	--	--	--	5.0E-04	--	--
1,2,3-Trichloropropane	--	3.1E-04	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	2.1E-03	2.1E-04	--	1.0E-01	5.9E-04	--	2.8E-01
1,2,4-Trimethylbenzene	--	7.3E-03	1.0E-03	--	1.4E-01	1.0E-03	--	1.4E-01
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	6.34E-05	4.0E+02	3.0E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	7.62E-05	1.9E+01	8.1E-03
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	1.6E-04	--	--
1,2-Dichlorobenzene	--	2.1E-01	--	--	--	1.4E-04	--	6.5E-04
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.66E-04	1.8E+00	6.5E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	2.73E-03	1.1E+01	6.5E-01
1,3,5-Trimethylbenzene	--	--	2.1E-04	--	--	3.1E-04	--	--
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	1.3E-04	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	1.56E-04	7.1E-01	1.9E-04
2,4,5-Trichlorophenol	--	--	--	--	--	6.7E-07	--	--
2,4,6-Trichlorophenol	7.9E-04	--	--	--	--	3.7E-07	4.7E-04	--
2,4-Dichlorophenol	--	--	--	--	--	5.1E-07	--	--
2,4-Dimethylphenol	--	--	--	--	--	2.7E-06	--	--
2,6-Dichlorophenol	--	--	--	--	--	3.3E-07	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	5.2E+00	4.6E-04	--	8.7E-05	2.0E-03	--	3.9E-04
2-Chloronaphthalene	--	--	--	--	--	1.8E-07	--	--
2-Methylnaphthalene	--	--	--	--	--	3.6E-07	--	--
2-Methylphenol (o-Cresol)	--	6.3E-01	--	--	--	1.9E-06	--	3.0E-06
2-Nitrophenol	--	--	--	--	--	3.6E-07	--	--
3&4-Methylphenol	--	6.3E-01	--	--	--	7.0E-06	--	1.1E-05
3-Nitroaniline	--	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 4 ⁽³⁾ Carney Park		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
4,4-DDD	3.5E-05	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	8.6E-07	--	--
4-Chloroaniline	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	1.9E-07	--	--
Acenaphthylene	--	--	--	--	--	3.2E-07	--	--
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.04E-02	9.3E+00	1.1E+00
Acetone	--	3.2E+01	5.8E-02	--	1.8E-03	1.6E-02	--	5.1E-04
Acetonitrile	--	6.3E-02	6.1E-04	--	9.7E-03	8.9E-04	--	1.4E-02
Acetophenone	--	--	--	--	--	7.7E-03	--	--
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	1.50E-03	--	7.2E+01
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.25E-04	3.5E+00	6.0E-02
alpha-Chlordane	2.4E-05	7.3E-04	--	--	--	--	--	--
Aluminum	--	5.2E-03	--	--	--	2.6E-04	--	5.0E-02
Aniline	1.5E-03	1.0E-03	--	--	--	--	--	--
Anthracene	--	--	2.4E-07	--	--	4.6E-07	--	--
Antimony	--	--	--	--	--	--	--	--
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	2.14E-06	3.8E+00	1.4E-01
Barium	--	5.2E-04	--	--	--	1.1E-05	--	2.0E-02
Benzaldehyde	--	--	--	--	--	8.3E-04	--	--
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.24E-03	4.0E+00	3.9E-02
Benzo(a)anthracene	--	--	1.3E-07	--	--	2.9E-07	--	--
Benzo(a)pyrene	--	--	1.80E-07	--	--	1.96E-07	--	--
Benzo(b)fluoranthene	--	--	1.4E-07	--	--	5.4E-07	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	3.3E-07	--	--
Benzo(k)fluoranthene	--	--	1.3E-07	--	--	3.9E-07	--	--
Beryllium	1.0E-06	2.1E-05	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	7.4E-06	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.0E-03	--	--	--	--	3.3E-04	3.3E-01	--
Bromodichloromethane	6.6E-05	--	--	--	--	1.30E-04	2.0E+00	--
Bromoform	2.2E-03	--	1.5E-04	6.8E-02	--	6.6E-05	3.0E-02	--
Bromomethane	--	5.2E-03	1.6E-04	--	3.0E-02	7.1E-05	--	1.4E-02
Butylbenzylphthalate	--	--	--	--	--	4.4E-06	--	--
Butyraldehyde	--	--	--	--	--	3.0E-04	--	--
Cadmium (Diet)	1.4E-06	1.0E-05	3.8E-07	2.8E-01	3.6E-02	1.6E-07	1.2E-01	1.5E-02

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 4 ⁽³⁾ Carney Park		
			Exposure Point Concentration mg/m ³ ⁽¹⁾	CEF	NCEF	Exposure Point Concentration mg/m ³ ⁽²⁾	CEF	NCEF
Carbazole	--	--	--	--	--	--	--	--
Carbon Disulfide	--	7.3E-01	6.7E-05	--	9.2E-05	1.9E-03	--	2.6E-03
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.30E-04	3.9E+00	3.2E-03
Chlorobenzene	--	5.2E-02	6.0E-05	--	1.2E-03	6.3E-05	--	1.2E-03
Chloroethane	--	1.0E+01	6.5E-05	--	6.2E-06	--	--	--
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	3.34E-04	3.1E+00	3.3E-03
Chloromethane	--	9.4E-02	1.5E-03	--	1.6E-02	2.2E-03	--	2.4E-02
Chromium	--	--	4.7E-06	--	--	1.9E-06	--	--
Chrysene	--	--	1.7E-07	--	--	4.9E-07	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	2.7E-05	--	--
Cobalt	2.7E-07	6.3E-06	--	--	--	1.39E-07	5.2E-01	2.2E-02
Copper	--	--	--	--	--	--	--	--
Crotonaldehyde	--	--	--	--	--	3.5E-05	--	--
Cyclohexane	--	6.3E+00	9.5E-04	--	1.5E-04	2.1E-03	--	3.4E-04
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	1.5E-06	--	--
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dibromomethane	--	4.2E-03	--	--	--	8.3E-05	--	2.0E-02
Dichlorodifluoromethane (Freon 12)	--	2.1E-01	--	--	--	2.2E-03	--	1.1E-02
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	--	--	--
Diethylphthalate	--	--	--	--	--	2.8E-06	--	--
Dimethylphthalate	--	--	--	--	--	5.3E-07	--	--
Di-n-butylphthalate	--	--	--	--	--	3.7E-05	--	--
Di-n-octylphthalate	--	--	--	--	--	3.6E-07	--	--
Diphenylamine	--	--	--	--	--	3.5E-07	--	--
Endosulfan I	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	7.69E-04	7.9E-01	7.4E-04
Fluoranthene	--	--	--	--	--	1.3E-06	--	--
Fluorene	--	--	4.8E-06	--	--	1.0E-06	--	--
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.05E-03	1.6E+01	3.0E-01
Gravimetrics-PM10	--	--	2.2E-02	--	--	3.6E-02	--	--
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	3.57E-04	3.2E+00	--
Hexachloroethane	6.1E-04	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 4 ⁽³⁾ Carney Park		
			Exposure Point Concentration mg/m ³ ⁽¹⁾	CEF	NCEF	Exposure Point Concentration mg/m ³ ⁽²⁾	CEF	NCEF
Hexaldehyde	--	--	--	--	--	2.1E-04	--	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	9.0E-03	--	1.2E-02
Indeno(1,2,3-c,d)pyrene	--	--	--	--	--	--	--	--
Isobutyl Alcohol	--	--	--	--	--	9.2E-04	--	--
Isopropylbenzene	--	4.2E-01	8.7E-05	--	2.1E-04	6.4E-05	--	1.5E-04
Lead	--	1.7E-03	4.8E-06	--	2.8E-03	5.8E-06	--	3.4E-03
Manganese (Diet)	--	5.2E-05	2.0E-05	--	3.9E-01	6.7E-06	--	1.3E-01
Mercury	--	3.1E-04	--	--	--	3.3E-06	--	1.1E-02
Methacrylaldehyde	--	--	--	--	--	9.4E-05	--	--
Methyl Acetate	--	--	--	--	--	2.2E-04	--	--
Methyl tert-Butyl Ether	9.4E-03	3.1E+00	4.05E-04	4.3E-02	1.3E-04	4.57E-04	4.9E-02	1.5E-04
Methylcyclohexane	--	--	9.3E-04	--	--	2.7E-03	--	--
Methylene Chloride	5.2E-03	1.1E+00	7.5E-04	1.5E-01	6.9E-04	9.0E-04	1.7E-01	8.3E-04
M-tolualdehyde	--	--	--	--	--	1.8E-04	--	--
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	5.52E-05	7.7E-01	1.8E-02
Nitrobenzene	6.1E-05	9.4E-03	--	--	--	--	--	--
N-valeraldehyde	--	--	--	--	--	9.4E-05	--	--
o-Toluidine	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--
Phenanthrene	--	--	1.1E-05	--	--	6.5E-06	--	--
Phenol	--	2.1E-01	--	--	--	1.8E-06	--	8.5E-06
Propionaldehyde	--	8.3E-03	3.7E-04	--	4.4E-02	2.5E-04	--	3.0E-02
Pyrene	--	--	1.2E-06	--	--	1.1E-06	--	--
Styrene	--	1.0E+00	1.4E-03	--	1.4E-03	1.1E-03	--	1.1E-03
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	4.09E-03	9.9E+00	1.4E-02
Thallium	--	--	--	--	--	8.7E-07	--	--
Tin	--	--	--	--	--	1.8E-06	--	--
Toluene	--	5.2E+00	3.6E-03	--	7.0E-04	5.4E-03	--	1.0E-03
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	4.04E-07	4.6E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	4.62E-11	7.2E-01	1.1E-03
trans-1,2-Dichloroethene	--	6.3E-02	--	--	--	6.3E-05	--	1.0E-03
trans-1,3-Dichloropropene	--	--	--	--	--	4.6E-05	--	--
Trichloroethene	1.2E-03	--	1.9E-04	1.6E-01	--	1.1E-04	8.8E-02	--
Trichlorofluoromethane	--	7.3E-01	--	--	--	1.6E-03	--	2.2E-03

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 4 ⁽³⁾ Carney Park		
			Exposure Point Concentration mg/m ³ ⁽¹⁾	CEF	NCEF	Exposure Point Concentration mg/m ³ ⁽²⁾	CEF	NCEF
Vanadium	--	--	--	--	--	6.6E-06	--	--
Vinyl Acetate	--	2.1E-01	--	--	--	4.5E-04	--	2.2E-03
Vinyl Chloride	1.6E-04	1.0E-01	6.3E-05	3.9E-01	6.0E-04	--	--	--
Xylenes, Total	--	1.0E-01	6.9E-04	--	6.7E-03	3.5E-03	--	3.4E-02
TOTAL⁽⁴⁾:				159.55	33.12		494.47	75.40
TOTAL⁽⁵⁾:				159.55	33.12		94.09	74.96

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

⁽¹⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

⁽²⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

⁽³⁾ This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

⁽⁴⁾ These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

⁽⁵⁾ These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 5 Receiver Site		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.2E-04	3.7E-01	--
1,1,1-Trichloroethane	--	5.2E+00	1.4E-04	--	2.7E-05	1.3E-04	--	2.4E-05
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	9.53E-05	2.3E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	3.1E+01	--	--	--	7.3E-04	--	2.3E-05
1,1,2-Trichloroethane	1.5E-04	--	1.2E-04	7.9E-01	--	5.8E-05	3.8E-01	--
1,1'-Biphenyl	--	--	--	--	--	1.1E-06	--	--
1,1-Dichloroethane	1.5E-03	--	8.9E-05	5.9E-02	--	3.9E-05	2.6E-02	--
1,1-Dichloroethene	--	2.1E-01	8.9E-05	--	4.3E-04	6.9E-05	--	3.3E-04
1,2,3-Trichlorobenzene	--	--	--	--	--	7.9E-04	--	--
1,2,3-Trichloropropane	--	3.1E-04	--	--	--	6.1E-05	--	2.0E-01
1,2,4-Trichlorobenzene	--	2.1E-03	2.1E-04	--	1.0E-01	1.0E-03	--	5.0E-01
1,2,4-Trimethylbenzene	--	7.3E-03	1.0E-03	--	1.4E-01	7.5E-04	--	1.0E-01
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.07E-05	5.7E+02	4.3E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	1.01E-04	2.5E+01	1.1E-02
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	1.7E-04	--	--
1,2-Dichlorobenzene	--	2.1E-01	--	--	--	1.9E-04	--	8.9E-04
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.06E-04	1.1E+00	4.2E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	6.91E-03	2.8E+01	1.7E+00
1,3,5-Trimethylbenzene	--	--	2.1E-04	--	--	3.2E-04	--	--
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.04E-04	3.8E+00	1.5E-01
1,3-Dichlorobenzene	--	--	--	--	--	1.6E-04	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	2.07E-04	9.4E-01	2.5E-04
2,4,5-Trichlorophenol	--	--	--	--	--	1.0E-06	--	--
2,4,6-Trichlorophenol	7.9E-04	--	--	--	--	1.0E-06	1.3E-03	--
2,4-Dichlorophenol	--	--	--	--	--	1.2E-06	--	--
2,4-Dimethylphenol	--	--	--	--	--	6.0E-06	--	--
2,6-Dichlorophenol	--	--	--	--	--	7.4E-07	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	5.2E+00	4.6E-04	--	8.7E-05	3.0E-03	--	5.8E-04
2-Chloronaphthalene	--	--	--	--	--	2.2E-07	--	--
2-Methylnaphthalene	--	--	--	--	--	7.0E-07	--	--
2-Methylphenol (o-Cresol)	--	6.3E-01	--	--	--	7.0E-06	--	1.1E-05
2-Nitrophenol	--	--	--	--	--	6.4E-07	--	--
3&4-Methylphenol	--	6.3E-01	--	--	--	2.0E-05	--	3.1E-05
3-Nitroaniline	--	--	--	--	--	2.9E-07	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 5 Receiver Site		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
4,4-DDD	3.5E-05	--	--	--	--	4.8E-07	1.4E-02	--
4-Chloro-3-Methylphenol	--	--	--	--	--	1.8E-06	--	--
4-Chloroaniline	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	7.9E-07	--	--
Acenaphthene	--	--	--	--	--	1.6E-06	--	--
Acenaphthylene	--	--	--	--	--	2.4E-06	--	--
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.06E-02	9.5E+00	1.1E+00
Acetone	--	3.2E+01	5.8E-02	--	1.8E-03	1.6E-02	--	5.1E-04
Acetonitrile	--	6.3E-02	6.1E-04	--	9.7E-03	7.9E-04	--	1.3E-02
Acetophenone	--	--	--	--	--	6.8E-03	--	--
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.59E-03	--	1.2E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.52E-04	4.2E+00	7.3E-02
alpha-Chlordane	2.4E-05	7.3E-04	--	--	--	--	--	--
Aluminum	--	5.2E-03	--	--	--	7.5E-04	--	1.4E-01
Aniline	1.5E-03	1.0E-03	--	--	--	--	--	--
Anthracene	--	--	2.4E-07	--	--	8.4E-07	--	--
Antimony	--	--	--	--	--	8.3E-06	--	--
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	3.95E-06	7.0E+00	2.5E-01
Barium	--	5.2E-04	--	--	--	1.3E-05	--	2.4E-02
Benzaldehyde	--	--	--	--	--	8.2E-04	--	--
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.80E-03	5.8E+00	5.8E-02
Benzo(a)anthracene	--	--	1.3E-07	--	--	6.9E-07	--	--
Benzo(a)pyrene	--	--	1.80E-07	--	--	6.98E-07	--	--
Benzo(b)fluoranthene	--	--	1.4E-07	--	--	6.3E-07	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	6.3E-07	--	--
Benzo(k)fluoranthene	--	--	1.3E-07	--	--	6.4E-07	--	--
Beryllium	1.0E-06	2.1E-05	--	--	--	1.6E-07	1.6E-01	7.6E-03
Bis(2-Chloroethyl)ether	7.4E-06	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.0E-03	--	--	--	--	2.2E-05	2.2E-02	--
Bromodichloromethane	6.6E-05	--	--	--	--	1.53E-04	2.3E+00	--
Bromoform	2.2E-03	--	1.5E-04	6.8E-02	--	7.2E-05	3.2E-02	--
Bromomethane	--	5.2E-03	1.6E-04	--	3.0E-02	1.2E-04	--	2.2E-02
Butylbenzylphthalate	--	--	--	--	--	2.0E-06	--	--
Butyraldehyde	--	--	--	--	--	3.7E-04	--	--
Cadmium (Diet)	1.4E-06	1.0E-05	3.8E-07	2.8E-01	3.6E-02	4.0E-07	3.0E-01	3.9E-02

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 5 Receiver Site		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Carbazole	--	--	--	--	--	1.7E-07	--	--
Carbon Disulfide	--	7.3E-01	6.7E-05	--	9.2E-05	5.1E-03	--	7.0E-03
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.81E-04	4.2E+00	3.5E-03
Chlorobenzene	--	5.2E-02	6.0E-05	--	1.2E-03	7.8E-05	--	1.5E-03
Chloroethane	--	1.0E+01	6.5E-05	--	6.2E-06	7.4E-05	--	7.1E-06
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.30E-04	1.2E+00	1.3E-03
Chloromethane	--	9.4E-02	1.5E-03	--	1.6E-02	1.8E-03	--	1.9E-02
Chromium	--	--	4.7E-06	--	--	2.6E-06	--	--
Chrysene	--	--	1.7E-07	--	--	1.2E-06	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	6.3E-05	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	2.6E-04	--	--
Cobalt	2.7E-07	6.3E-06	--	--	--	2.36E-07	8.8E-01	3.8E-02
Copper	--	--	--	--	--	--	--	--
Crotonaldehyde	--	--	--	--	--	4.9E-05	--	--
Cyclohexane	--	6.3E+00	9.5E-04	--	1.5E-04	1.4E-03	--	2.3E-04
Dibenzo(a,h)anthracene	--	--	--	--	--	1.7E-07	--	--
Dibenzofuran	--	--	--	--	--	3.9E-06	--	--
Dibromochloromethane	9.0E-05	--	--	--	--	1.75E-04	1.9E+00	--
Dibromomethane	--	4.2E-03	--	--	--	1.4E-04	--	3.4E-02
Dichlorodifluoromethane (Freon 12)	--	2.1E-01	--	--	--	2.6E-03	--	1.2E-02
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	7.01E-07	1.3E+00	--
Diethylphthalate	--	--	--	--	--	1.3E-05	--	--
Dimethylphthalate	--	--	--	--	--	2.8E-07	--	--
Di-n-butylphthalate	--	--	--	--	--	4.8E-05	--	--
Di-n-octylphthalate	--	--	--	--	--	4.4E-07	--	--
Diphenylamine	--	--	--	--	--	3.2E-07	--	--
Endosulfan I	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	1.4E-06	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	7.41E-04	7.6E-01	7.1E-04
Fluoranthene	--	--	--	--	--	3.5E-06	--	--
Fluorene	--	--	4.8E-06	--	--	2.6E-06	--	--
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	2.60E-03	1.4E+01	2.5E-01
Gravimetrics-PM10	--	--	2.2E-02	--	--	6.8E-02	--	--
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	3.54E-04	3.2E+00	--
Hexachloroethane	6.1E-04	--	--	--	--	4.9E-05	8.0E-02	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 5 Receiver Site		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Hexaldehyde	--	--	--	--	--	1.6E-04	--	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	6.3E-01	--	8.6E-01
Indeno(1,2,3-c,d)pyrene	--	--	--	--	--	1.0E-06	--	--
Isobutyl Alcohol	--	--	--	--	--	1.3E-03	--	--
Isopropylbenzene	--	4.2E-01	8.7E-05	--	2.1E-04	8.3E-05	--	2.0E-04
Lead	--	1.7E-03	4.8E-06	--	2.8E-03	1.7E-05	--	9.7E-03
Manganese (Diet)	--	5.2E-05	2.0E-05	--	3.9E-01	1.6E-05	--	3.0E-01
Mercury	--	3.1E-04	--	--	--	2.8E-06	--	9.0E-03
Methacrylaldehyde	--	--	--	--	--	1.6E-04	--	--
Methyl Acetate	--	--	--	--	--	3.8E-04	--	--
Methyl tert-Butyl Ether	9.4E-03	3.1E+00	4.05E-04	4.3E-02	1.3E-04	4.53E-04	4.8E-02	1.4E-04
Methylcyclohexane	--	--	9.3E-04	--	--	6.3E-04	--	--
Methylene Chloride	5.2E-03	1.1E+00	7.5E-04	1.5E-01	6.9E-04	1.5E-03	2.8E-01	1.3E-03
M-tolualdehyde	--	--	--	--	--	1.7E-04	--	--
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.64E-05	1.1E+00	2.4E-02
Nitrobenzene	6.1E-05	9.4E-03	--	--	--	1.9E-07	3.1E-03	2.0E-05
N-valeraldehyde	--	--	--	--	--	1.4E-04	--	--
o-Toluidine	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	1.5E-04	--	--
Phenanthrene	--	--	1.1E-05	--	--	1.3E-05	--	--
Phenol	--	2.1E-01	--	--	--	9.8E-06	--	4.7E-05
Propionaldehyde	--	8.3E-03	3.7E-04	--	4.4E-02	2.4E-04	--	2.9E-02
Pyrene	--	--	1.2E-06	--	--	2.7E-06	--	--
Styrene	--	1.0E+00	1.4E-03	--	1.4E-03	5.8E-04	--	5.5E-04
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	2.73E-03	6.6E+00	9.7E-03
Thallium	--	--	--	--	--	1.1E-06	--	--
Tin	--	--	--	--	--	3.5E-06	--	--
Toluene	--	5.2E+00	3.6E-03	--	7.0E-04	3.9E-03	--	7.4E-04
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	9.01E-07	1.0E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	3.46E-10	5.4E+00	8.3E-03
trans-1,2-Dichloroethene	--	6.3E-02	--	--	--	6.8E-05	--	1.1E-03
trans-1,3-Dichloropropene	--	--	--	--	--	2.4E-04	--	--
Trichloroethene	1.2E-03	--	1.9E-04	1.6E-01	--	1.3E-04	1.1E-01	--
Trichlorofluoromethane	--	7.3E-01	--	--	--	1.8E-03	--	2.4E-03

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 5 Receiver Site		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
Vanadium	--	--	--	--	--	7.0E-06	--	--
Vinyl Acetate	--	2.1E-01	--	--	--	6.0E-04	--	2.9E-03
Vinyl Chloride	1.6E-04	1.0E-01	6.3E-05	3.9E-01	6.0E-04	4.3E-05	2.7E-01	4.2E-04
Xylenes, Total	--	1.0E-01	6.9E-04	--	6.7E-03	3.5E-03	--	3.4E-02
TOTAL⁽⁴⁾:				159.55	33.12		700.79	130.21
TOTAL⁽⁵⁾:				159.55	33.12		122.80	129.30

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 6 Support Site		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	3.7E-04	1.1E+00	--
1,1,1-Trichloroethane	--	5.2E+00	1.4E-04	--	2.7E-05	1.4E-04	--	2.7E-05
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.37E-04	3.3E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	3.1E+01	--	--	--	7.0E-04	--	2.2E-05
1,1,2-Trichloroethane	1.5E-04	--	1.2E-04	7.9E-01	--	6.9E-05	4.5E-01	--
1,1'-Biphenyl	--	--	--	--	--	2.0E-06	--	--
1,1-Dichloroethane	1.5E-03	--	8.9E-05	5.9E-02	--	4.2E-05	2.8E-02	--
1,1-Dichloroethene	--	2.1E-01	8.9E-05	--	4.3E-04	6.8E-05	--	3.3E-04
1,2,3-Trichlorobenzene	--	--	--	--	--	5.8E-04	--	--
1,2,3-Trichloropropane	--	3.1E-04	--	--	--	5.7E-05	--	1.8E-01
1,2,4-Trichlorobenzene	--	2.1E-03	2.1E-04	--	1.0E-01	9.1E-04	--	4.4E-01
1,2,4-Trimethylbenzene	--	7.3E-03	1.0E-03	--	1.4E-01	1.0E-03	--	1.4E-01
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.78E-05	6.1E+02	4.7E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	9.96E-05	2.5E+01	1.1E-02
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	1.5E-04	--	--
1,2-Dichlorobenzene	--	2.1E-01	--	--	--	4.7E-04	--	2.2E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	9.37E-05	1.0E+00	3.7E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	5.71E-03	2.4E+01	1.4E+00
1,3,5-Trimethylbenzene	--	--	2.1E-04	--	--	3.2E-04	--	--
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.11E-04	3.8E+00	1.5E-01
1,3-Dichlorobenzene	--	--	--	--	--	3.7E-04	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	5.10E-04	2.3E+00	6.1E-04
2,4,5-Trichlorophenol	--	--	--	--	--	7.3E-07	--	--
2,4,6-Trichlorophenol	7.9E-04	--	--	--	--	6.3E-07	8.0E-04	--
2,4-Dichlorophenol	--	--	--	--	--	8.5E-07	--	--
2,4-Dimethylphenol	--	--	--	--	--	5.7E-06	--	--
2,6-Dichlorophenol	--	--	--	--	--	5.7E-07	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	5.2E+00	4.6E-04	--	8.7E-05	2.5E-03	--	4.9E-04
2-Chloronaphthalene	--	--	--	--	--	1.6E-07	--	--
2-Methylnaphthalene	--	--	--	--	--	1.2E-06	--	--
2-Methylphenol (o-Cresol)	--	6.3E-01	--	--	--	6.7E-06	--	1.1E-05
2-Nitrophenol	--	--	--	--	--	5.2E-07	--	--
3&4-Methylphenol	--	6.3E-01	--	--	--	1.8E-05	--	2.9E-05
3-Nitroaniline	--	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 6 Support Site		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
4,4-DDD	3.5E-05	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	4.2E-07	--	--
4-Chloroaniline	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	1.1E-06	--	--
Acenaphthene	--	--	--	--	--	5.0E-07	--	--
Acenaphthylene	--	--	--	--	--	2.9E-06	--	--
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	9.98E-03	9.0E+00	1.1E+00
Acetone	--	3.2E+01	5.8E-02	--	1.8E-03	1.8E-02	--	5.7E-04
Acetonitrile	--	6.3E-02	6.1E-04	--	9.7E-03	7.1E-04	--	1.1E-02
Acetophenone	--	--	--	--	--	3.9E-03	--	--
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.52E-03	--	1.2E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.52E-04	4.2E+00	7.3E-02
alpha-Chlordane	2.4E-05	7.3E-04	--	--	--	--	--	--
Aluminum	--	5.2E-03	--	--	--	6.0E-04	--	1.2E-01
Aniline	1.5E-03	1.0E-03	--	--	--	--	--	--
Anthracene	--	--	2.4E-07	--	--	9.1E-07	--	--
Antimony	--	--	--	--	--	1.1E-05	--	--
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	3.62E-06	6.4E+00	2.3E-01
Barium	--	5.2E-04	--	--	--	2.0E-05	--	3.8E-02
Benzaldehyde	--	--	--	--	--	6.2E-04	--	--
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.96E-03	6.3E+00	6.3E-02
Benzo(a)anthracene	--	--	1.3E-07	--	--	5.7E-07	--	--
Benzo(a)pyrene	--	--	1.80E-07	--	--	1.53E-06	--	--
Benzo(b)fluoranthene	--	--	1.4E-07	--	--	5.5E-07	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	6.5E-07	--	--
Benzo(k)fluoranthene	--	--	1.3E-07	--	--	5.6E-07	--	--
Beryllium	1.0E-06	2.1E-05	--	--	--	9.9E-08	9.8E-02	4.7E-03
Bis(2-Chloroethyl)ether	7.4E-06	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.0E-03	--	--	--	--	1.4E-05	1.4E-02	--
Bromodichloromethane	6.6E-05	--	--	--	--	1.37E-04	2.1E+00	--
Bromoform	2.2E-03	--	1.5E-04	6.8E-02	--	7.9E-05	3.6E-02	--
Bromomethane	--	5.2E-03	1.6E-04	--	3.0E-02	7.7E-05	--	1.5E-02
Butylbenzylphthalate	--	--	--	--	--	7.2E-07	--	--
Butyraldehyde	--	--	--	--	--	3.6E-04	--	--
Cadmium (Diet)	1.4E-06	1.0E-05	3.8E-07	2.8E-01	3.6E-02	7.6E-07	5.6E-01	7.3E-02

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 6 Support Site		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Carbazole	--	--	--	--	--	2.1E-07	--	--
Carbon Disulfide	--	7.3E-01	6.7E-05	--	9.2E-05	3.0E-03	--	4.2E-03
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.57E-04	4.1E+00	3.3E-03
Chlorobenzene	--	5.2E-02	6.0E-05	--	1.2E-03	1.1E-04	--	2.0E-03
Chloroethane	--	1.0E+01	6.5E-05	--	6.2E-06	7.5E-05	--	7.2E-06
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	2.06E-04	1.9E+00	2.0E-03
Chloromethane	--	9.4E-02	1.5E-03	--	1.6E-02	2.0E-03	--	2.1E-02
Chromium	--	--	4.7E-06	--	--	5.2E-06	--	--
Chrysene	--	--	1.7E-07	--	--	1.4E-06	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	6.6E-05	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	3.9E-04	--	--
Cobalt	2.7E-07	6.3E-06	--	--	--	4.15E-07	1.5E+00	6.6E-02
Copper	--	--	--	--	--	--	--	--
Crotonaldehyde	--	--	--	--	--	3.9E-05	--	--
Cyclohexane	--	6.3E+00	9.5E-04	--	1.5E-04	2.1E-03	--	3.3E-04
Dibenzo(a,h)anthracene	--	--	--	--	--	1.6E-07	--	--
Dibenzofuran	--	--	--	--	--	4.1E-06	--	--
Dibromochloromethane	9.0E-05	--	--	--	--	1.89E-04	2.1E+00	--
Dibromomethane	--	4.2E-03	--	--	--	1.4E-04	--	3.4E-02
Dichlorodifluoromethane (Freon 12)	--	2.1E-01	--	--	--	2.7E-03	--	1.3E-02
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	--	--	--
Diethylphthalate	--	--	--	--	--	5.6E-06	--	--
Dimethylphthalate	--	--	--	--	--	6.2E-07	--	--
Di-n-butylphthalate	--	--	--	--	--	4.0E-05	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	--	4.3E-07	--	--
Endosulfan I	--	--	--	--	--	8.7E-07	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.07E-03	1.1E+00	1.0E-03
Fluoranthene	--	--	--	--	--	4.5E-06	--	--
Fluorene	--	--	4.8E-06	--	--	2.9E-06	--	--
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.10E-03	1.7E+01	3.0E-01
Gravimetrics-PM10	--	--	2.2E-02	--	--	7.0E-02	--	--
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.09E-04	4.6E+00	--
Hexachloroethane	6.1E-04	--	--	--	--	3.8E-05	6.2E-02	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 6 Support Site		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Hexaldehyde	--	--	--	--	--	4.5E-04	--	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	9.2E-01	--	1.3E+00
Indeno(1,2,3-c,d)pyrene	--	--	--	--	--	9.8E-07	--	--
Isobutyl Alcohol	--	--	--	--	--	1.5E-03	--	--
Isopropylbenzene	--	4.2E-01	8.7E-05	--	2.1E-04	8.8E-05	--	2.1E-04
Lead	--	1.7E-03	4.8E-06	--	2.8E-03	2.8E-05	--	1.6E-02
Manganese (Diet)	--	5.2E-05	2.0E-05	--	3.9E-01	1.6E-05	--	3.1E-01
Mercury	--	3.1E-04	--	--	--	3.2E-06	--	1.0E-02
Methacrylaldehyde	--	--	--	--	--	1.6E-04	--	--
Methyl Acetate	--	--	--	--	--	4.7E-04	--	--
Methyl tert-Butyl Ether	9.4E-03	3.1E+00	4.05E-04	4.3E-02	1.3E-04	4.67E-04	5.0E-02	1.5E-04
Methylcyclohexane	--	--	9.3E-04	--	--	1.0E-03	--	--
Methylene Chloride	5.2E-03	1.1E+00	7.5E-04	1.5E-01	6.9E-04	1.6E-03	3.2E-01	1.5E-03
M-tolualdehyde	--	--	--	--	--	3.7E-04	--	--
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.76E-05	1.1E+00	2.5E-02
Nitrobenzene	6.1E-05	9.4E-03	--	--	--	--	--	--
N-valeraldehyde	--	--	--	--	--	2.0E-04	--	--
o-Toluidine	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	1.5E-04	--	--
Phenanthrene	--	--	1.1E-05	--	--	1.4E-05	--	--
Phenol	--	2.1E-01	--	--	--	9.7E-06	--	4.6E-05
Propionaldehyde	--	8.3E-03	3.7E-04	--	4.4E-02	3.0E-04	--	3.5E-02
Pyrene	--	--	1.2E-06	--	--	3.5E-06	--	--
Styrene	--	1.0E+00	1.4E-03	--	1.4E-03	1.2E-03	--	1.2E-03
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	3.76E-03	9.1E+00	1.3E-02
Thallium	--	--	--	--	--	1.0E-06	--	--
Tin	--	--	--	--	--	4.7E-06	--	--
Toluene	--	5.2E+00	3.6E-03	--	7.0E-04	5.0E-03	--	9.6E-04
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	1.73E-06	2.0E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	2.53E-09	4.0E+01	6.1E-02
trans-1,2-Dichloroethene	--	6.3E-02	--	--	--	6.9E-05	--	1.1E-03
trans-1,3-Dichloropropene	--	--	--	--	--	4.0E-04	--	--
Trichloroethene	1.2E-03	--	1.9E-04	1.6E-01	--	1.3E-04	1.1E-01	--
Trichlorofluoromethane	--	7.3E-01	--	--	--	1.8E-03	--	2.4E-03

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 6 Support Site		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
Vanadium	--	--	--	--	--	--	--	--
Vinyl Acetate	--	2.1E-01	--	--	--	9.4E-04	--	4.5E-03
Vinyl Chloride	1.6E-04	1.0E-01	6.3E-05	3.9E-01	6.0E-04	--	--	--
Xylenes, Total	--	1.0E-01	6.9E-04	--	6.7E-03	4.6E-03	--	4.5E-02
TOTAL⁽⁴⁾:				159.55	33.12		784.45	127.22
TOTAL⁽⁵⁾:				159.55	33.12		126.35	126.21

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 7 Parco Eva		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.1E-04	3.4E-01	--
1,1,1-Trichloroethane	--	5.2E+00	1.4E-04	--	2.7E-05	1.2E-04	--	2.4E-05
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.16E-04	2.8E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	3.1E+01	--	--	--	6.9E-04	--	2.2E-05
1,1,2-Trichloroethane	1.5E-04	--	1.2E-04	7.9E-01	--	--	--	--
1,1'-Biphenyl	--	--	--	--	--	1.7E-06	--	--
1,1-Dichloroethane	1.5E-03	--	8.9E-05	5.9E-02	--	3.7E-05	2.4E-02	--
1,1-Dichloroethene	--	2.1E-01	8.9E-05	--	4.3E-04	6.2E-05	--	3.0E-04
1,2,3-Trichlorobenzene	--	--	--	--	--	3.7E-04	--	--
1,2,3-Trichloropropane	--	3.1E-04	--	--	--	4.3E-05	--	1.4E-01
1,2,4-Trichlorobenzene	--	2.1E-03	2.1E-04	--	1.0E-01	7.3E-04	--	3.5E-01
1,2,4-Trimethylbenzene	--	7.3E-03	1.0E-03	--	1.4E-01	1.5E-03	--	2.0E-01
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	1.06E-04	6.6E+02	5.1E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	--	--	--
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	1.5E-04	--	--
1,2-Dichlorobenzene	--	2.1E-01	--	--	--	2.5E-04	--	1.2E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	9.12E-05	9.7E-01	3.6E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	1.05E-02	4.3E+01	2.5E+00
1,3,5-Trimethylbenzene	--	--	2.1E-04	--	--	4.4E-04	--	--
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	4.28E-04	5.3E+00	2.0E-01
1,3-Dichlorobenzene	--	--	--	--	--	2.3E-04	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	3.00E-04	1.4E+00	3.6E-04
2,4,5-Trichlorophenol	--	--	--	--	--	5.9E-07	--	--
2,4,6-Trichlorophenol	7.9E-04	--	--	--	--	4.5E-07	5.8E-04	--
2,4-Dichlorophenol	--	--	--	--	--	6.7E-07	--	--
2,4-Dimethylphenol	--	--	--	--	--	1.8E-05	--	--
2,6-Dichlorophenol	--	--	--	--	--	4.7E-07	--	--
2,6-Dinitrotoluene	--	--	--	--	--	2.5E-07	--	--
2-Butanone (methyl ethyl ketone)	--	5.2E+00	4.6E-04	--	8.7E-05	2.6E-03	--	5.0E-04
2-Chloronaphthalene	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	1.0E-06	--	--
2-Methylphenol (o-Cresol)	--	6.3E-01	--	--	--	1.1E-05	--	1.7E-05
2-Nitrophenol	--	--	--	--	--	4.0E-07	--	--
3&4-Methylphenol	--	6.3E-01	--	--	--	4.2E-05	--	6.7E-05
3-Nitroaniline	--	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 7 Parco Eva		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
4,4-DDD	3.5E-05	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	1.1E-06	--	--
4-Chloroaniline	--	--	--	--	--	1.8E-07	--	--
4-Nitrophenol	--	--	--	--	--	5.8E-07	--	--
Acenaphthene	--	--	--	--	--	3.7E-07	--	--
Acenaphthylene	--	--	--	--	--	4.2E-06	--	--
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	7.49E-03	6.7E+00	8.0E-01
Acetone	--	3.2E+01	5.8E-02	--	1.8E-03	2.0E-02	--	6.3E-04
Acetonitrile	--	6.3E-02	6.1E-04	--	9.7E-03	5.7E-04	--	9.0E-03
Acetophenone	--	--	--	--	--	1.0E-02	--	--
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	5.16E-03	--	2.5E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.43E-04	4.0E+00	6.9E-02
alpha-Chlordane	2.4E-05	7.3E-04	--	--	--	--	--	--
Aluminum	--	5.2E-03	--	--	--	7.3E-04	--	1.4E-01
Aniline	1.5E-03	1.0E-03	--	--	--	2.0E-07	1.3E-04	1.9E-04
Anthracene	--	--	2.4E-07	--	--	3.6E-06	--	--
Antimony	--	--	--	--	--	7.8E-06	--	--
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	1.82E-06	3.2E+00	1.2E-01
Barium	--	5.2E-04	--	--	--	2.3E-05	--	4.4E-02
Benzaldehyde	--	--	--	--	--	7.8E-04	--	--
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	2.68E-03	8.6E+00	8.6E-02
Benzo(a)anthracene	--	--	1.3E-07	--	--	2.0E-06	--	--
Benzo(a)pyrene	--	--	1.80E-07	--	--	1.72E-06	--	--
Benzo(b)fluoranthene	--	--	1.4E-07	--	--	1.1E-06	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	1.6E-06	--	--
Benzo(k)fluoranthene	--	--	1.3E-07	--	--	1.3E-06	--	--
Beryllium	1.0E-06	2.1E-05	--	--	--	1.0E-07	9.9E-02	4.8E-03
Bis(2-Chloroethyl)ether	7.4E-06	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.0E-03	--	--	--	--	3.9E-05	3.9E-02	--
Bromodichloromethane	6.6E-05	--	--	--	--	1.02E-04	1.5E+00	--
Bromoform	2.2E-03	--	1.5E-04	6.8E-02	--	6.7E-05	3.0E-02	--
Bromomethane	--	5.2E-03	1.6E-04	--	3.0E-02	5.7E-05	--	1.1E-02
Butylbenzylphthalate	--	--	--	--	--	2.3E-05	--	--
Butyraldehyde	--	--	--	--	--	5.6E-04	--	--
Cadmium (Diet)	1.4E-06	1.0E-05	3.8E-07	2.8E-01	3.6E-02	8.3E-07	6.1E-01	8.0E-02

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 7 Parco Eva		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Carbazole	--	--	--	--	--	2.8E-07	--	--
Carbon Disulfide	--	7.3E-01	6.7E-05	--	9.2E-05	2.0E-03	--	2.7E-03
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.58E-04	4.1E+00	3.3E-03
Chlorobenzene	--	5.2E-02	6.0E-05	--	1.2E-03	7.9E-05	--	1.5E-03
Chloroethane	--	1.0E+01	6.5E-05	--	6.2E-06	6.2E-05	--	6.0E-06
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.85E-04	1.7E+00	1.8E-03
Chloromethane	--	9.4E-02	1.5E-03	--	1.6E-02	2.1E-03	--	2.2E-02
Chromium	--	--	4.7E-06	--	--	4.1E-06	--	--
Chrysene	--	--	1.7E-07	--	--	2.8E-06	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	1.2E-04	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	1.3E-04	--	--
Cobalt	2.7E-07	6.3E-06	--	--	--	3.53E-07	1.3E+00	5.6E-02
Copper	--	--	--	--	--	5.8E-04	--	--
Crotonaldehyde	--	--	--	--	--	4.3E-05	--	--
Cyclohexane	--	6.3E+00	9.5E-04	--	1.5E-04	2.5E-03	--	4.0E-04
Dibenzo(a,h)anthracene	--	--	--	--	--	4.2E-07	--	--
Dibenzofuran	--	--	--	--	--	5.9E-06	--	--
Dibromochloromethane	9.0E-05	--	--	--	--	1.40E-04	1.6E+00	--
Dibromomethane	--	4.2E-03	--	--	--	9.9E-05	--	2.4E-02
Dichlorodifluoromethane (Freon 12)	--	2.1E-01	--	--	--	2.5E-03	--	1.2E-02
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	8.69E-07	1.6E+00	--
Diethylphthalate	--	--	--	--	--	7.5E-06	--	--
Dimethylphthalate	--	--	--	--	--	4.9E-07	--	--
Di-n-butylphthalate	--	--	--	--	--	1.9E-05	--	--
Di-n-octylphthalate	--	--	--	--	--	6.1E-07	--	--
Diphenylamine	--	--	--	--	--	3.1E-07	--	--
Endosulfan I	--	--	--	--	--	8.1E-07	--	--
Endosulfan Sulfate	--	--	--	--	--	2.1E-06	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.22E-03	1.3E+00	1.2E-03
Fluoranthene	--	--	--	--	--	8.8E-06	--	--
Fluorene	--	--	4.8E-06	--	--	5.2E-06	--	--
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.89E-03	2.1E+01	3.8E-01
Gravimetrics-PM10	--	--	2.2E-02	--	--	6.9E-02	--	--
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	4.94E-04	4.4E+00	--
Hexachloroethane	6.1E-04	--	--	--	--	3.1E-05	5.1E-02	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 7 Parco Eva		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Hexaldehyde	--	--	--	--	--	2.5E-04	--	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	4.3E-03	--	5.8E-03
Indeno(1,2,3-c,d)pyrene	--	--	--	--	--	1.7E-06	--	--
Isobutyl Alcohol	--	--	--	--	--	1.1E-03	--	--
Isopropylbenzene	--	4.2E-01	8.7E-05	--	2.1E-04	1.1E-04	--	2.5E-04
Lead	--	1.7E-03	4.8E-06	--	2.8E-03	3.1E-05	--	1.8E-02
Manganese (Diet)	--	5.2E-05	2.0E-05	--	3.9E-01	1.3E-05	--	2.5E-01
Mercury	--	3.1E-04	--	--	--	3.7E-06	--	1.2E-02
Methacrylaldehyde	--	--	--	--	--	3.2E-04	--	--
Methyl Acetate	--	--	--	--	--	7.6E-04	--	--
Methyl tert-Butyl Ether	9.4E-03	3.1E+00	4.05E-04	4.3E-02	1.3E-04	7.10E-04	7.6E-02	2.3E-04
Methylcyclohexane	--	--	9.3E-04	--	--	1.1E-03	--	--
Methylene Chloride	5.2E-03	1.1E+00	7.5E-04	1.5E-01	6.9E-04	3.0E-03	5.8E-01	2.8E-03
M-tolualdehyde	--	--	--	--	--	3.4E-04	--	--
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	8.21E-05	1.1E+00	2.6E-02
Nitrobenzene	6.1E-05	9.4E-03	--	--	--	2.4E-07	3.9E-03	2.5E-05
N-valeraldehyde	--	--	--	--	--	2.2E-04	--	--
o-Toluidine	--	--	--	--	--	2.4E-07	--	--
Pentachlorobenzene	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--
Phenanthrene	--	--	1.1E-05	--	--	2.8E-05	--	--
Phenol	--	2.1E-01	--	--	--	1.4E-05	--	6.6E-05
Propionaldehyde	--	8.3E-03	3.7E-04	--	4.4E-02	5.1E-04	--	6.2E-02
Pyrene	--	--	1.2E-06	--	--	8.1E-06	--	--
Styrene	--	1.0E+00	1.4E-03	--	1.4E-03	2.7E-03	--	2.6E-03
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	2.53E-03	6.1E+00	8.9E-03
Thallium	--	--	--	--	--	9.2E-07	--	--
Tin	--	--	--	--	--	4.7E-06	--	--
Toluene	--	5.2E+00	3.6E-03	--	7.0E-04	6.5E-03	--	1.2E-03
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	2.36E-06	2.7E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	5.18E-10	8.1E+00	1.2E-02
trans-1,2-Dichloroethene	--	6.3E-02	--	--	--	6.6E-05	--	1.1E-03
trans-1,3-Dichloropropene	--	--	--	--	--	1.6E-04	--	--
Trichloroethene	1.2E-03	--	1.9E-04	1.6E-01	--	1.3E-04	1.1E-01	--
Trichlorofluoromethane	--	7.3E-01	--	--	--	1.8E-03	--	2.4E-03

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 7 Parco Eva		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
Vanadium	--	--	--	--	--	6.0E-06	--	--
Vinyl Acetate	--	2.1E-01	--	--	--	4.9E-04	--	2.3E-03
Vinyl Chloride	1.6E-04	1.0E-01	6.3E-05	3.9E-01	6.0E-04	4.3E-05	2.6E-01	4.1E-04
Xylenes, Total	--	1.0E-01	6.9E-04	--	6.7E-03	6.0E-03	--	5.7E-02
TOTAL⁽⁴⁾:				159.55	33.12		797.83	253.08
TOTAL⁽⁵⁾:				159.55	33.12		121.96	252.13

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 8 Villa		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.5E-04	4.4E-01	--
1,1,1-Trichloroethane	--	5.2E+00	1.4E-04	--	2.7E-05	2.0E-04	--	3.8E-05
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.22E-04	2.9E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	3.1E+01	--	--	--	7.2E-04	--	2.3E-05
1,1,2-Trichloroethane	1.5E-04	--	1.2E-04	7.9E-01	--	7.4E-05	4.9E-01	--
1,1'-Biphenyl	--	--	--	--	--	9.2E-07	--	--
1,1-Dichloroethane	1.5E-03	--	8.9E-05	5.9E-02	--	6.7E-05	4.4E-02	--
1,1-Dichloroethene	--	2.1E-01	8.9E-05	--	4.3E-04	9.5E-05	--	4.5E-04
1,2,3-Trichlorobenzene	--	--	--	--	--	7.0E-04	--	--
1,2,3-Trichloropropane	--	3.1E-04	--	--	--	7.4E-05	--	2.4E-01
1,2,4-Trichlorobenzene	--	2.1E-03	2.1E-04	--	1.0E-01	1.4E-03	--	6.6E-01
1,2,4-Trimethylbenzene	--	7.3E-03	1.0E-03	--	1.4E-01	1.2E-03	--	1.7E-01
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.37E-05	5.9E+02	4.5E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	1.29E-04	3.2E+01	1.4E-02
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	2.3E-04	--	--
1,2-Dichlorobenzene	--	2.1E-01	--	--	--	4.8E-04	--	2.3E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.43E-04	1.5E+00	5.7E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	6.43E-03	2.6E+01	1.5E+00
1,3,5-Trimethylbenzene	--	--	2.1E-04	--	--	4.7E-04	--	--
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	4.13E-04	5.1E+00	2.0E-01
1,3-Dichlorobenzene	--	--	--	--	--	1.8E-04	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	2.48E-04	1.1E+00	3.0E-04
2,4,5-Trichlorophenol	--	--	--	--	--	5.2E-07	--	--
2,4,6-Trichlorophenol	7.9E-04	--	--	--	--	6.0E-07	7.6E-04	--
2,4-Dichlorophenol	--	--	--	--	--	4.3E-07	--	--
2,4-Dimethylphenol	--	--	--	--	--	6.9E-06	--	--
2,6-Dichlorophenol	--	--	--	--	--	3.2E-07	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	5.2E+00	4.6E-04	--	8.7E-05	2.1E-03	--	4.1E-04
2-Chloronaphthalene	--	--	--	--	--	1.7E-07	--	--
2-Methylnaphthalene	--	--	--	--	--	5.1E-07	--	--
2-Methylphenol (o-Cresol)	--	6.3E-01	--	--	--	6.5E-06	--	1.0E-05
2-Nitrophenol	--	--	--	--	--	6.4E-07	--	--
3&4-Methylphenol	--	6.3E-01	--	--	--	2.4E-05	--	3.8E-05
3-Nitroaniline	--	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 8 Villa		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
4,4-DDD	3.5E-05	--	--	--	--	4.1E-07	1.2E-02	--
4-Chloro-3-Methylphenol	--	--	--	--	--	4.7E-07	--	--
4-Chloroaniline	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	7.5E-07	--	--
Acenaphthene	--	--	--	--	--	2.4E-07	--	--
Acenaphthylene	--	--	--	--	--	1.1E-06	--	--
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.79E-02	1.6E+01	1.9E+00
Acetone	--	3.2E+01	5.8E-02	--	1.8E-03	1.9E-02	--	5.8E-04
Acetonitrile	--	6.3E-02	6.1E-04	--	9.7E-03	1.4E-03	--	2.2E-02
Acetophenone	--	--	--	--	--	3.9E-03	--	--
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	1.95E-03	--	9.3E+01
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	2.01E-04	5.6E+00	9.6E-02
alpha-Chlordane	2.4E-05	7.3E-04	--	--	--	--	--	--
Aluminum	--	5.2E-03	--	--	--	9.4E-04	--	1.8E-01
Aniline	1.5E-03	1.0E-03	--	--	--	4.3E-07	2.8E-04	4.2E-04
Anthracene	--	--	2.4E-07	--	--	1.1E-06	--	--
Antimony	--	--	--	--	--	1.2E-05	--	--
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	1.05E-06	1.9E+00	6.8E-02
Barium	--	5.2E-04	--	--	--	1.8E-05	--	3.4E-02
Benzaldehyde	--	--	--	--	--	3.1E-03	--	--
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	2.12E-02	6.8E+01	6.8E-01
Benzo(a)anthracene	--	--	1.3E-07	--	--	6.4E-07	--	--
Benzo(a)pyrene	--	--	1.80E-07	--	--	5.21E-07	--	--
Benzo(b)fluoranthene	--	--	1.4E-07	--	--	4.5E-07	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	4.5E-07	--	--
Benzo(k)fluoranthene	--	--	1.3E-07	--	--	6.3E-07	--	--
Beryllium	1.0E-06	2.1E-05	--	--	--	1.2E-07	1.1E-01	5.5E-03
Bis(2-Chloroethyl)ether	7.4E-06	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.0E-03	--	--	--	--	5.6E-05	5.5E-02	--
Bromodichloromethane	6.6E-05	--	--	--	--	1.42E-04	2.2E+00	--
Bromoform	2.2E-03	--	1.5E-04	6.8E-02	--	9.8E-05	4.4E-02	--
Bromomethane	--	5.2E-03	1.6E-04	--	3.0E-02	1.1E-04	--	2.1E-02
Butylbenzylphthalate	--	--	--	--	--	1.1E-06	--	--
Butyraldehyde	--	--	--	--	--	3.8E-04	--	--
Cadmium (Diet)	1.4E-06	1.0E-05	3.8E-07	2.8E-01	3.6E-02	4.8E-07	3.6E-01	4.6E-02

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 8 Villa		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Carbazole	--	--	--	--	--	2.1E-07	--	--
Carbon Disulfide	--	7.3E-01	6.7E-05	--	9.2E-05	2.5E-03	--	3.4E-03
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.49E-04	4.0E+00	3.3E-03
Chlorobenzene	--	5.2E-02	6.0E-05	--	1.2E-03	1.4E-04	--	2.7E-03
Chloroethane	--	1.0E+01	6.5E-05	--	6.2E-06	9.8E-05	--	9.4E-06
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	2.63E-04	2.5E+00	2.6E-03
Chloromethane	--	9.4E-02	1.5E-03	--	1.6E-02	5.5E-03	--	5.9E-02
Chromium	--	--	4.7E-06	--	--	2.9E-06	--	--
Chrysene	--	--	1.7E-07	--	--	1.0E-06	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	7.9E-05	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	1.7E-04	--	--
Cobalt	2.7E-07	6.3E-06	--	--	--	2.58E-07	9.6E-01	4.1E-02
Copper	--	--	--	--	--	--	--	--
Crotonaldehyde	--	--	--	--	--	6.1E-05	--	--
Cyclohexane	--	6.3E+00	9.5E-04	--	1.5E-04	3.6E-02	--	5.7E-03
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	3.4E-06	--	--
Dibromochloromethane	9.0E-05	--	--	--	--	2.07E-04	2.3E+00	--
Dibromomethane	--	4.2E-03	--	--	--	1.2E-04	--	2.9E-02
Dichlorodifluoromethane (Freon 12)	--	2.1E-01	--	--	--	3.9E-03	--	1.9E-02
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	6.59E-07	1.2E+00	--
Diethylphthalate	--	--	--	--	--	6.5E-06	--	--
Dimethylphthalate	--	--	--	--	--	2.5E-07	--	--
Di-n-butylphthalate	--	--	--	--	--	1.9E-05	--	--
Di-n-octylphthalate	--	--	--	--	--	--	--	--
Diphenylamine	--	--	--	--	--	4.5E-07	--	--
Endosulfan I	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.81E-03	1.9E+00	1.7E-03
Fluoranthene	--	--	--	--	--	3.2E-06	--	--
Fluorene	--	--	4.8E-06	--	--	2.4E-06	--	--
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	2.80E-03	1.5E+01	2.7E-01
Gravimetrics-PM10	--	--	2.2E-02	--	--	6.5E-02	--	--
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	3.93E-04	3.5E+00	--
Hexachloroethane	6.1E-04	--	--	--	--	4.4E-05	7.2E-02	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 8 Villa		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Hexaldehyde	--	--	--	--	--	3.1E-04	--	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.6E-01	--	3.6E-01
Indeno(1,2,3-c,d)pyrene	--	--	--	--	--	9.4E-07	--	--
Isobutyl Alcohol	--	--	--	--	--	1.5E-03	--	--
Isopropylbenzene	--	4.2E-01	8.7E-05	--	2.1E-04	2.8E-04	--	6.8E-04
Lead	--	1.7E-03	4.8E-06	--	2.8E-03	3.0E-05	--	1.8E-02
Manganese (Diet)	--	5.2E-05	2.0E-05	--	3.9E-01	1.4E-05	--	2.7E-01
Mercury	--	3.1E-04	--	--	--	4.4E-06	--	1.4E-02
Methacrylaldehyde	--	--	--	--	--	4.7E-04	--	--
Methyl Acetate	--	--	--	--	--	4.2E-04	--	--
Methyl tert-Butyl Ether	9.4E-03	3.1E+00	4.05E-04	4.3E-02	1.3E-04	7.22E-04	7.7E-02	2.3E-04
Methylcyclohexane	--	--	9.3E-04	--	--	2.9E-02	--	--
Methylene Chloride	5.2E-03	1.1E+00	7.5E-04	1.5E-01	6.9E-04	1.6E-03	3.0E-01	1.4E-03
M-tolualdehyde	--	--	--	--	--	2.2E-04	--	--
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.06E-05	9.9E-01	2.3E-02
Nitrobenzene	6.1E-05	9.4E-03	--	--	--	--	--	--
N-valeraldehyde	--	--	--	--	--	2.3E-04	--	--
o-Toluidine	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--
Phenanthrene	--	--	1.1E-05	--	--	1.1E-05	--	--
Phenol	--	2.1E-01	--	--	--	8.7E-06	--	4.2E-05
Propionaldehyde	--	8.3E-03	3.7E-04	--	4.4E-02	2.6E-04	--	3.1E-02
Pyrene	--	--	1.2E-06	--	--	2.7E-06	--	--
Styrene	--	1.0E+00	1.4E-03	--	1.4E-03	8.2E-04	--	7.9E-04
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	4.80E-03	1.2E+01	1.7E-02
Thallium	--	--	--	--	--	1.1E-06	--	--
Tin	--	--	--	--	--	5.6E-06	--	--
Toluene	--	5.2E+00	3.6E-03	--	7.0E-04	3.0E-02	--	5.8E-03
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	7.14E-07	8.2E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	1.36E-09	2.1E+01	3.3E-02
trans-1,2-Dichloroethene	--	6.3E-02	--	--	--	9.6E-05	--	1.5E-03
trans-1,3-Dichloropropene	--	--	--	--	--	1.6E-04	--	--
Trichloroethene	1.2E-03	--	1.9E-04	1.6E-01	--	1.7E-04	1.4E-01	--
Trichlorofluoromethane	--	7.3E-01	--	--	--	1.7E-03	--	2.4E-03

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 8 Villa		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
Vanadium	--	--	--	--	--	6.6E-06	--	--
Vinyl Acetate	--	2.1E-01	--	--	--	6.3E-04	--	3.0E-03
Vinyl Chloride	1.6E-04	1.0E-01	6.3E-05	3.9E-01	6.0E-04	5.6E-05	3.5E-01	5.4E-04
Xylenes, Total	--	1.0E-01	6.9E-04	--	6.7E-03	6.9E-03	--	6.6E-02
TOTAL⁽⁴⁾:				159.55	33.12		816.95	101.02
TOTAL⁽⁵⁾:				159.55	33.12		203.93	99.97

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 9 Parco Le Ginestra		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.1E-04	3.4E-01	--
1,1,1-Trichloroethane	--	5.2E+00	1.4E-04	--	2.7E-05	1.2E-04	--	2.3E-05
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.12E-04	2.7E+00	--
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	--	3.1E+01	--	--	--	7.2E-04	--	2.3E-05
1,1,2-Trichloroethane	1.5E-04	--	1.2E-04	7.9E-01	--	5.8E-05	3.8E-01	--
1,1'-Biphenyl	--	--	--	--	--	9.4E-07	--	--
1,1-Dichloroethane	1.5E-03	--	8.9E-05	5.9E-02	--	3.2E-05	2.1E-02	--
1,1-Dichloroethene	--	2.1E-01	8.9E-05	--	4.3E-04	5.7E-05	--	2.7E-04
1,2,3-Trichlorobenzene	--	--	--	--	--	4.5E-04	--	--
1,2,3-Trichloropropane	--	3.1E-04	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	2.1E-03	2.1E-04	--	1.0E-01	7.0E-04	--	3.4E-01
1,2,4-Trimethylbenzene	--	7.3E-03	1.0E-03	--	1.4E-01	1.2E-03	--	1.6E-01
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.11E-05	5.7E+02	4.4E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	7.05E-05	1.7E+01	7.5E-03
1,2-Dichloro-1,1,2,2-Tetrafluoroethane (Freon 114)	--	--	--	--	--	1.6E-04	--	--
1,2-Dichlorobenzene	--	2.1E-01	--	--	--	2.5E-04	--	1.2E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	9.27E-05	9.9E-01	3.7E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	2.96E-03	1.2E+01	7.1E-01
1,3,5-Trimethylbenzene	--	--	2.1E-04	--	--	3.5E-04	--	--
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.37E-04	4.2E+00	1.6E-01
1,3-Dichlorobenzene	--	--	--	--	--	2.1E-04	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	3.11E-04	1.4E+00	3.7E-04
2,4,5-Trichlorophenol	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	7.9E-04	--	--	--	--	4.6E-07	5.8E-04	--
2,4-Dichlorophenol	--	--	--	--	--	4.4E-07	--	--
2,4-Dimethylphenol	--	--	--	--	--	1.1E-05	--	--
2,6-Dichlorophenol	--	--	--	--	--	3.6E-07	--	--
2,6-Dinitrotoluene	--	--	--	--	--	--	--	--
2-Butanone (methyl ethyl ketone)	--	5.2E+00	4.6E-04	--	8.7E-05	2.9E-03	--	5.5E-04
2-Chloronaphthalene	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	--	--	7.2E-07	--	--
2-Methylphenol (o-Cresol)	--	6.3E-01	--	--	--	9.5E-06	--	1.5E-05
2-Nitrophenol	--	--	--	--	--	5.2E-07	--	--
3&4-Methylphenol	--	6.3E-01	--	--	--	3.0E-05	--	4.9E-05
3-Nitroaniline	--	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 9 Parco Le Ginestra		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
4,4-DDD	3.5E-05	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	--	--	--	--	--	6.3E-07	--	--
4-Chloroaniline	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	--	7.0E-07	--	--
Acenaphthene	--	--	--	--	--	3.6E-07	--	--
Acenaphthylene	--	--	--	--	--	2.3E-06	--	--
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	9.75E-03	8.8E+00	1.0E+00
Acetone	--	3.2E+01	5.8E-02	--	1.8E-03	1.7E-02	--	5.4E-04
Acetonitrile	--	6.3E-02	6.1E-04	--	9.7E-03	6.9E-04	--	1.1E-02
Acetophenone	--	--	--	--	--	7.3E-03	--	--
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.90E-03	--	1.4E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.49E-04	4.2E+00	7.1E-02
alpha-Chlordane	2.4E-05	7.3E-04	--	--	--	3.3E-07	1.4E-02	4.5E-04
Aluminum	--	5.2E-03	--	--	--	1.2E-03	--	2.2E-01
Aniline	1.5E-03	1.0E-03	--	--	--	--	--	--
Anthracene	--	--	2.4E-07	--	--	2.0E-06	--	--
Antimony	--	--	--	--	--	4.8E-06	--	--
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	2.29E-06	4.0E+00	1.5E-01
Barium	--	5.2E-04	--	--	--	2.1E-05	--	4.1E-02
Benzaldehyde	--	--	--	--	--	8.6E-04	--	--
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.93E-03	6.2E+00	6.2E-02
Benzo(a)anthracene	--	--	1.3E-07	--	--	9.5E-07	--	--
Benzo(a)pyrene	--	--	1.80E-07	--	--	7.30E-07	--	--
Benzo(b)fluoranthene	--	--	1.4E-07	--	--	6.5E-07	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	7.4E-07	--	--
Benzo(k)fluoranthene	--	--	1.3E-07	--	--	6.4E-07	--	--
Beryllium	1.0E-06	2.1E-05	--	--	--	1.3E-07	1.3E-01	6.2E-03
Bis(2-Chloroethyl)ether	7.4E-06	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phtalate	1.0E-03	--	--	--	--	2.1E-05	2.1E-02	--
Bromodichloromethane	6.6E-05	--	--	--	--	1.06E-04	1.6E+00	--
Bromoform	2.2E-03	--	1.5E-04	6.8E-02	--	--	--	--
Bromomethane	--	5.2E-03	1.6E-04	--	3.0E-02	7.1E-05	--	1.4E-02
Butylbenzylphtalate	--	--	--	--	--	8.5E-06	--	--
Butyraldehyde	--	--	--	--	--	4.6E-04	--	--
Cadmium (Diet)	1.4E-06	1.0E-05	3.8E-07	2.8E-01	3.6E-02	4.7E-07	3.5E-01	4.5E-02

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 9 Parco Le Ginestra		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Carbazole	--	--	--	--	--	1.7E-07	--	--
Carbon Disulfide	--	7.3E-01	6.7E-05	--	9.2E-05	2.0E-03	--	2.8E-03
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.27E-04	3.9E+00	3.2E-03
Chlorobenzene	--	5.2E-02	6.0E-05	--	1.2E-03	7.3E-05	--	1.4E-03
Chloroethane	--	1.0E+01	6.5E-05	--	6.2E-06	6.4E-05	--	6.1E-06
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.50E-04	1.4E+00	1.5E-03
Chloromethane	--	9.4E-02	1.5E-03	--	1.6E-02	3.5E-03	--	3.7E-02
Chromium	--	--	4.7E-06	--	--	4.8E-06	--	--
Chrysene	--	--	1.7E-07	--	--	1.5E-06	--	--
cis-1,2-Dichloroethene	--	--	--	--	--	6.6E-05	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	4.9E-05	--	--
Cobalt	2.7E-07	6.3E-06	--	--	--	4.57E-07	1.7E+00	7.3E-02
Copper	--	--	--	--	--	3.1E-04	--	--
Crotonaldehyde	--	--	--	--	--	1.9E-05	--	--
Cyclohexane	--	6.3E+00	9.5E-04	--	1.5E-04	1.0E-03	--	1.6E-04
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	--	--	4.0E-06	--	--
Dibromochloromethane	9.0E-05	--	--	--	--	1.27E-04	1.4E+00	--
Dibromomethane	--	4.2E-03	--	--	--	9.3E-05	--	2.2E-02
Dichlorodifluoromethane (Freon 12)	--	2.1E-01	--	--	--	3.2E-03	--	1.5E-02
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	4.70E-07	8.9E-01	--
Diethylphthalate	--	--	--	--	--	8.3E-06	--	--
Dimethylphthalate	--	--	--	--	--	3.7E-07	--	--
Di-n-butylphthalate	--	--	--	--	--	3.5E-05	--	--
Di-n-octylphthalate	--	--	--	--	--	5.6E-07	--	--
Diphenylamine	--	--	--	--	--	3.1E-07	--	--
Endosulfan I	--	--	--	--	--	8.7E-07	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.07E-03	1.1E+00	1.0E-03
Fluoranthene	--	--	--	--	--	4.6E-06	--	--
Fluorene	--	--	4.8E-06	--	--	3.3E-06	--	--
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.30E-03	1.8E+01	3.2E-01
Gravimetrics-PM10	--	--	2.2E-02	--	--	7.6E-02	--	--
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	4.83E-04	4.3E+00	--
Hexachloroethane	6.1E-04	--	--	--	--	--	--	--

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 9 Parco Le Ginestra		
			Exposure Point Concentration mg/m ³ (¹)	CEF	NCEF	Exposure Point Concentration mg/m ³ (²)	CEF	NCEF
Hexaldehyde	--	--	--	--	--	1.8E-04	--	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.1E-02	--	2.8E-02
Indeno(1,2,3-c,d)pyrene	--	--	--	--	--	9.7E-07	--	--
Isobutyl Alcohol	--	--	--	--	--	1.2E-03	--	--
Isopropylbenzene	--	4.2E-01	8.7E-05	--	2.1E-04	1.2E-04	--	2.8E-04
Lead	--	1.7E-03	4.8E-06	--	2.8E-03	1.8E-05	--	1.0E-02
Manganese (Diet)	--	5.2E-05	2.0E-05	--	3.9E-01	2.1E-05	--	4.1E-01
Mercury	--	3.1E-04	--	--	--	3.3E-06	--	1.0E-02
Methacrylaldehyde	--	--	--	--	--	2.1E-04	--	--
Methyl Acetate	--	--	--	--	--	4.8E-04	--	--
Methyl tert-Butyl Ether	9.4E-03	3.1E+00	4.05E-04	4.3E-02	1.3E-04	8.13E-04	8.7E-02	2.6E-04
Methylcyclohexane	--	--	9.3E-04	--	--	1.2E-03	--	--
Methylene Chloride	5.2E-03	1.1E+00	7.5E-04	1.5E-01	6.9E-04	1.2E-03	2.4E-01	1.1E-03
M-tolualdehyde	--	--	--	--	--	1.8E-04	--	--
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	5.12E-05	7.1E-01	1.6E-02
Nitrobenzene	6.1E-05	9.4E-03	--	--	--	--	--	--
N-valeraldehyde	--	--	--	--	--	1.6E-04	--	--
o-Toluidine	--	--	--	--	--	--	--	--
Pentachlorobenzene	--	--	--	--	--	--	--	--
Pentachloroethane	--	--	--	--	--	--	--	--
Phenanthrene	--	--	1.1E-05	--	--	1.7E-05	--	--
Phenol	--	2.1E-01	--	--	--	9.3E-06	--	4.4E-05
Propionaldehyde	--	8.3E-03	3.7E-04	--	4.4E-02	3.3E-04	--	3.9E-02
Pyrene	--	--	1.2E-06	--	--	4.0E-06	--	--
Styrene	--	1.0E+00	1.4E-03	--	1.4E-03	5.4E-04	--	5.2E-04
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	3.99E-03	9.7E+00	1.4E-02
Thallium	--	--	--	--	--	7.2E-07	--	--
Tin	--	--	--	--	--	4.4E-06	--	--
Toluene	--	5.2E+00	3.6E-03	--	7.0E-04	5.6E-03	--	1.1E-03
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	9.37E-07	1.1E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	1.95E-09	3.0E+01	4.7E-02
trans-1,2-Dichloroethene	--	6.3E-02	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	7.6E-05	--	--
Trichloroethene	1.2E-03	--	1.9E-04	1.6E-01	--	1.4E-04	1.2E-01	--
Trichlorofluoromethane	--	7.3E-01	--	--	--	1.8E-03	--	2.4E-03

Table F-13: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs (Detected Constituents Only)

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 9 Parco Le Ginestra		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
Vanadium	--	--	--	--	--	6.8E-06	--	--
Vinyl Acetate	--	2.1E-01	--	--	--	7.7E-04	--	3.7E-03
Vinyl Chloride	1.6E-04	1.0E-01	6.3E-05	3.9E-01	6.0E-04	4.0E-05	2.5E-01	3.8E-04
Xylenes, Total	--	1.0E-01	6.9E-04	--	6.7E-03	5.0E-03	--	4.8E-02
TOTAL⁽⁴⁾:				159.55	33.12		708.90	143.20
TOTAL⁽⁵⁾:				159.55	33.12		104.03	142.32

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-14: Naples Ambient Air Cumulative Exceedance Factors by Study Area Compared to 2007 USEPA Air Toxics Database Ambient Air Cumulative Exceedance Factors

Study Area/Location	Ambient Air Cumulative EFs for All Constituents Detected in Ambient Air in Naples ⁽³⁾		Ambient Air Cumulative EFs for All Constituents Detected in Ambient Air in Naples for Which Ambient Air Concentrations in the United States Were Available for Comparison ⁽⁴⁾	
	CCEF	CNCEF	CCEF	CNCEF
Study Area 1 - JFC NATO	552.9	127.7	110.5	127.1
Study Area 2 - U.S. Consulate	790.6	102.5	135.6	101.7
Study Area 3 - Cappodichino	846.0	171.9	112.2	170.8
Study Area 4 - Carney Park ⁽¹⁾	494.5	75.4	94.1	75.0
Study Area 5 - Receiver Site	700.8	130.2	122.8	129.3
Study Area 6 - Support Site	784.4	127.2	126.4	126.2
Study Area 7 - Parco Eva	797.8	253.1	122.0	252.1
Study Area 8 - Villa	816.9	101.0	203.9	100.0
Study Area 9 - Parco LeGinestre	708.9	143.2	104.0	142.3
<i>Range of CCEFs and CNCEFs for Ambient Air from the 9 Study Areas in Naples</i>	<i>494.5 - 846.0</i>	<i>75.4 - 253.1</i>	<i>94.1 - 203.9</i>	<i>75.0 - 252.1</i>
U.S. Ambient Air 2007 ⁽²⁾	159.5	33.1	159.5	33.1

Notes:

⁽¹⁾This facility is located in Study Area 1 but was used to evaluate ambient air in Study Area 4.

⁽²⁾ Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

⁽³⁾ These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

⁽⁴⁾ These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-15: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 1 JFC NATO		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	9.7E-05	3.0E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	8.04E-05	1.9E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	7.03E-05	4.4E+02	3.4E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	7.00E-05	1.7E+01	7.5E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	7.26E-05	7.8E-01	2.9E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	8.49E-03	3.5E+01	2.0E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	--	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	1.88E-04	8.5E-01	2.3E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	9.73E-03	8.8E+00	1.0E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.56E-03	--	1.2E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.68E-04	4.7E+00	8.0E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	2.50E-06	4.4E+00	1.6E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.27E-03	4.1E+00	4.0E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.08E-04	1.6E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.39E-04	3.9E+00	3.2E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.55E-04	1.5E+00	1.5E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	1.80E-07	6.7E-01	2.9E-02
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	7.84E-04	8.1E-01	7.5E-04
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	2.74E-03	1.5E+01	2.7E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.56E-04	5.0E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.3E-02	--	3.2E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.24E-05	1.0E+00	2.3E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	1.83E-03	4.5E+00	6.5E-03
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	3.42E-07	3.9E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	4.03E-11	6.3E-01	9.7E-04
TOTAL (4)				159.55	33.12		552.86	127.75
TOTAL (5)				159.55	33.12		110.49	127.11

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatabart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-15: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 2 Consulate		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.6E-04	5.0E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.27E-04	3.0E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	1.04E-04	6.5E+02	5.0E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	1.11E-04	2.7E+01	1.2E-02
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.13E-04	1.2E+00	4.5E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	4.43E-03	1.8E+01	1.1E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	4.56E-04	5.6E+00	2.2E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	2.34E-04	1.1E+00	2.8E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.07E-02	9.6E+00	1.1E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.01E-03	--	9.6E+01
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	2.21E-04	6.2E+00	1.1E-01
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	3.72E-06	6.6E+00	2.4E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	3.03E-03	9.7E+00	9.7E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.54E-04	2.3E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.33E-04	3.9E+00	3.2E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.64E-04	1.5E+00	1.6E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	3.93E-07	1.5E+00	6.3E-02
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	4.65E-07	8.8E-01	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	2.31E-03	2.4E+00	2.2E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.12E-03	1.7E+01	3.1E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.97E-04	5.4E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.8E-02	--	3.8E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	1.94E-04	2.7E+00	6.2E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	4.42E-03	1.1E+01	1.6E-02
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	3.27E-07	3.7E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	3.87E-11	6.0E-01	9.3E-04
TOTAL (4):				159.55	33.12		790.57	102.49
TOTAL (5):				159.55	33.12		135.57	101.65

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatabart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-15: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 3 CAPO		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.3E-04	3.9E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.09E-04	2.6E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	1.16E-04	7.3E+02	5.6E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	--	--	--
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	8.49E-05	9.1E-01	3.4E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	6.74E-03	2.8E+01	1.6E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.38E-04	4.2E+00	1.6E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	3.04E-04	1.4E+00	3.6E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	6.96E-03	6.3E+00	7.4E-01
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	3.46E-03	--	1.7E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.49E-04	4.2E+00	7.1E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	9.28E-06	1.6E+01	5.9E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	2.28E-03	7.3E+00	7.3E-02
Bromodichloromethane	6.6E-05	--	--	--	--	--	--	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	5.98E-04	3.7E+00	3.0E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.26E-04	1.2E+00	1.2E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	4.01E-07	1.5E+00	6.4E-02
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	1.08E-06	2.0E+00	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.47E-03	1.5E+00	1.4E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.44E-03	1.8E+01	3.4E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.55E-04	5.0E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	6.7E-02	--	9.2E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	8.14E-05	1.1E+00	2.6E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	2.39E-03	5.8E+00	8.4E-03
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	5.43E-07	6.2E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	3.20E-10	5.0E+00	7.7E-03
TOTAL (4):				159.55	33.12		845.98	171.87
TOTAL (5):				159.55	33.12		112.17	170.79

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatarant/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-15: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 4 ⁽³⁾ Carney Park		
			Exposure Point Concentration mg/m ³ ⁽¹⁾	CEF	NCEF	Exposure Point Concentration mg/m ³ ⁽²⁾	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.0E-04	3.1E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	8.67E-05	2.1E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	6.34E-05	4.0E+02	3.0E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	7.62E-05	1.9E+01	8.1E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.66E-04	1.8E+00	6.5E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	2.73E-03	1.1E+01	6.5E-01
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	--	--	--
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	1.56E-04	7.1E-01	1.9E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.04E-02	9.3E+00	1.1E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	1.50E-03	--	7.2E+01
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.25E-04	3.5E+00	6.0E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	2.14E-06	3.8E+00	1.4E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.24E-03	4.0E+00	3.9E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.30E-04	2.0E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.30E-04	3.9E+00	3.2E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	3.34E-04	3.1E+00	3.3E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	1.39E-07	5.2E-01	2.2E-02
Dibromochloromethane	9.0E-05	--	--	--	--	--	--	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	7.69E-04	7.9E-01	7.4E-04
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.05E-03	1.6E+01	3.0E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	3.57E-04	3.2E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	9.0E-03	--	1.2E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	5.52E-05	7.7E-01	1.8E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	4.09E-03	9.9E+00	1.4E-02
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	4.04E-07	4.6E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	4.62E-11	7.2E-01	1.1E-03
TOTAL⁽⁴⁾				159.55	33.12		494.47	75.40
TOTAL⁽⁵⁾				159.55	33.12		94.09	74.96

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

⁽¹⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

⁽²⁾ EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

⁽³⁾ This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

⁽⁴⁾ These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

⁽⁵⁾ These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-15: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 5 Receiver Site		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.2E-04	3.7E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	9.53E-05	2.3E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.07E-05	5.7E+02	4.3E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	1.01E-04	2.5E+01	1.1E-02
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.06E-04	1.1E+00	4.2E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	6.91E-03	2.8E+01	1.7E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.04E-04	3.8E+00	1.5E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	2.07E-04	9.4E-01	2.5E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.06E-02	9.5E+00	1.1E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.59E-03	--	1.2E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.52E-04	4.2E+00	7.3E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	3.95E-06	7.0E+00	2.5E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.80E-03	5.8E+00	5.8E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.53E-04	2.3E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.81E-04	4.2E+00	3.5E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.30E-04	1.2E+00	1.3E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	2.36E-07	8.8E-01	3.8E-02
Dibromochloromethane	9.0E-05	--	--	--	--	1.75E-04	1.9E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	7.01E-07	1.3E+00	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	7.41E-04	7.6E-01	7.1E-04
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	2.60E-03	1.4E+01	2.5E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	3.54E-04	3.2E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	6.3E-01	--	8.6E-01
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.64E-05	1.1E+00	2.4E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	2.73E-03	6.6E+00	9.7E-03
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	9.01E-07	1.0E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	3.46E-10	5.4E+00	8.3E-03
TOTAL (4):				159.55	33.12		700.79	130.21
TOTAL (5):				159.55	33.12		122.80	129.30

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatabart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-15: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 6 Support Site		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	3.7E-04	1.1E+00	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.37E-04	3.3E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.78E-05	6.1E+02	4.7E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	9.96E-05	2.5E+01	1.1E-02
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	9.37E-05	1.0E+00	3.7E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	5.71E-03	2.4E+01	1.4E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.11E-04	3.8E+00	1.5E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	5.10E-04	2.3E+00	6.1E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	9.98E-03	9.0E+00	1.1E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.52E-03	--	1.2E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.52E-04	4.2E+00	7.3E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	3.62E-06	6.4E+00	2.3E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.96E-03	6.3E+00	6.3E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.37E-04	2.1E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.57E-04	4.1E+00	3.3E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	2.06E-04	1.9E+00	2.0E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	4.15E-07	1.5E+00	6.6E-02
Dibromochloromethane	9.0E-05	--	--	--	--	1.89E-04	2.1E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	--	--	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.07E-03	1.1E+00	1.0E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.10E-03	1.7E+01	3.0E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	5.09E-04	4.6E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	9.2E-01	--	1.3E+00
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.76E-05	1.1E+00	2.5E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	3.76E-03	9.1E+00	1.3E-02
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	1.73E-06	2.0E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	2.53E-09	4.0E+01	6.1E-02
TOTAL (4):				159.55	33.12		784.45	127.22
TOTAL (5):				159.55	33.12		126.35	126.21

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-15: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 7 Parco Eva		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.1E-04	3.4E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.16E-04	2.8E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	1.06E-04	6.6E+02	5.1E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	--	--	--
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	9.12E-05	9.7E-01	3.6E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	1.05E-02	4.3E+01	2.5E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	4.28E-04	5.3E+00	2.0E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	3.00E-04	1.4E+00	3.6E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	7.49E-03	6.7E+00	8.0E-01
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	5.16E-03	--	2.5E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.43E-04	4.0E+00	6.9E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	1.82E-06	3.2E+00	1.2E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	2.68E-03	8.6E+00	8.6E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.02E-04	1.5E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.58E-04	4.1E+00	3.3E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.85E-04	1.7E+00	1.8E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	3.53E-07	1.3E+00	5.6E-02
Dibromochloromethane	9.0E-05	--	--	--	--	1.40E-04	1.6E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	8.69E-07	1.6E+00	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.22E-03	1.3E+00	1.2E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.89E-03	2.1E+01	3.8E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	4.94E-04	4.4E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	4.3E-03	--	5.8E-03
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	8.21E-05	1.1E+00	2.6E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	2.53E-03	6.1E+00	8.9E-03
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	2.36E-06	2.7E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	5.18E-10	8.1E+00	1.2E-02
TOTAL (4):				159.55	33.12		797.83	253.08
TOTAL (5):				159.55	33.12		121.96	252.13

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-15: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 8 Villa		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.5E-04	4.4E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.22E-04	2.9E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.37E-05	5.9E+02	4.5E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	1.29E-04	3.2E+01	1.4E-02
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	1.43E-04	1.5E+00	5.7E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	6.43E-03	2.6E+01	1.5E+00
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	4.13E-04	5.1E+00	2.0E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	2.48E-04	1.1E+00	3.0E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	1.79E-02	1.6E+01	1.9E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	1.95E-03	--	9.3E+01
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	2.01E-04	5.6E+00	9.6E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	1.05E-06	1.9E+00	6.8E-02
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	2.12E-02	6.8E+01	6.8E-01
Bromodichloromethane	6.6E-05	--	--	--	--	1.42E-04	2.2E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.49E-04	4.0E+00	3.3E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	2.63E-04	2.5E+00	2.6E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	2.58E-07	9.6E-01	4.1E-02
Dibromochloromethane	9.0E-05	--	--	--	--	2.07E-04	2.3E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	6.59E-07	1.2E+00	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.81E-03	1.9E+00	1.7E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	2.80E-03	1.5E+01	2.7E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	3.93E-04	3.5E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.6E-01	--	3.6E-01
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	7.06E-05	9.9E-01	2.3E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	4.80E-03	1.2E+01	1.7E-02
Total Carcinogenic PAHs (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	7.14E-07	8.2E-01	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	1.36E-09	2.1E+01	3.3E-02
TOTAL (4):				159.55	33.12		816.95	101.02
TOTAL (5):				159.55	33.12		203.93	99.97

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatamart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

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Table F-15: Naples Ambient Air EPCs and 2007 USEPA Air Toxics Database EPCs Compared to USEPA RSLs for Constituents that Exceed the RSL in at Least One Study Area

COPCs	December 2009 Residential Ambient Air Cancer RSL mg/m ³	December 2009 Residential Ambient Air Noncancer RSL mg/m ³	2007 USEPA Air Toxics Database			Study Area/Location Study Area 9 Parco Le Ginestra		
			Exposure Point Concentration mg/m ³ (1)	CEF	NCEF	Exposure Point Concentration mg/m ³ (2)	CEF	NCEF
1,1,1,2-Tetrachloroethane	3.3E-04	--	--	--	--	1.1E-04	3.4E-01	--
1,1,2,2-Tetrachloroethane	4.2E-05	--	1.52E-04	3.6E+00	--	1.12E-04	2.7E+00	--
1,2-Dibromo-3-Chloropropane	1.6E-07	2.1E-04	--	--	--	9.11E-05	5.7E+02	4.4E-01
1,2-Dibromoethane	4.1E-06	9.4E-03	1.69E-04	4.2E+01	1.8E-02	7.05E-05	1.7E+01	7.5E-03
1,2-Dichloroethane	9.4E-05	2.5E+00	1.84E-04	2.0E+00	7.3E-05	9.27E-05	9.9E-01	3.7E-05
1,2-Dichloropropane	2.4E-04	4.2E-03	7.34E-05	3.0E-01	1.8E-02	2.96E-03	1.2E+01	7.1E-01
1,3-Butadiene	8.1E-05	2.1E-03	9.10E-04	1.1E+01	4.4E-01	3.37E-04	4.2E+00	1.6E-01
1,4-Dichlorobenzene	2.2E-04	8.3E-01	2.77E-04	1.3E+00	3.3E-04	3.11E-04	1.4E+00	3.7E-04
Acetaldehyde	1.1E-03	9.4E-03	7.75E-03	7.0E+00	8.3E-01	9.75E-03	8.8E+00	1.0E+00
Acrolein	--	2.1E-05	6.15E-04	--	2.9E+01	2.90E-03	--	1.4E+02
Acrylonitrile	3.6E-05	2.1E-03	1.07E-04	3.0E+00	5.1E-02	1.49E-04	4.2E+00	7.1E-02
Arsenic	5.7E-07	1.6E-05	5.59E-06	9.9E+00	3.6E-01	2.29E-06	4.0E+00	1.5E-01
Benzene	3.1E-04	3.1E-02	1.62E-03	5.2E+00	5.2E-02	1.93E-03	6.2E+00	6.2E-02
Bromodichloromethane	6.6E-05	--	--	--	--	1.06E-04	1.6E+00	--
Carbon Tetrachloride	1.6E-04	2.0E-01	5.66E-04	3.5E+00	2.9E-03	6.27E-04	3.9E+00	3.2E-03
Chloroform	1.1E-04	1.0E-01	2.73E-04	2.6E+00	2.7E-03	1.50E-04	1.4E+00	1.5E-03
Cobalt	2.7E-07	6.3E-06	--	--	--	4.57E-07	1.7E+00	7.3E-02
Dibromochloromethane	9.0E-05	--	--	--	--	1.27E-04	1.4E+00	--
Dieldrin	5.3E-07	--	2.50E-07	4.7E-01	--	4.70E-07	8.9E-01	--
Ethylbenzene	9.7E-04	1.0E+00	6.36E-04	6.5E-01	6.1E-04	1.07E-03	1.1E+00	1.0E-03
Formaldehyde	1.9E-04	1.0E-02	1.15E-02	6.2E+01	1.1E+00	3.30E-03	1.8E+01	3.2E-01
Hexachlorobutadiene	1.1E-04	--	2.02E-04	1.8E+00	--	4.83E-04	4.3E+00	--
Hexane	--	7.3E-01	2.4E-03	--	3.3E-03	2.1E-02	--	2.8E-02
Naphthalene	7.2E-05	3.1E-03	7.96E-05	1.1E+00	2.5E-02	5.12E-05	7.1E-01	1.6E-02
Tetrachloroethene	4.1E-04	2.8E-01	2.48E-04	6.0E-01	8.8E-04	3.99E-03	9.7E+00	1.4E-02
Total Carcinogenic PAHS (BaP TEQs)	8.7E-07	--	2.05E-07	2.3E-01	--	9.37E-07	1.1E+00	--
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	6.4E-11	4.2E-08	--	--	--	1.95E-09	3.0E+01	4.7E-02
TOTAL (4):				159.55	33.12		708.90	143.20
TOTAL (5):				159.55	33.12		104.03	142.32

Notes:

-- = Constituent was not detected at this location.

Shaded and bold values are instances where the EPC is greater than the RSL

(1) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Data was obtained for 2007 USEPA Air Toxics Database: San Diego County, California; Los Angeles County, California; King County (Seattle), Washington; Harris County (Houston), Texas; Ellis County (Midlothian), Texas; Washington DC. <https://www.epa.gov/ttn/airs/aqsdatabart/index.htm>.

(2) EPC was based on the 95% upper confidence limit on the mean where the underlying distribution, at 5% significance level, was "Normal" or "Undetermined"; logarithmic 95% upper confidence limit on the logarithmic mean where the underlying distribution, at 5% significance level, was "Lognormal" -- and capped at the maximum detected concentration. Ambient air data collected as part of the year-long ambient air monitoring study (06/01/2008 - 07/08/2009).

(3) This facility is located in Study Area 1 but used to evaluate ambient air in Study Area 4.

(4) These results are not directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was included in these CCEF/CNCEF calculations. Consequently, it is not possible to determine if the ambient air risks in Naples are truly higher than the risks based on the 2007 USEPA Air Toxics database.

(5) These results are directly comparable between Naples and the United States because the CEFs/NCEFs for COPCs that were detected in ambient air in Naples but were not available in the 2007 USEPA Air Toxics Database, were not included in the CCEF/CNCEF calculations. For example, 1,2-dibromo-3-chloropropane was detected in ambient air in Naples and was responsible for approximately 80% of the CCEF but was not available in the 2007 USEPA Air Toxics Database. It was not included in these CCEF/CNCEF calculations.

Table F-16: Constituents of Concern Identified for Ambient Air

COCs ⁽¹⁾	Typical Urban Air (2007 USEPA Air Toxics Database) ⁽²⁾			Summary of CEFs and NCEFs for the Nine Study Areas									
				Minimum and Maximum CEFs (NCEFs)				Ratio of Max CEF to CEF for Typical Urban Air or (Ratio Max NCEF to NCEF for Typical Urban Air)	Contribution to CCEF or CNCEF				
	EPC	CEF	NCEF	Min CEF (NCEF)	Location of Minimum	Max CEF (NCEF)	Location of Maximum		Average % of Naples Air CCEF	Average % of Naples Air CNCEF	% of U.S. Air CCEF	% of U.S. Air CNCEF	
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	396.5	Study Area 4	726.5	Study Area 3	N/A	80.2%	0.3%	N/A	N/A	
1,2-Dichloropropane	7.3E-05	0.3	0.02	11.2	Study Area 4	43.4	Study Area 7	143.8	3.5%	1.1%	0.2%	0.1%	
Acetaldehyde	7.8E-03	7.0	0.8	6.3	Study Area 3	16.1	Study Area 8	2.3	1.3%	0.9%	4.4%	2.5%	
Acrolein	6.1E-04	--	29.4	(71.9)	Study Area 4	(246.8)	Study Area 7	(8.4)	--	95.4%	--	88.8%	
Arsenic	5.6E-06	9.9	0.4	1.9	Study Area 8	16.4	Study Area 3	1.7	0.8%	0.2%	6.2%	1.1%	
Benzene	1.6E-03	5.2	0.05	4.0	Study Area 4	68.1	Study Area 8	13.1	1.7%	0.1%	3.3%	0.2%	
Hexane	2.4E-03	--	0.00	(0.01)	Study Area 7	(1.3)	Study Area 6	--	--	0.2%	--	0.01%	
Tetrachloroethene	2.5E-04	0.6	0.001	4.5	Study Area 1	11.6	Study Area 8	19.3	1.2%	0.01%	0.4%	0.003%	
Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	N/A	N/A	N/A	0.6	Study Area 2	39.6	Study Area 6	N/A	1.6%	0.01%	N/A	N/A	

Notes:

-- = Constituent was not detected in at least one study area.

N/A = Data were not available for this constituent in the 2007 USEPA Air Toxics Database.

⁽¹⁾ COC - Constituent of Concern with EPCs resulting in CEF greater than 10 or NCEF greater than one in at least one study area and with an EPC greater than the EPC for typical urban air (2007 USEPA Air Toxics Database)

⁽²⁾ See Table 4-19 and Appendix F for explanation of the development of EPCs using the 2007 USEPA Air Toxics Database.

Table F-17: Number of Exceedances for Tap Water from Public Sources - Ingestion+Inhalation by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
106-47-8	4-Chloroaniline	0 of 104	0 of 22	0 of 14	0 of 11	0 of 91	0 of 46	0 of 27	0 of 52	1 of 5	1 of 372
117-81-7	Bis(2-ethylhexyl)phthalate	1 of 104	0 of 22	0 of 14	0 of 11	0 of 91	0 of 46	0 of 27	0 of 52	0 of 5	1 of 372
7440-50-8	Copper	1 of 121	0 of 30	0 of 21	0 of 19	1 of 103	0 of 56	0 of 40	2 of 58	0 of 11	4 of 459
16984-48-8	Fluoride	1 of 121	0 of 30	0 of 21	0 of 19	2 of 102	1 of 56	0 of 39	0 of 58	0 of 11	4 of 457
7439-92-1	Lead	2 of 121	2 of 30	1 of 21	0 of 19	3 of 103	5 of 56	2 of 40	5 of 58	1 of 11	21 of 459
14797-55-8	Nitrate (measured as NO3-)	0 of 121	0 of 30	0 of 21	0 of 19	0 of 103	3 of 56	3 of 39	1 of 58	0 of 11	7 of 458
127-18-4	Tetrachloroethene	32 of 121	25 of 30	4 of 21	2 of 19	0 of 103	2 of 56	8 of 40	4 of 58	0 of 11	77 of 459
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 104	1 of 22	0 of 14	0 of 11	0 of 91	0 of 46	0 of 27	0 of 52	0 of 5	1 of 372
DIOXIN-TEQ	Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	14 of 121	5 of 30	2 of 21	4 of 19	15 of 103	11 of 56	4 of 40	6 of 58	1 of 11	62 of 459
7440-61-1	Uranium	39 of 121	28 of 30	5 of 21	5 of 19	9 of 103	17 of 56	15 of 39	21 of 58	2 of 11	141 of 458

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
106-47-8	4-Chloroaniline	0 of 104	0 of 22	0 of 14	0 of 11	0 of 91	0 of 46	0 of 27	0 of 52	1 of 5	1 of 372
7440-50-8	Copper	1 of 121	0 of 30	0 of 21	0 of 19	1 of 103	0 of 56	0 of 40	2 of 58	0 of 11	4 of 459
16984-48-8	Fluoride	1 of 121	0 of 30	0 of 21	0 of 19	2 of 102	1 of 56	0 of 39	0 of 58	0 of 11	4 of 457
7439-92-1	Lead	2 of 121	2 of 30	1 of 21	0 of 19	3 of 103	5 of 56	2 of 40	5 of 58	1 of 11	21 of 459
14797-55-8	Nitrate (measured as NO3-)	0 of 121	0 of 30	0 of 21	0 of 19	0 of 103	3 of 56	3 of 39	1 of 58	0 of 11	7 of 458
127-18-4	Tetrachloroethene	0 of 121	0 of 30	0 of 21	0 of 19	0 of 103	0 of 56	2 of 40	1 of 58	0 of 11	3 of 459
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 104	1 of 22	0 of 14	0 of 11	0 of 91	0 of 46	0 of 27	0 of 52	0 of 5	1 of 372

Number of Residences with Exceedances of USMCLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
117-81-7	Bis(2-ethylhexyl)phthalate	1 of 104	0 of 22	0 of 14	0 of 11	0 of 91	0 of 46	0 of 27	0 of 52	0 of 5	1 of 372
PTCCAS_0009	Fecal Coliform	0 of 121	0 of 30	0 of 21	0 of 19	1 of 103	0 of 56	0 of 40	3 of 58	0 of 11	4 of 459
14797-55-8	Nitrate (measured as NO3-)	0 of 121	0 of 30	0 of 21	0 of 19	0 of 103	3 of 56	4 of 39	2 of 58	0 of 11	9 of 458
7440-28-0	Thallium	0 of 121	0 of 30	0 of 21	0 of 19	0 of 103	2 of 56	0 of 40	0 of 58	0 of 11	2 of 459
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 104	1 of 22	0 of 14	0 of 11	0 of 91	0 of 46	0 of 27	0 of 52	0 of 5	1 of 372
PTCCAS_0007	Total Coliforms	3 of 121	1 of 30	0 of 21	1 of 19	7 of 103	1 of 56	5 of 40	6 of 58	0 of 11	24 of 459
TOT-THMs	Total Trihalomethanes	0 of 121	0 of 30	0 of 21	0 of 19	0 of 103	0 of 56	0 of 40	0 of 58	1 of 11	1 of 459

Table F-18: Number of Exceedances for Tap Water from Private Wells - Ingestion+Inhalation by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
56-23-5	Carbon Tetrachloride	0 of 3	0 of 0	0 of 0	0 of 0	0 of 11	1 of 1	0 of 1	0 of 49	0 of 0	1 of 65
7440-50-8	Copper	0 of 3	0 of 0	0 of 0	0 of 0	0 of 11	0 of 1	0 of 1	6 of 41	0 of 0	6 of 57
16984-48-8	Fluoride	0 of 3	0 of 0	0 of 0	0 of 0	2 of 11	0 of 1	1 of 1	4 of 41	0 of 0	7 of 57
7439-92-1	Lead	0 of 3	0 of 0	0 of 0	0 of 0	0 of 11	0 of 1	0 of 1	1 of 41	0 of 0	1 of 57
14797-55-8	Nitrate (measured as NO ₃ -)	0 of 3	0 of 0	0 of 0	0 of 0	7 of 11	1 of 1	1 of 1	38 of 41	0 of 0	47 of 57
127-18-4	Tetrachloroethene	1 of 3	0 of 0	0 of 0	0 of 0	5 of 11	1 of 1	1 of 1	43 of 49	0 of 0	51 of 65
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 3	0 of 0	0 of 0	0 of 0	1 of 6	0 of 1	0 of 1	0 of 39	0 of 0	1 of 50
DIOXIN-TEQ	Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	0 of 3	0 of 0	0 of 0	0 of 0	3 of 11	0 of 1	0 of 1	5 of 41	0 of 0	8 of 57
7440-61-1	Uranium	1 of 3	0 of 0	0 of 0	0 of 0	9 of 11	1 of 1	1 of 1	41 of 41	0 of 0	53 of 57

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
56-23-5	Carbon Tetrachloride	0 of 3	0 of 0	0 of 0	0 of 0	0 of 11	1 of 1	0 of 1	0 of 49	0 of 0	1 of 65
7440-50-8	Copper	0 of 3	0 of 0	0 of 0	0 of 0	0 of 11	0 of 1	0 of 1	6 of 41	0 of 0	6 of 57
16984-48-8	Fluoride	0 of 3	0 of 0	0 of 0	0 of 0	2 of 11	0 of 1	1 of 1	4 of 41	0 of 0	7 of 57
7439-92-1	Lead	0 of 3	0 of 0	0 of 0	0 of 0	0 of 11	0 of 1	0 of 1	1 of 41	0 of 0	1 of 57
14797-55-8	Nitrate (measured as NO ₃ -)	0 of 3	0 of 0	0 of 0	0 of 0	7 of 11	1 of 1	1 of 1	38 of 41	0 of 0	47 of 57
127-18-4	Tetrachloroethene	0 of 3	0 of 0	0 of 0	0 of 0	5 of 11	0 of 1	1 of 1	32 of 49	0 of 0	38 of 65
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 3	0 of 0	0 of 0	0 of 0	1 of 6	0 of 1	0 of 1	0 of 39	0 of 0	1 of 50
7440-61-1	Uranium	0 of 3	0 of 0	0 of 0	0 of 0	1 of 11	0 of 1	0 of 1	2 of 41	0 of 0	3 of 57

Number of Residences with Exceedances of USMCLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
PTCCAS_0009	Fecal Coliform	0 of 3	0 of 0	0 of 0	0 of 0	4 of 11	0 of 1	0 of 1	12 of 41	0 of 0	16 of 57
14797-55-8	Nitrate (measured as NO ₃ -)	0 of 3	0 of 0	0 of 0	0 of 0	7 of 11	1 of 1	1 of 1	39 of 41	0 of 0	48 of 57
127-18-4	Tetrachloroethene	0 of 3	0 of 0	0 of 0	0 of 0	5 of 11	0 of 1	1 of 1	20 of 49	0 of 0	26 of 65
PTCCAS_0007	Total Coliforms	0 of 3	0 of 0	0 of 0	0 of 0	6 of 11	1 of 1	1 of 1	39 of 41	0 of 0	47 of 57

Table F-19: Number of Exceedances for Tap Water from Public Sources - Inhalation-Only by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
127-18-4	Tetrachloroethene	0 of 121	0 of 30	0 of 21	0 of 19	0 of 103	0 of 56	2 of 40	1 of 58	0 of 11	3 of 459

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
127-18-4	Tetrachloroethene	0 of 121	0 of 30	0 of 21	0 of 19	0 of 103	0 of 56	0 of 40	0 of 58	0 of 11	0 of 459

Number of Residences with Exceedances of USMCLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
PTCCAS_0009	Fecal Coliform	0 of 121	0 of 30	0 of 21	0 of 19	1 of 103	0 of 56	0 of 40	3 of 58	0 of 11	4 of 459
PTCCAS_0007	Total Coliforms	3 of 121	1 of 30	0 of 21	1 of 19	7 of 103	1 of 56	5 of 40	6 of 58	0 of 11	24 of 459

Table F-20: Number of Exceedances for Tap Water from Private Wells - Inhalation-Only by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
56-23-5	Carbon Tetrachloride	0 of 3	0 of 0	0 of 0	0 of 0	0 of 11	1 of 1	0 of 1	0 of 49	0 of 0	1 of 65
127-18-4	Tetrachloroethene	0 of 3	0 of 0	0 of 0	0 of 0	5 of 11	0 of 1	1 of 1	34 of 49	0 of 0	40 of 65

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
127-18-4	Tetrachloroethene	0 of 3	0 of 0	0 of 0	0 of 0	5 of 11	0 of 1	0 of 1	19 of 49	0 of 0	24 of 65

Number of Residences with Exceedances of USMCLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
PTCCAS_0009	Fecal Coliform	0 of 3	0 of 0	0 of 0	0 of 0	4 of 11	0 of 1	0 of 1	12 of 41	0 of 0	16 of 57
PTCCAS_0007	Total Coliforms	0 of 3	0 of 0	0 of 0	0 of 0	6 of 11	1 of 1	1 of 1	39 of 41	0 of 0	47 of 57

Table F-21: Number of Exceedances for Soil by Study Area

Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	3 of 32	2 of 2	1 of 9	1 of 10	6 of 41	2 of 16	1 of 13	2 of 55	2 of 6	20 of 184
DIOXIN-TEQ	Total Dioxin/Furans (2,3,7,8-TCDD TEQs)	1 of 32	0 of 2	0 of 9	0 of 10	2 of 41	1 of 16	1 of 13	0 of 55	0 of 6	5 of 184

Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
CPAH-TEQ	Total Carcinogenic PAHS (BaP TEQs)	0 of 32	0 of 2	0 of 9	0 of 10	2 of 41	0 of 16	0 of 13	0 of 55	0 of 6	2 of 184

Table F-22: Number of Exceedances for Soil Gas by Study Area
Number of Residences with Exceedances of Noncancer or Cancer-based RSLs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
630-20-6	1,1,1,2-Tetrachloroethane	0 of 45	1 of 8	0 of 13	0 of 14	1 of 62	0 of 35	0 of 27	1 of 89	0 of 7	3 of 300
79-34-5	1,1,2,2-Tetrachloroethane	0 of 45	0 of 8	0 of 13	0 of 14	0 of 62	1 of 35	1 of 27	1 of 89	0 of 7	3 of 300
78-87-5	1,2-Dichloropropane	1 of 26	0 of 8	1 of 10	0 of 11	0 of 33	0 of 30	0 of 22	4 of 55	0 of 6	6 of 201
106-99-0	1,3-Butadiene	0 of 26	0 of 8	0 of 10	0 of 11	0 of 33	1 of 30	0 of 22	5 of 55	0 of 6	6 of 201
106-46-7	1,4-Dichlorobenzene	1 of 45	0 of 8	0 of 13	0 of 14	0 of 62	0 of 35	0 of 27	1 of 89	0 of 7	2 of 300
107-13-1	Acrylonitrile	0 of 26	0 of 8	0 of 10	0 of 11	0 of 33	4 of 30	0 of 22	3 of 55	0 of 6	7 of 201
71-43-2	Benzene	2 of 45	1 of 8	3 of 13	2 of 14	2 of 62	2 of 35	2 of 27	15 of 89	2 of 7	31 of 300
75-25-2	Bromoform	1 of 26	0 of 8	0 of 10	0 of 11	0 of 33	0 of 30	0 of 22	0 of 55	0 of 6	1 of 201
56-23-5	Carbon Tetrachloride	0 of 45	0 of 8	0 of 13	0 of 14	0 of 62	1 of 35	0 of 27	2 of 89	0 of 7	3 of 300
67-66-3	Chloroform	7 of 45	1 of 8	1 of 13	1 of 14	17 of 62	8 of 35	7 of 27	20 of 89	3 of 7	65 of 300
100-41-4	Ethylbenzene	4 of 45	0 of 8	1 of 13	2 of 14	2 of 62	3 of 35	4 of 27	17 of 89	1 of 7	34 of 300
87-68-3	Hexachlorobutadiene	1 of 26	0 of 8	0 of 10	0 of 11	1 of 33	2 of 30	2 of 22	2 of 55	1 of 6	9 of 201
110-54-3	Hexane	0 of 26	0 of 8	0 of 10	1 of 11	0 of 33	0 of 30	0 of 22	1 of 55	0 of 6	2 of 201
1634-04-4	Methyl tert-Butyl Ether	1 of 45	0 of 8	0 of 13	0 of 14	0 of 62	0 of 35	0 of 27	0 of 89	0 of 7	1 of 300
91-20-3	Naphthalene	1 of 40	0 of 5	0 of 9	0 of 8	0 of 59	0 of 28	0 of 22	0 of 78	0 of 3	1 of 252
127-18-4	Tetrachloroethene	11 of 45	4 of 8	3 of 13	8 of 14	15 of 62	21 of 35	10 of 27	47 of 89	4 of 7	123 of 300
79-01-6	Trichloroethene	2 of 45	0 of 8	0 of 13	0 of 14	0 of 62	0 of 35	0 of 27	2 of 89	0 of 7	4 of 300
75-01-4	Vinyl Chloride	0 of 45	0 of 8	0 of 13	0 of 14	0 of 62	1 of 35	0 of 27	0 of 89	0 of 7	1 of 300

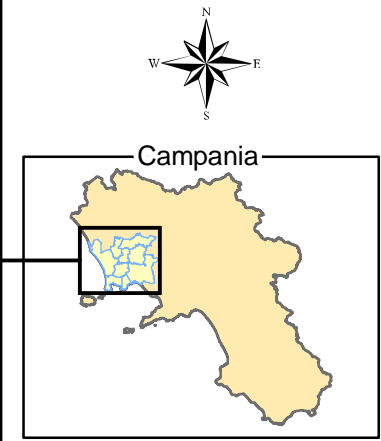
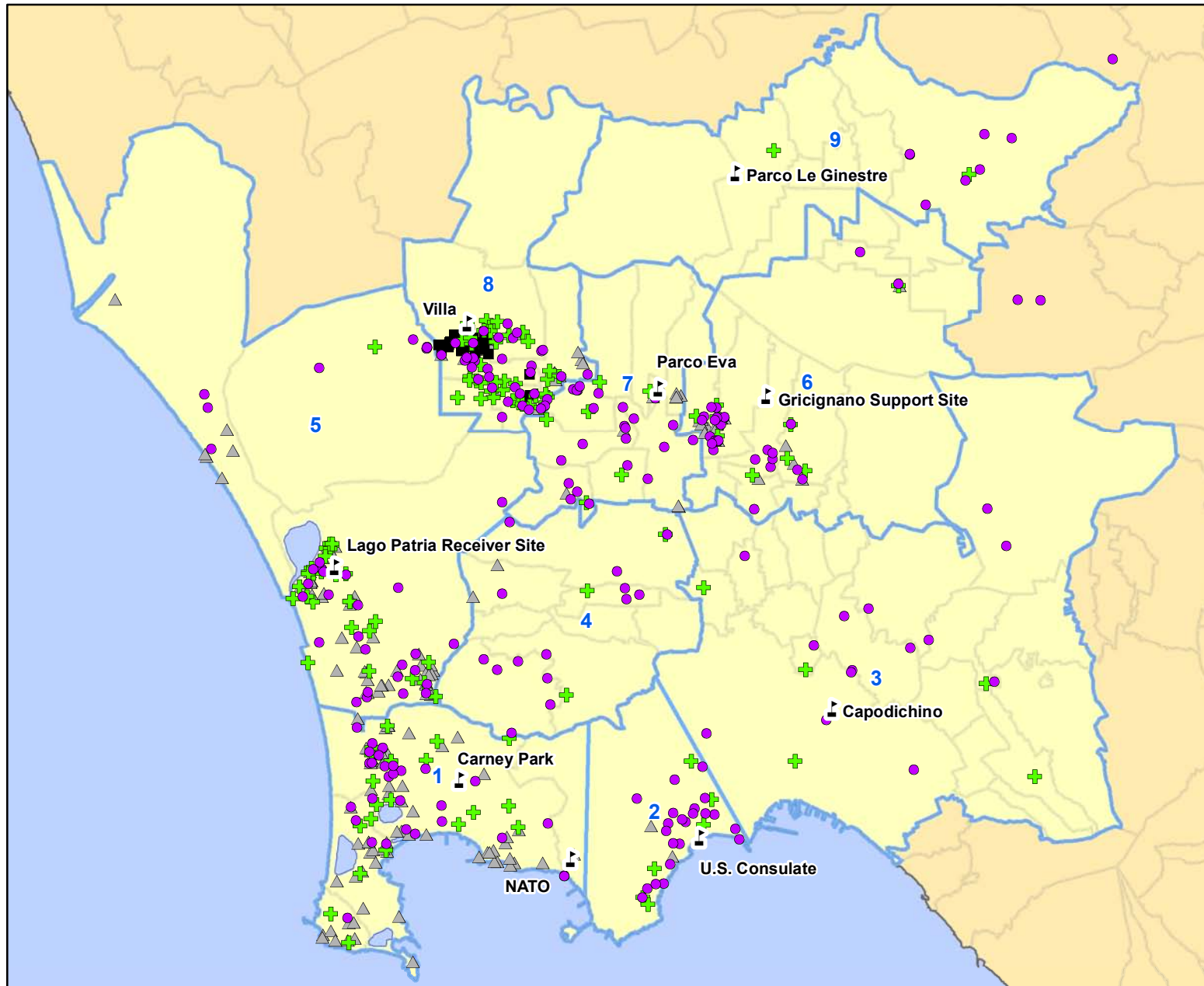
Number of Residences with UNACCEPTABLE Noncancer or Cancer-based EFs Per Study Area

Cas Number	Constituent	Study Area 1	Study Area 2	Study Area 3	Study Area 4	Study Area 5	Study Area 6	Study Area 7	Study Area 8	Study Area 9	Total for All Study Areas
106-46-7	1,4-Dichlorobenzene	1 of 45	0 of 8	0 of 13	0 of 14	0 of 62	0 of 35	0 of 27	0 of 89	0 of 7	1 of 300
71-43-2	Benzene	0 of 45	0 of 8	0 of 13	1 of 14	0 of 62	1 of 35	0 of 27	3 of 89	0 of 7	5 of 300
56-23-5	Carbon Tetrachloride	0 of 45	0 of 8	0 of 13	0 of 14	0 of 62	1 of 35	0 of 27	0 of 89	0 of 7	1 of 300
67-66-3	Chloroform	3 of 45	0 of 8	0 of 13	0 of 14	3 of 62	1 of 35	0 of 27	5 of 89	0 of 7	12 of 300
100-41-4	Ethylbenzene	0 of 45	0 of 8	0 of 13	0 of 14	0 of 62	0 of 35	0 of 27	2 of 89	0 of 7	2 of 300
110-54-3	Hexane	0 of 26	0 of 8	0 of 10	1 of 11	0 of 33	0 of 30	0 of 22	1 of 55	0 of 6	2 of 201
127-18-4	Tetrachloroethene	2 of 45	0 of 8	0 of 13	0 of 14	4 of 62	4 of 35	0 of 27	18 of 89	0 of 7	28 of 300
79-01-6	Trichloroethene	1 of 45	0 of 8	0 of 13	0 of 14	0 of 62	0 of 35	0 of 27	0 of 89	0 of 7	1 of 300

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Figures

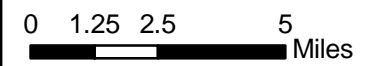
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- Legend**
- Air Sampling Locations (Gov't Sites)
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Residence Locations**
 - Phase I
 - Phase II
 - Step-Outs
 - Pre-Lease

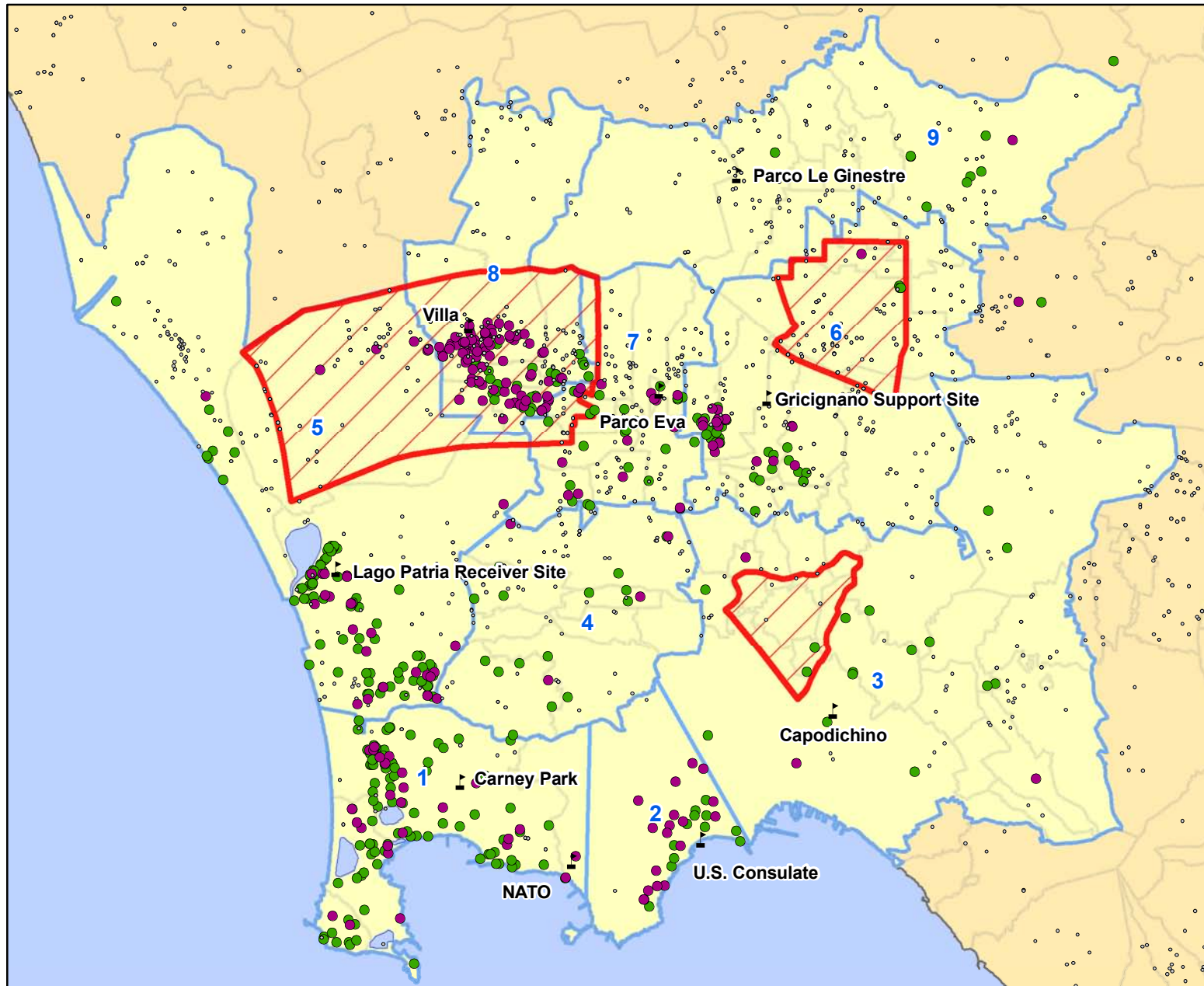
Notes:

- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Some residence locations may appear as a single location due to the proximity of the residences.



**Residence Locations by Sampling Event
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-1



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▨ Comune Borders (Campania)
- ▨ New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable**
- Total CCEF > 10 and/or Total CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable**
- Total CCEF <= 10 and Total CNCEF <= 1 and Concentration <= USMCL

Notes:

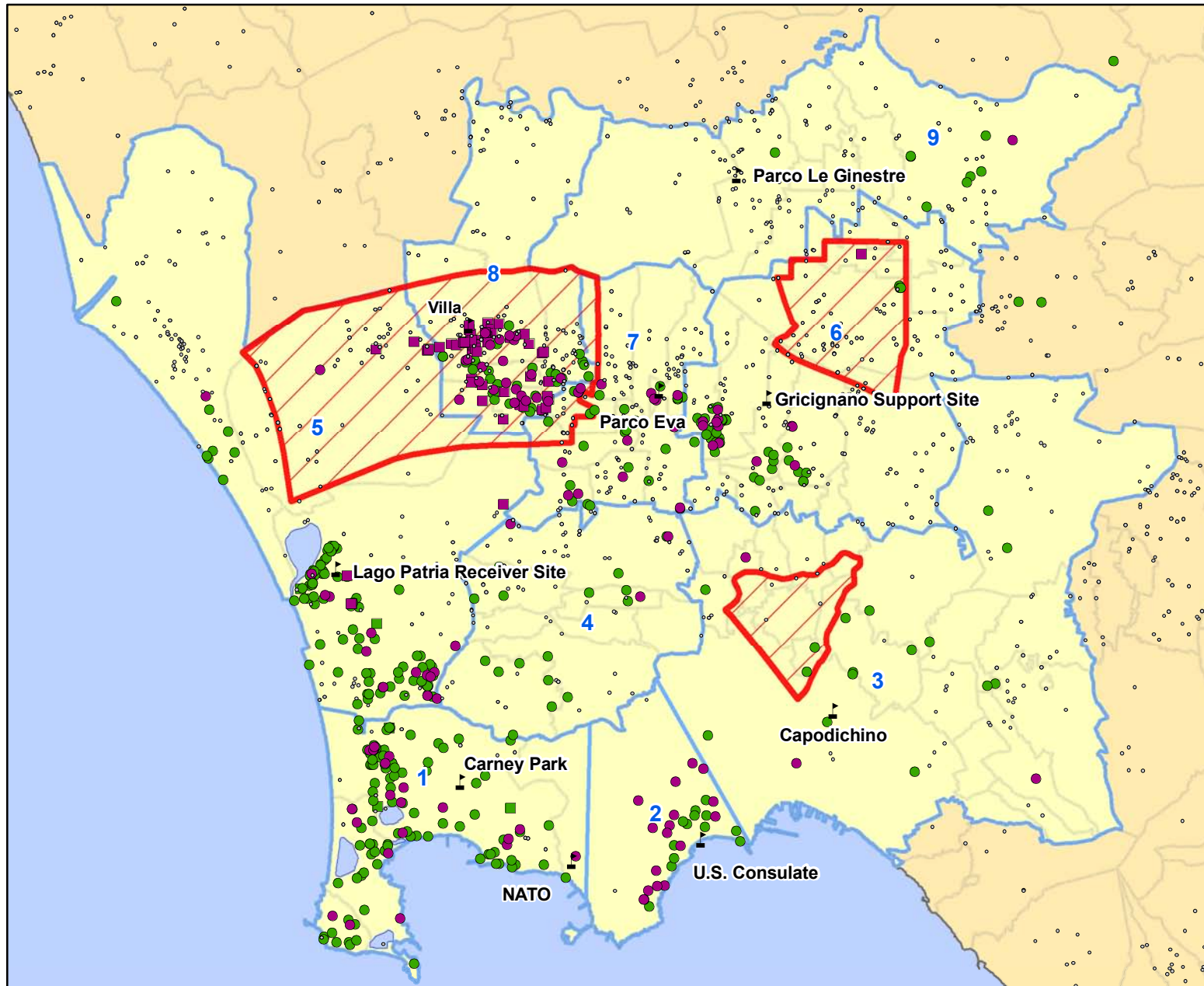
- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- The total cumulative ingestion and inhalation exceedance factors are calculated assuming exposure via tap water (ingestion and inhalation), soil, and soil gas for both public water and private well sources.
- USMCL = United States Maximum Contaminant Level
- USMCL exceedances apply to all chemicals for the ingestion and inhalation exposure scenario.
- Figure does not include ambient air exposure.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



**Total Ingestion and Inhalation Cumulative Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-2



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- ▭ New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable and on Public Water**
- CCEF > 10 and/or CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable and on Public Water**
- CCEF ≤ 10 and CNCEF ≤ 1 and Concentration ≤ USMCL
- Residence is Unacceptable and on Well Water**
- CCEF > 10 and/or CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable and on Well Water**
- CCEF ≤ 10 and CNCEF ≤ 1 and Concentration ≤ USMCL

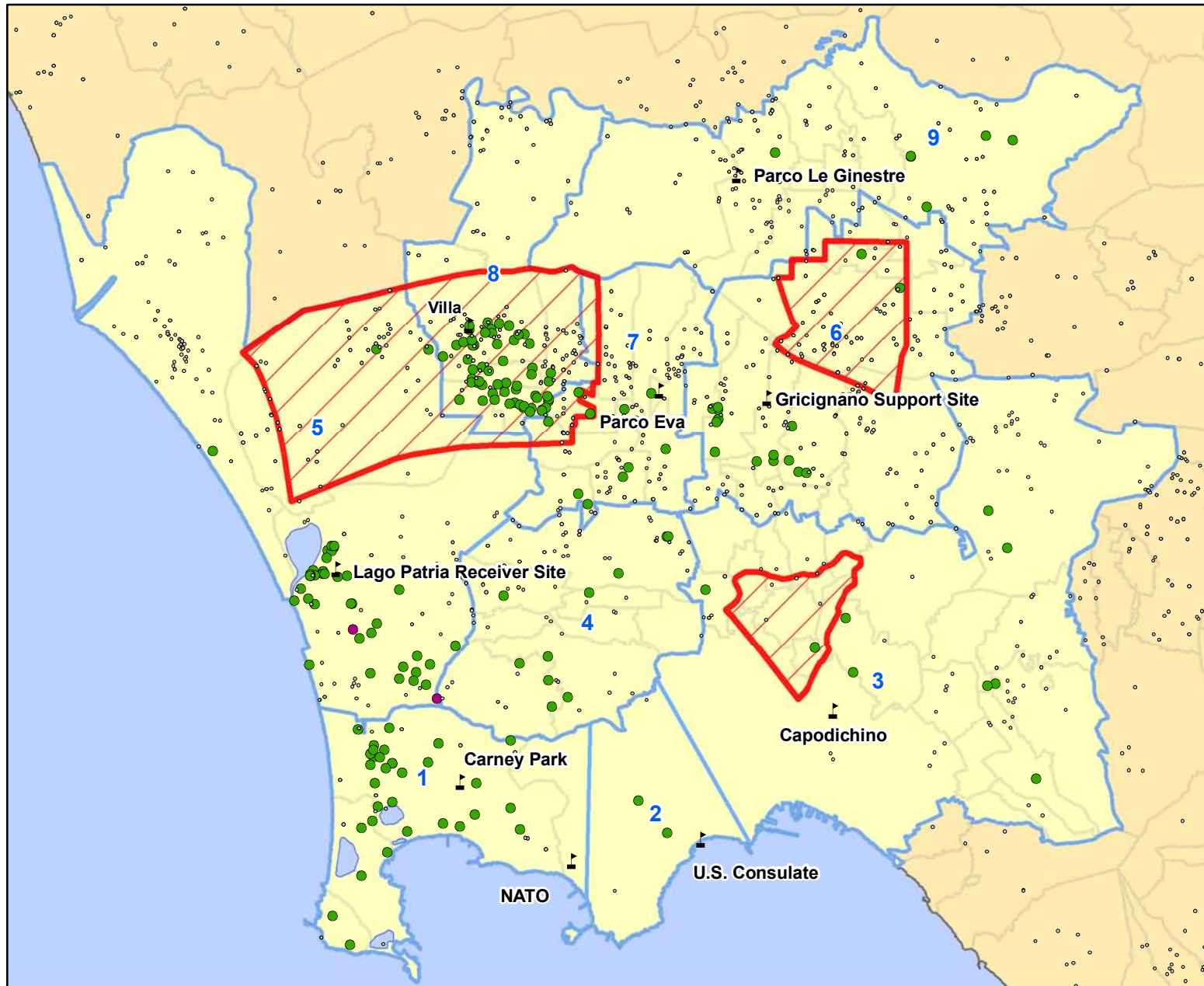
- Notes:**
- CCEF = Cumulative Cancer Exceedance Factor
 - CNCEF = Cumulative Noncancer Exceedance Factor
 - RSL = USEPA's Residential Regional Screening Level
 - Cumulative exceedance factors are calculated assuming exposure via inhalation and ingestion.
 - USMCL = United States Maximum Contaminant Level
 - USMCL exceedances apply to all chemicals for the ingestion and inhalation exposure scenario.
 - Some residence locations may appear as a single location due to the proximity of the residences.
 - Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



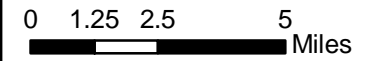
Tap Water Ingestion and Inhalation Cumulative Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-3



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - ▨ New Lease Suspension Zones (NLSZ)
 - Residence is Unacceptable**
 - CCEF > 10 and/or CNCEF > 1
 - Residence is Acceptable**
 - CCEF <= 10 and CNCEF <= 1

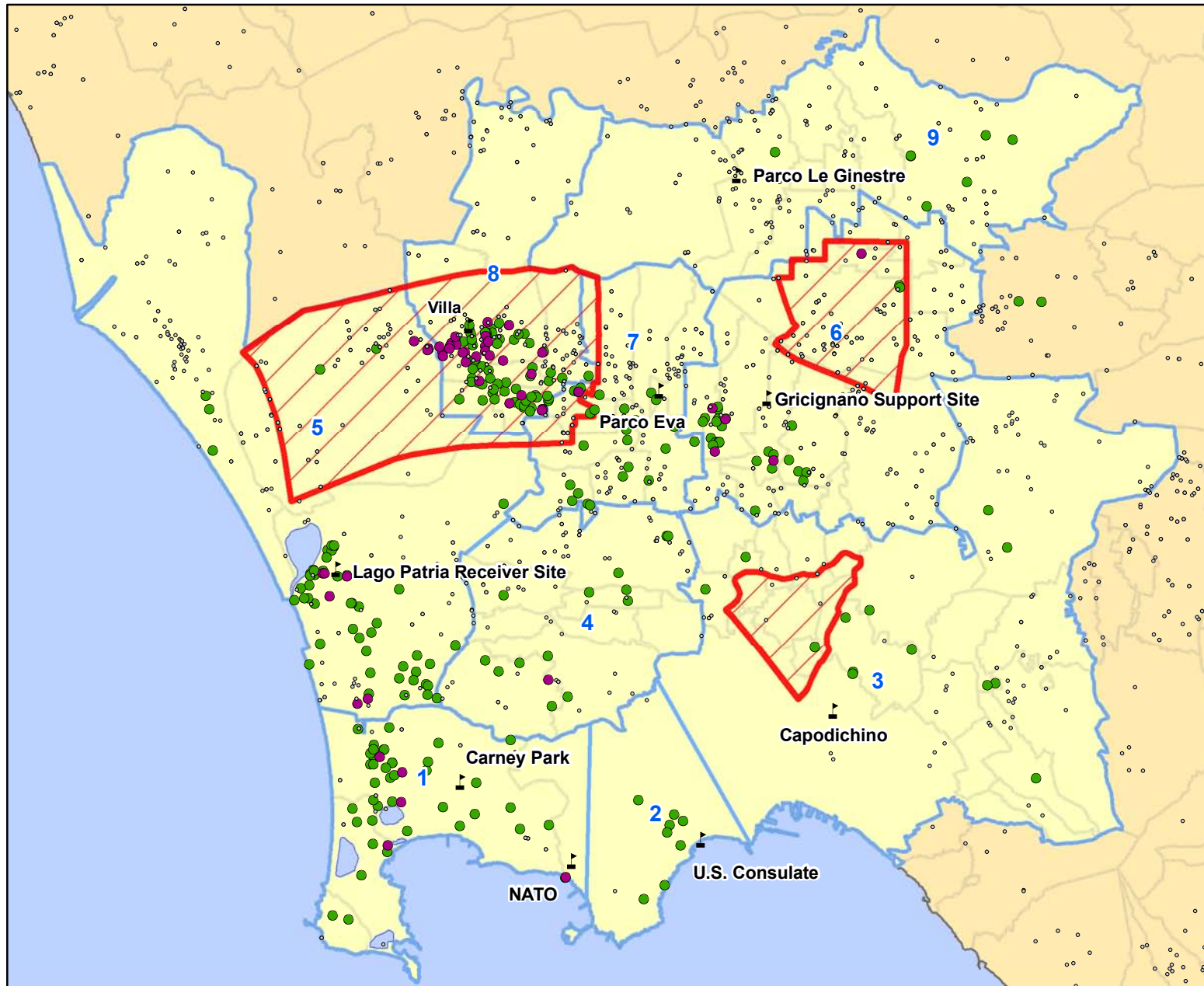
- Notes:**
- CCEF = Cumulative Cancer Exceedance Factor
 - CNCEF = Cumulative Noncancer Exceedance Factor
 - RSL = USEPA's Residential Regional Screening Level
 - Some residence locations may appear as a single location due to the proximity of the residences.
 - Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Soil Cumulative Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-4





Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- ▨ New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable**
- CCEF > 10 and/or CNCEF > 1
- Residence is Acceptable**
- CCEF ≤ 10 and CNCEF ≤ 1

Notes:

- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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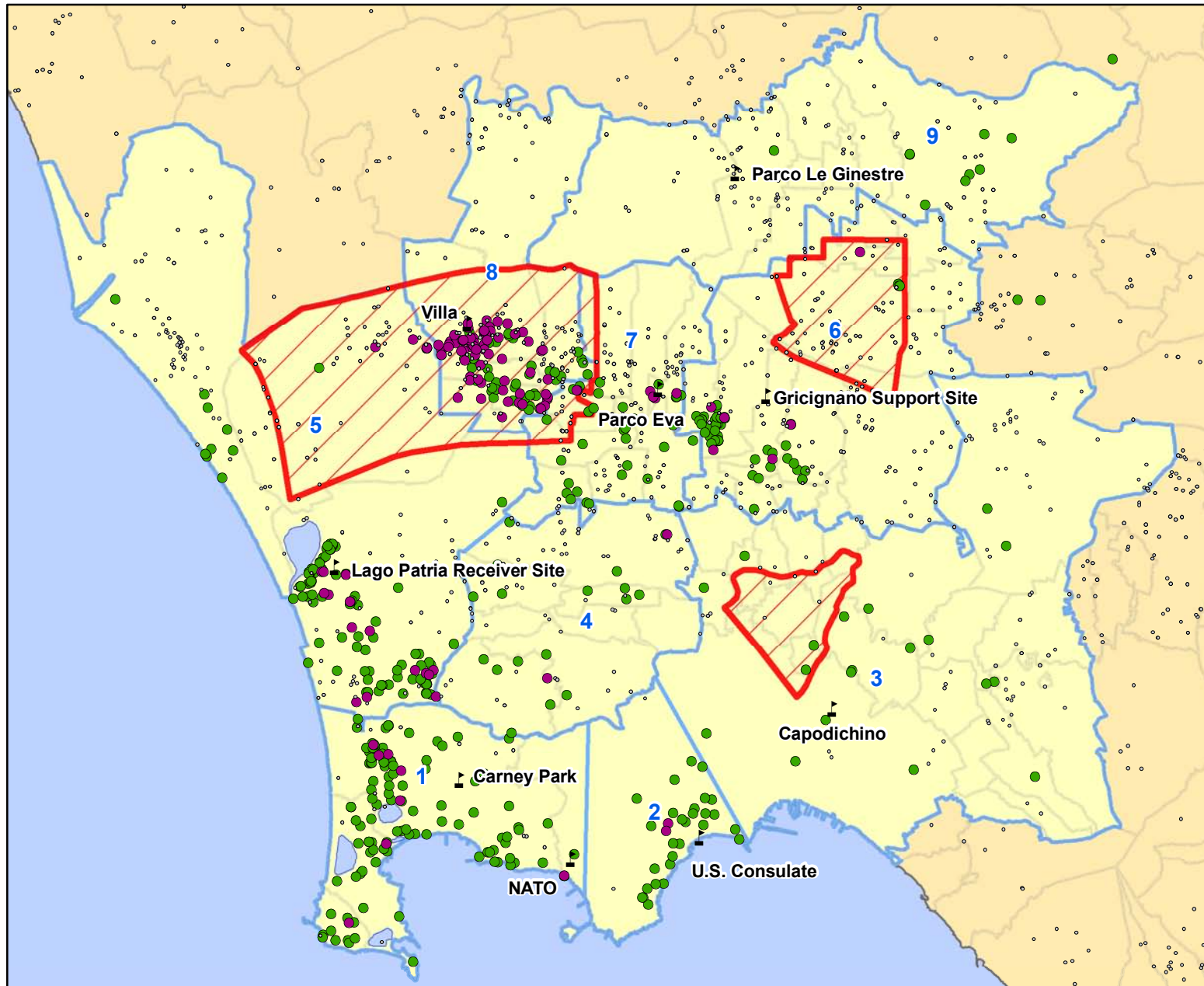
**Soil Gas Cumulative Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

FIGURE NO.:
F-5



Legend

- Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable**
- Total CCEF > 10 and/or Total CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable**
- Total CCEF <= 10 and Total CNCEF <= 1 and Concentration <= USMCL

Notes:

- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- The total cumulative inhalation exceedance factors are calculated assuming exposure via tap water (inhalation only), soil, and soil gas for both public water and private well sources.
- USMCL = United States Maximum Contaminant Level
- USMCL exceedances only apply to fecal and total coliforms for the inhalation-only exposure scenario.
- Figure does not include ambient air exposure.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

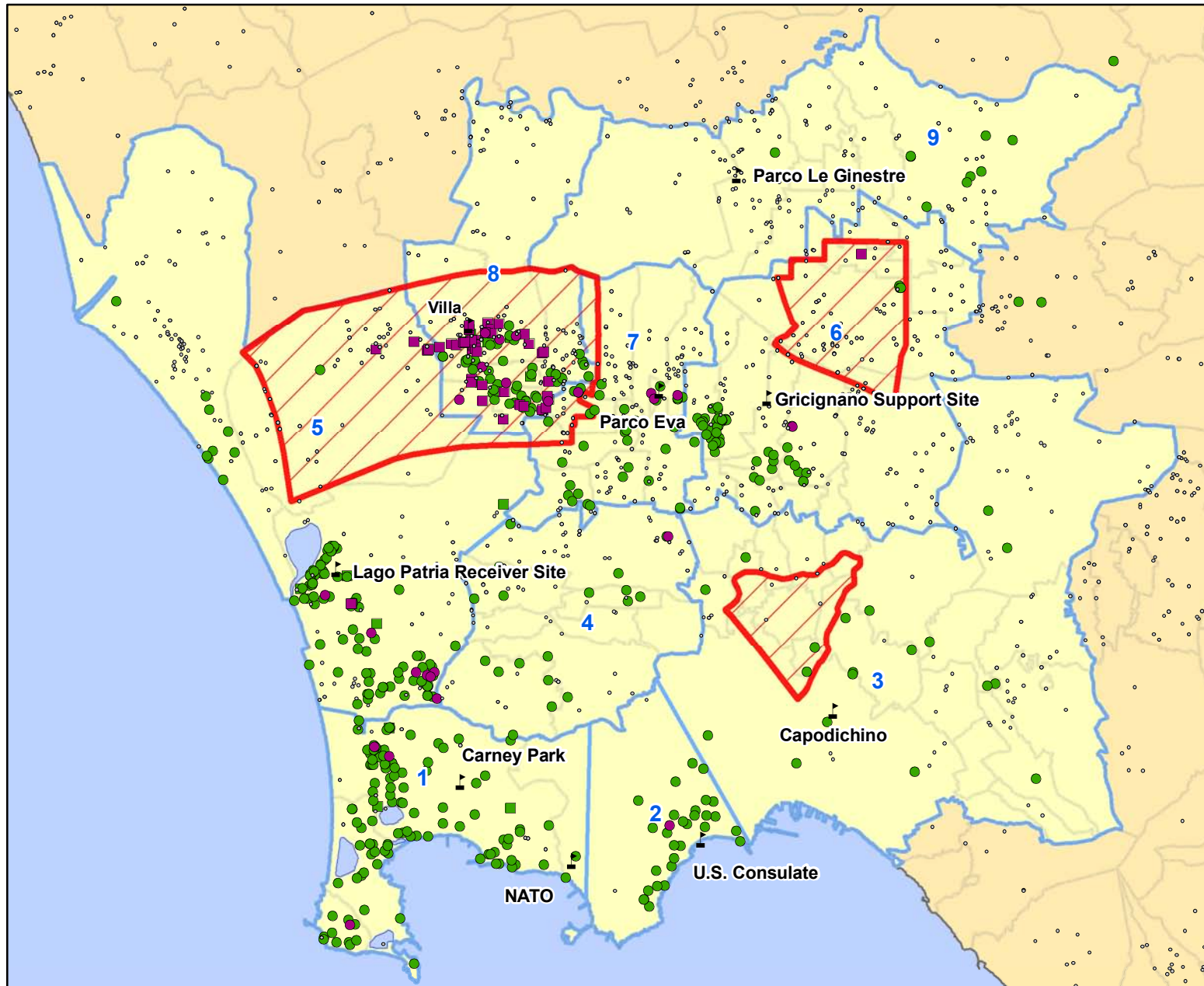
0 1.25 2.5 5 Miles



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**Total Inhalation Cumulative Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-6

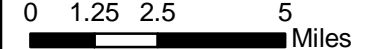


Legend

- Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- New Lease Suspension Zones (NLSZ)
- Residence is Unacceptable and on Public Water**
- CCEF > 10 and/or CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable and on Public Water**
- Total CCEF <=10 and Total CNCEF <= 1 and Concentration <= USMCL
- Residence is Unacceptable and on Well Water**
- CCEF > 10 and/or CNCEF > 1 and/or Concentration > USMCL
- Residence is Acceptable and on Well Water**
- Total CCEF <=10 and Total CNCEF <= 1 and Concentration <= USMCL

Notes:

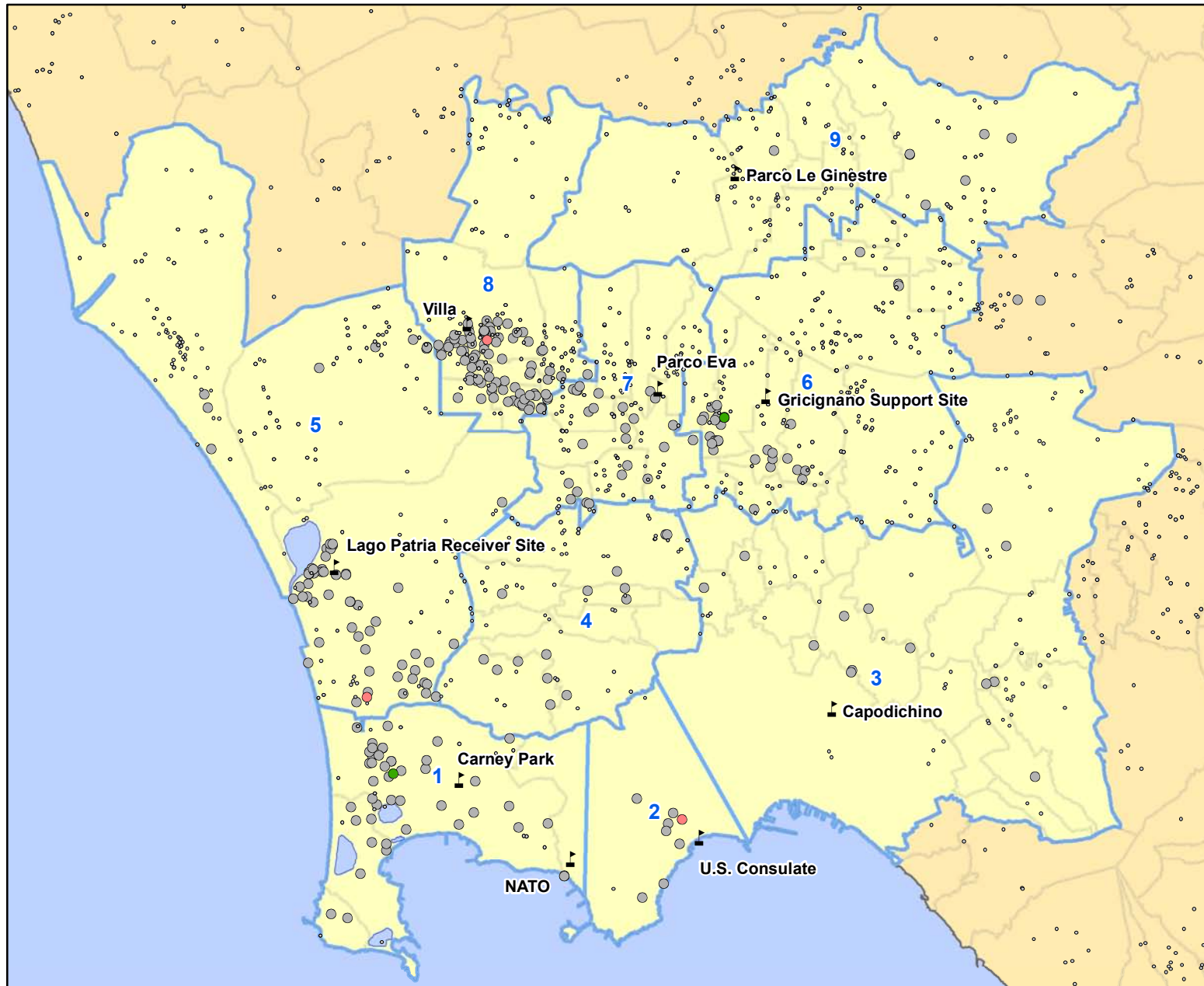
- CCEF = Cumulative Cancer Exceedance Factor
- CNCEF = Cumulative Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Cumulative exceedance factors are calculated assuming exposure via inhalation only.
- USMCL = United States Maximum Contaminant Level
- USMCL exceedances only apply to fecal and total coliforms for the inhalation-only exposure scenario.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Locations 1906 (located north of Study Area 9), 1856 and 1884 (both located east of Study Area 3) are not displayed on the figure. They are included with these respective study areas for analysis purposes.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Inhalation Cumulative Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation



DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-7

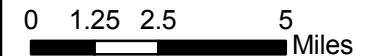


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF <= 1
- Nondetect

Notes:

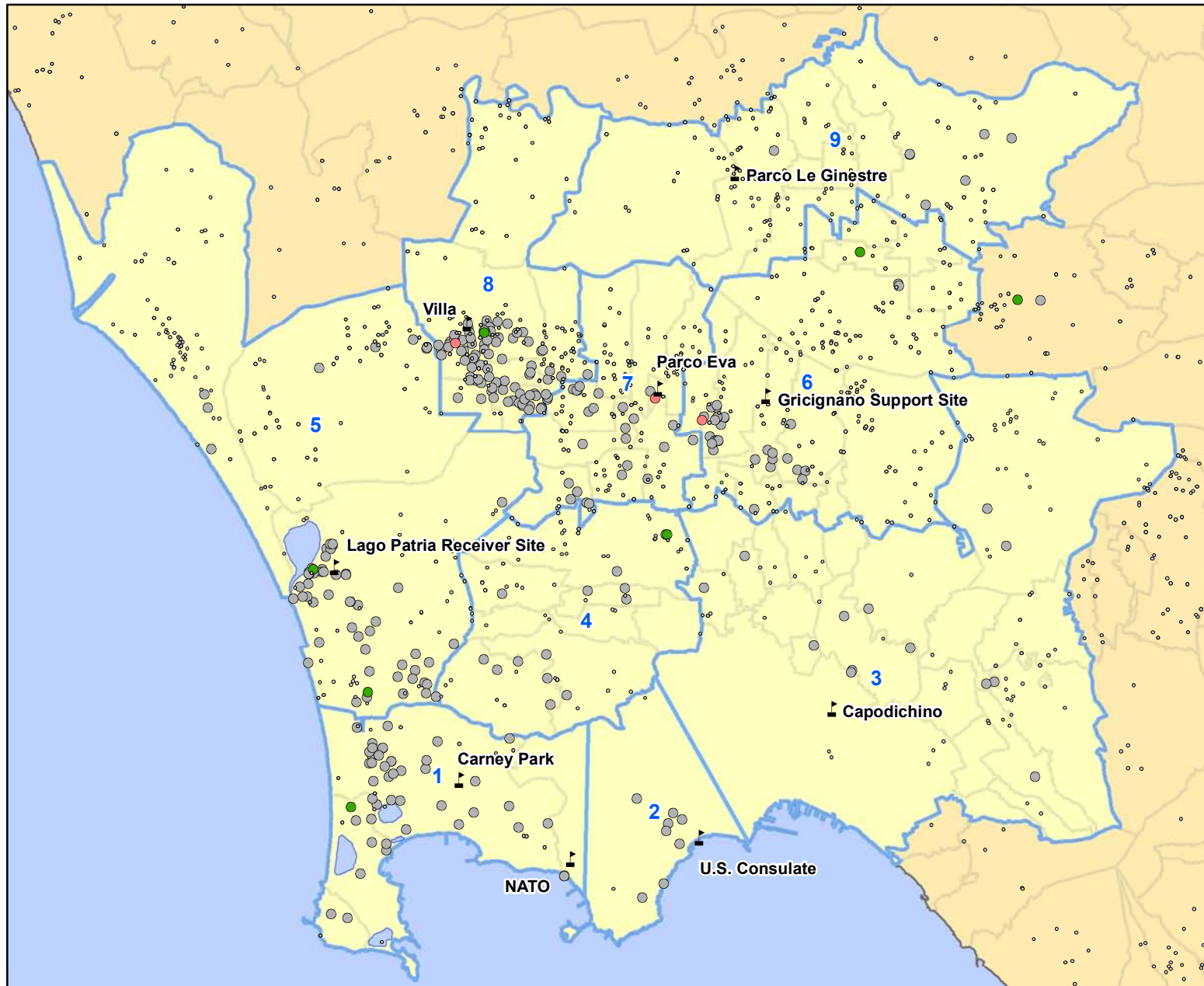
- CEF = Cancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- 1,1,1,2-Tetrachloroethane does not have a noncancer RSL.
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Soil Gas 1,1,1,2-Tetrachloroethane Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-8

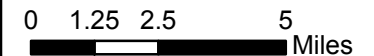


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10
- 1 < CEF ≤ 10
- Soil Gas without Exceedances**
- CEF ≤ 1
- Nondetect

Notes:

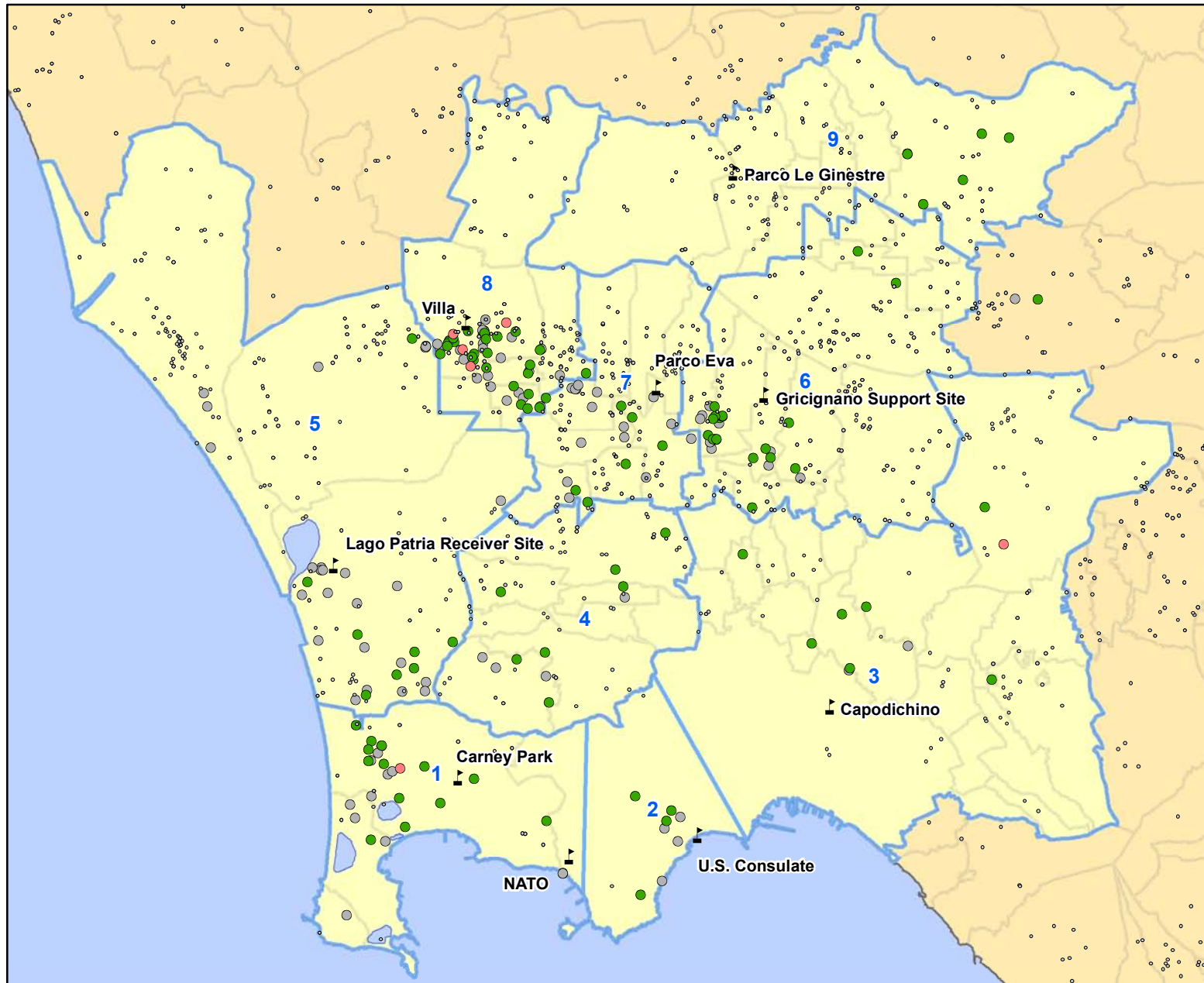
- CEF = Cancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- 1,1,2,2-Tetrachloroethane does not have a noncancer RSL.
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Soil Gas 1,1,2,2-Tetrachloroethane Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-9

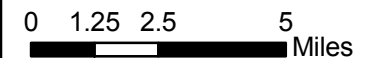


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF ≤ 10
- Soil Gas without Exceedances**
- CEF and NCEF ≤ 1
- Nondetect

Notes:

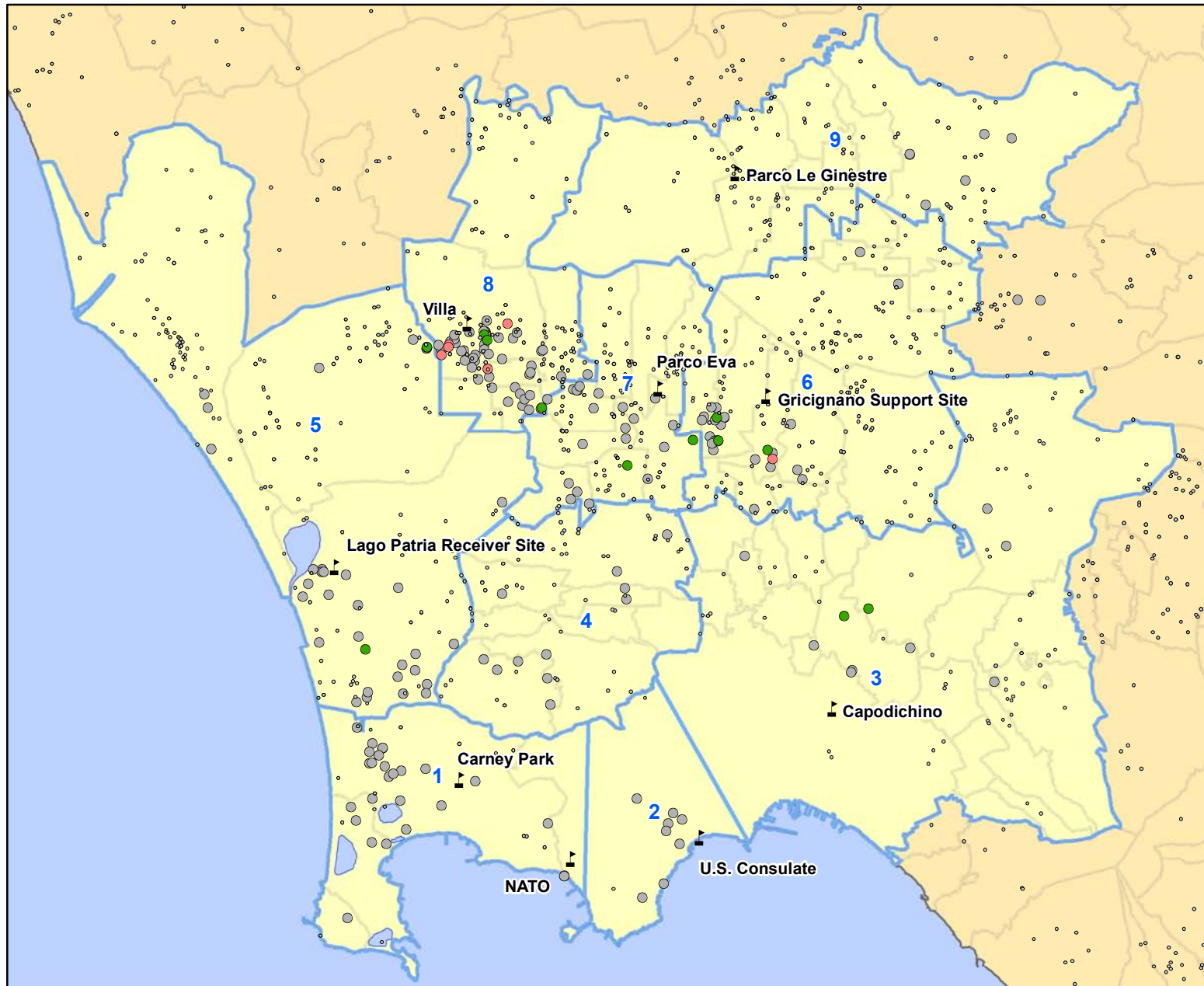
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPA)



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**Soil Gas 1,2-Dichloropropane Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-10

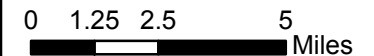


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- ▭ Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

Notes:

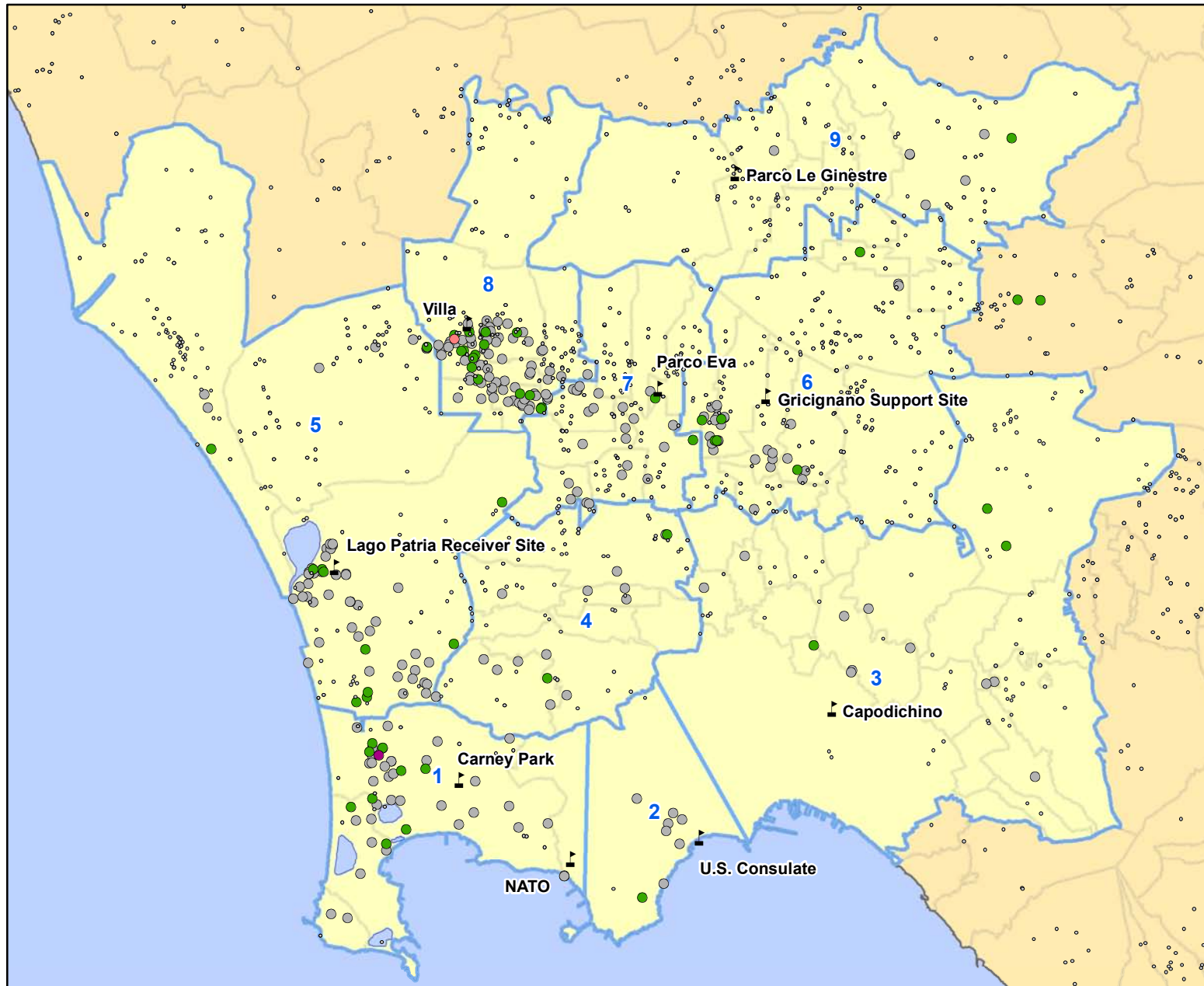
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Soil Gas 1,3-Butadiene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-11

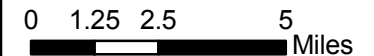


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- ▭ Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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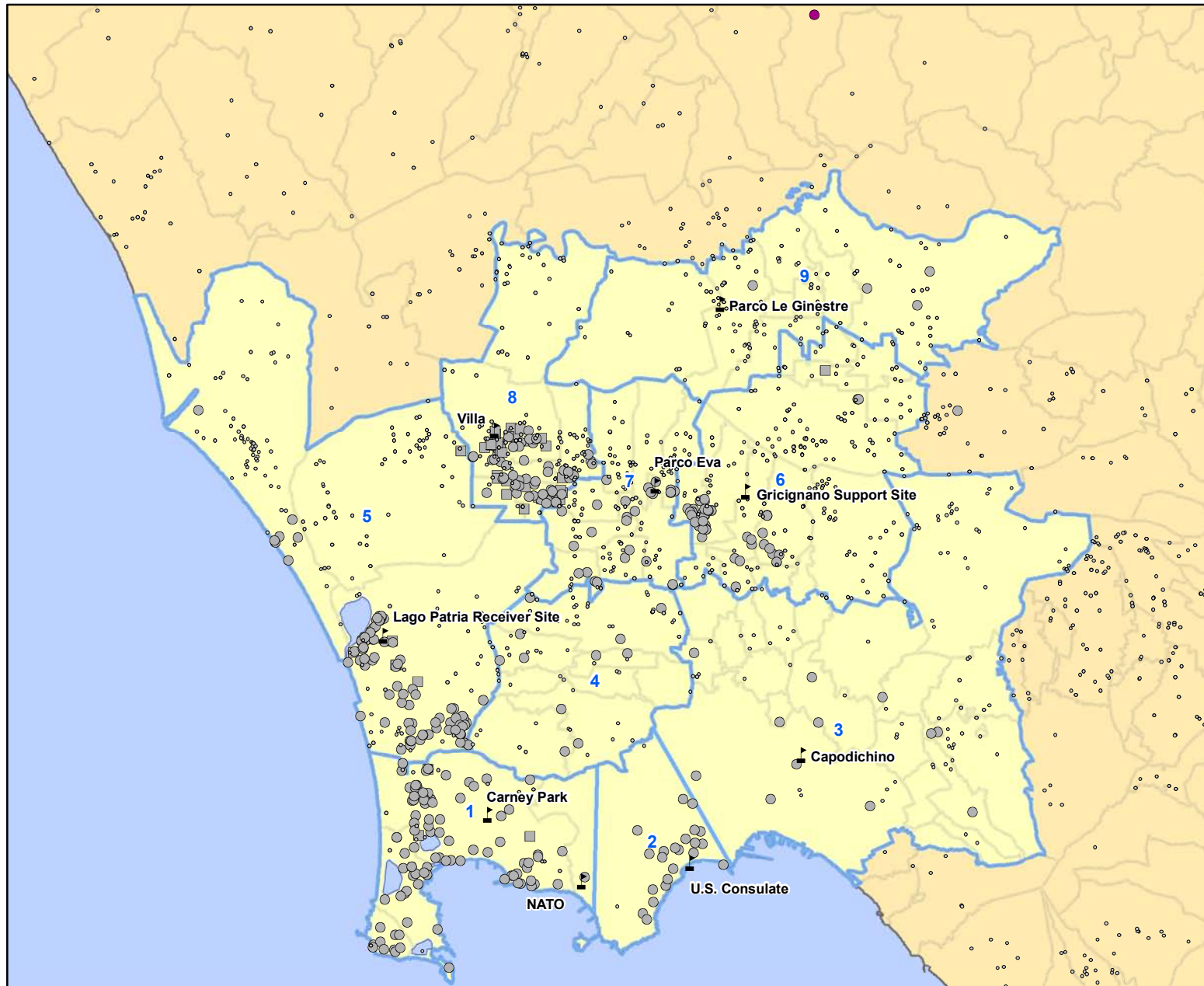
**Soil Gas 1,4-Dichlorobenzene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

FIGURE NO.:
F-12

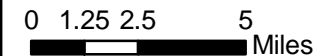


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF ≤ 10
- Public Water without Exceedances**
- CEF and NCEF ≤ 1
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF ≤ 10
- Well Water without Exceedances**
- CEF and NCEF ≤ 1
- Nondetect

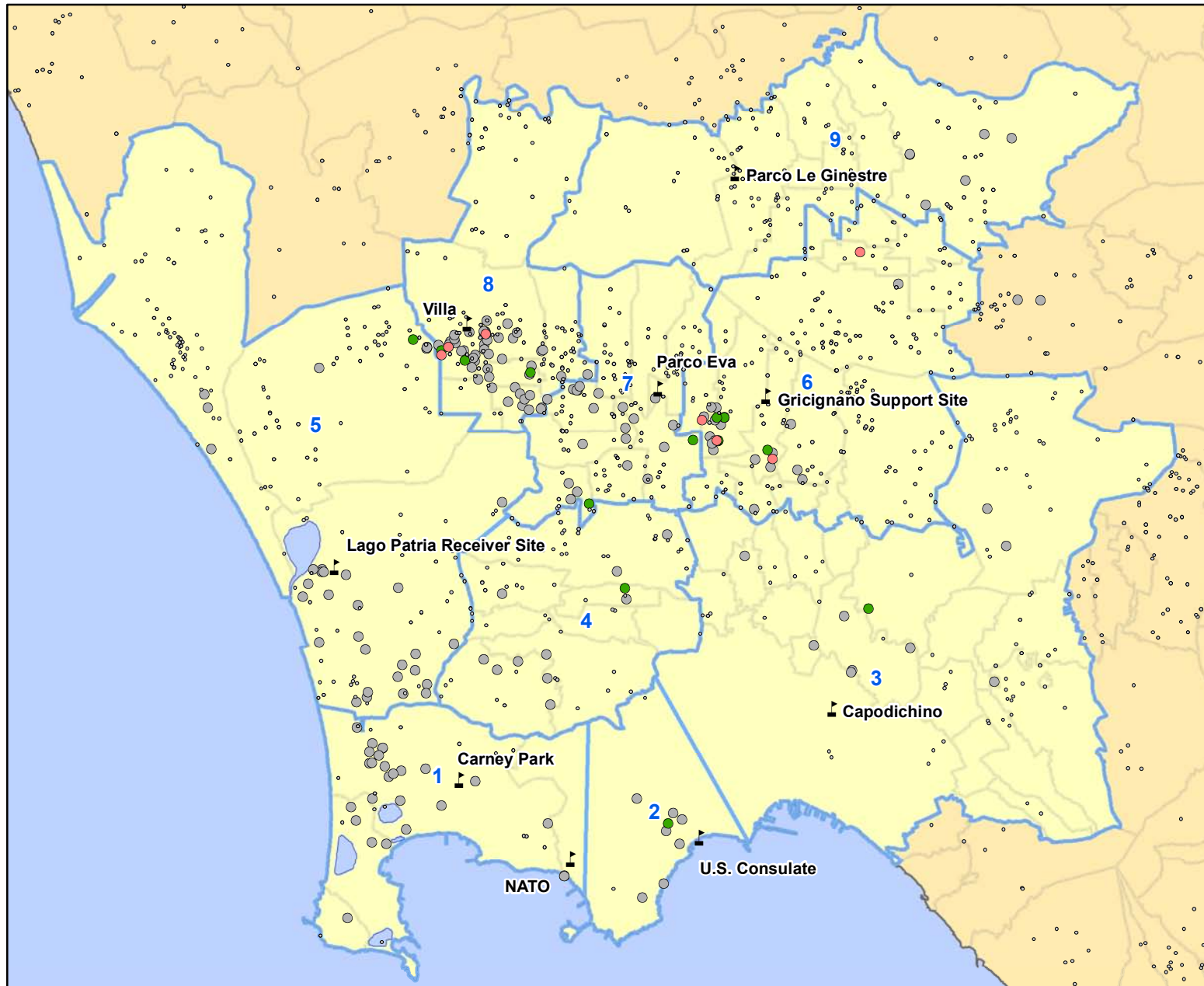
Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- 4-Chloroaniline does not have a USMCL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Ingestion and Inhalation 4-Chloroaniline Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-13

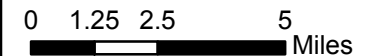


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- ▭ Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

Notes:

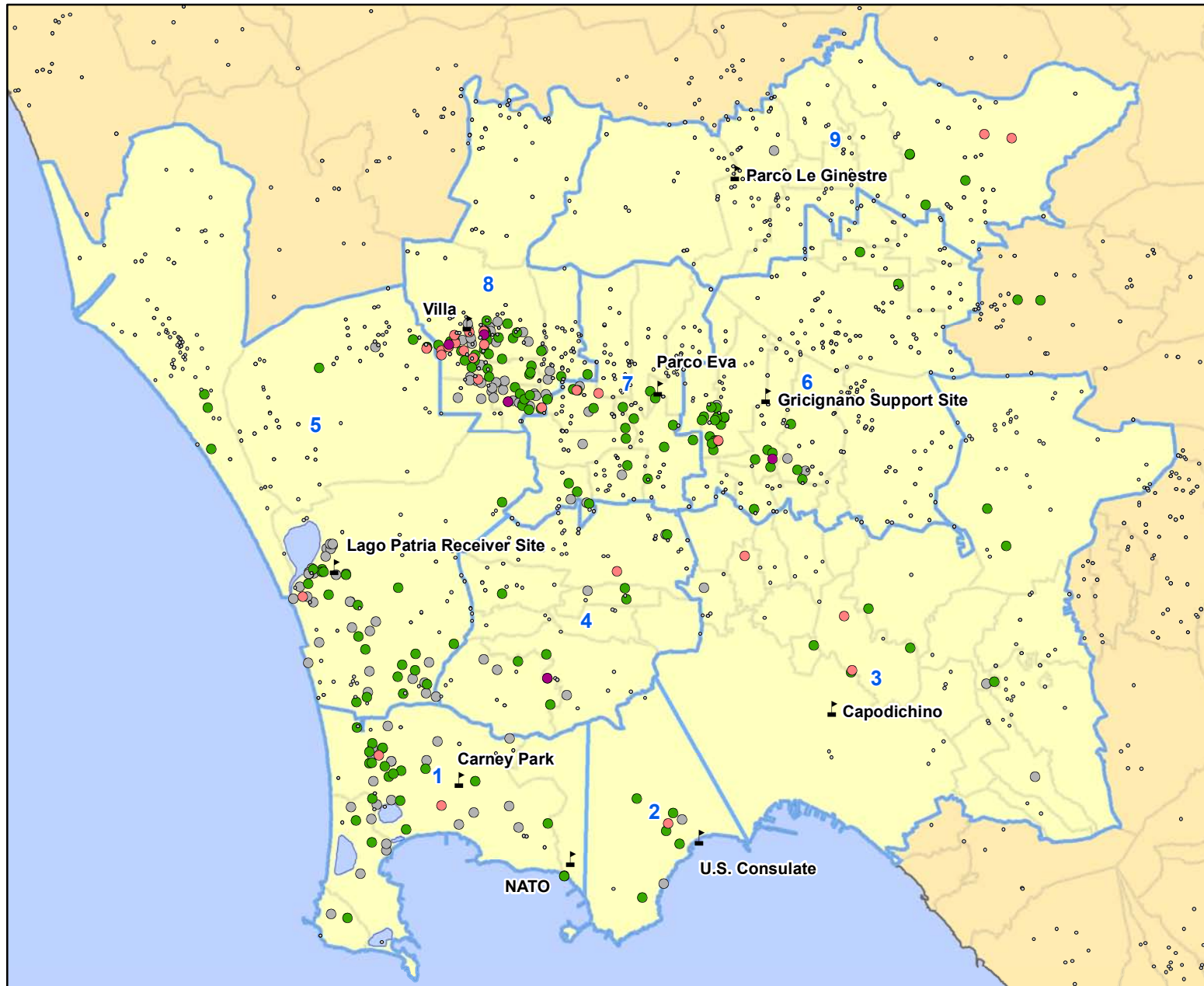
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Soil Gas Acrylonitrile Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-14

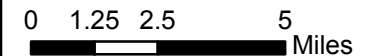


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- ▭ Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCF <= 1
- Nondetect

Notes:

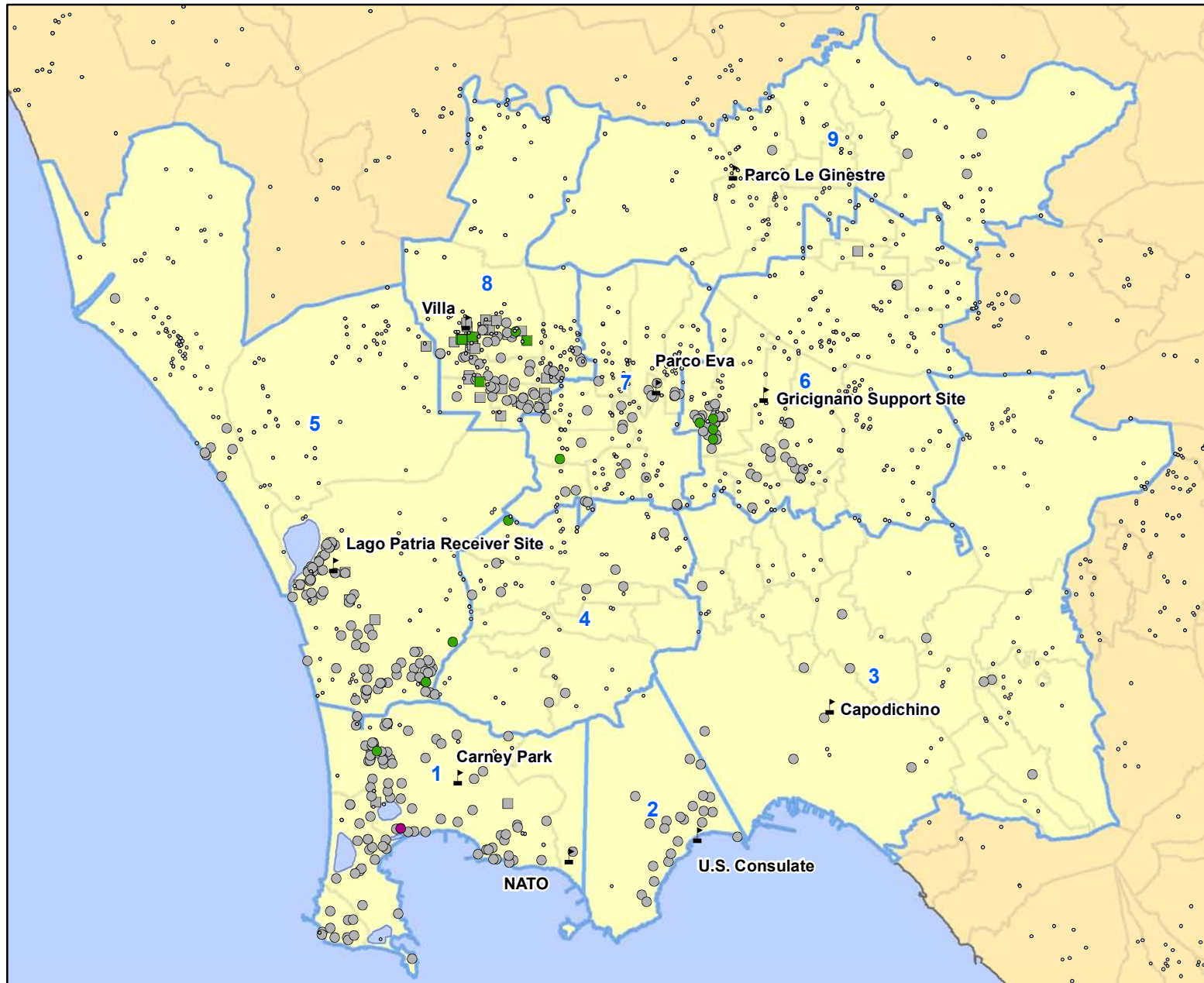
- CEF = Cancer Exceedance Factor
- NCF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Soil Gas Benzene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

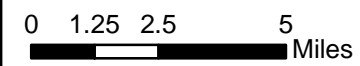
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-15



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Public Water with Exceedances**
 - CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
 - 1 < CEF ≤ 10
 - Public Water without Exceedances**
 - CEF and NCEF ≤ 1 and Concentration ≤ USMCL
 - Nondetect
 - Well Water with Exceedances**
 - CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
 - 1 < CEF ≤ 10
 - Well Water without Exceedances**
 - CEF and NCEF ≤ 1 and Concentration ≤ USMCL
 - Nondetect

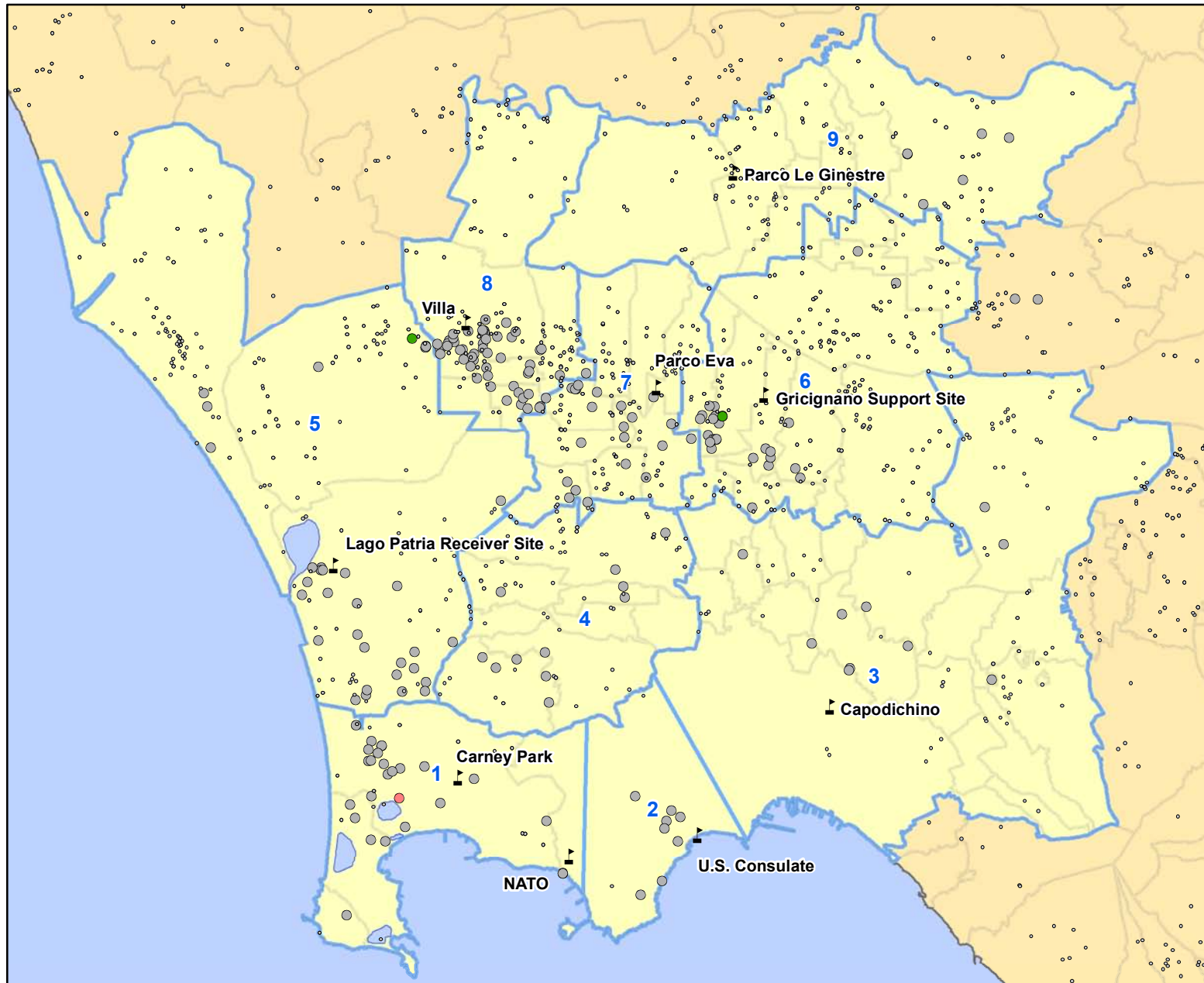
Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Ingestion and Inhalation Bis(2-ethylhexyl)phthalate Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-16



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- ▭ Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF <= 1
- Nondetect

Notes:

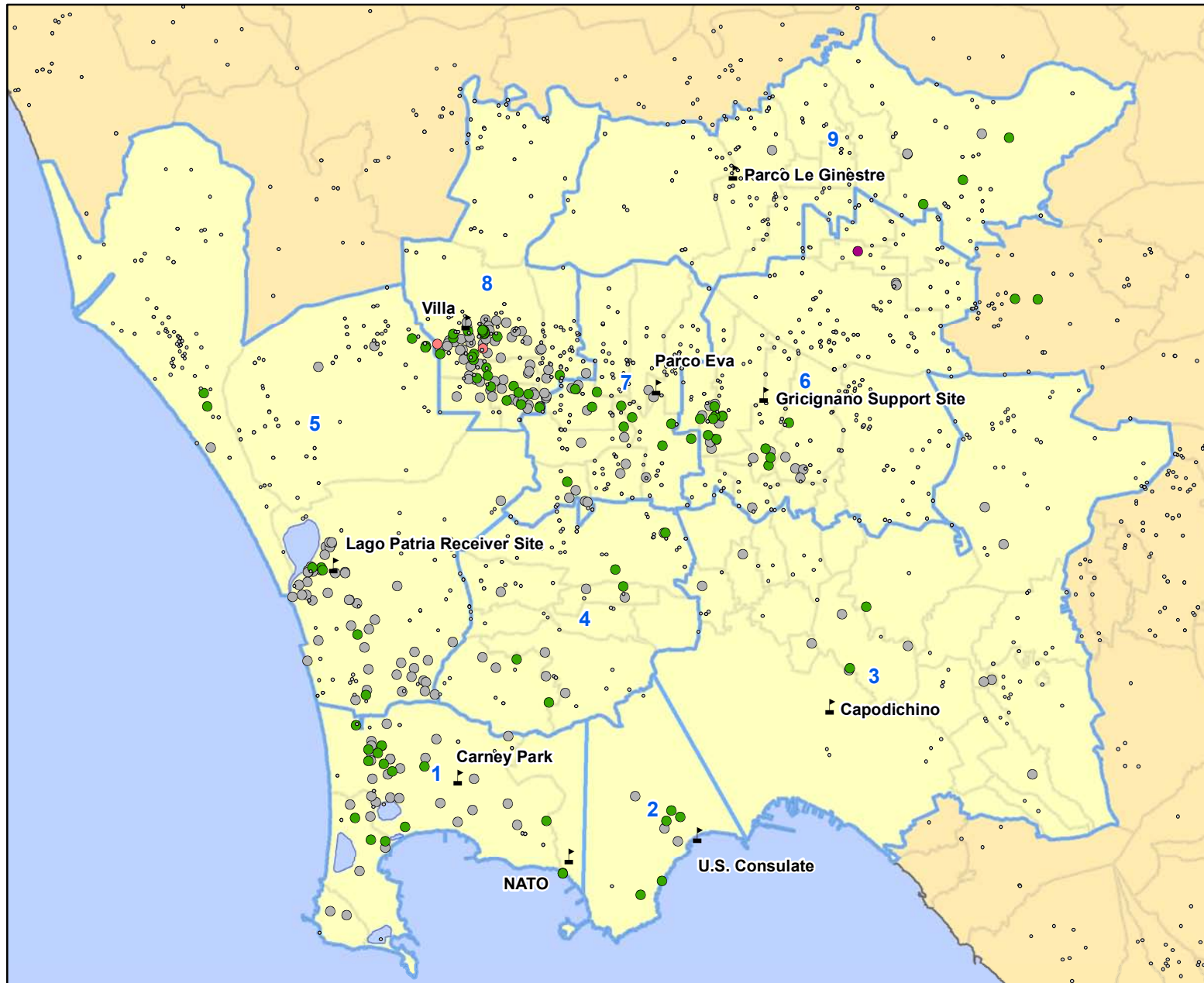
- CEF = Cancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Bromoform does not have a noncancer RSL.
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Soil Gas Bromoform Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-17



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF ≤ 10
- Soil Gas without Exceedances**
- CEF and NCEF ≤ 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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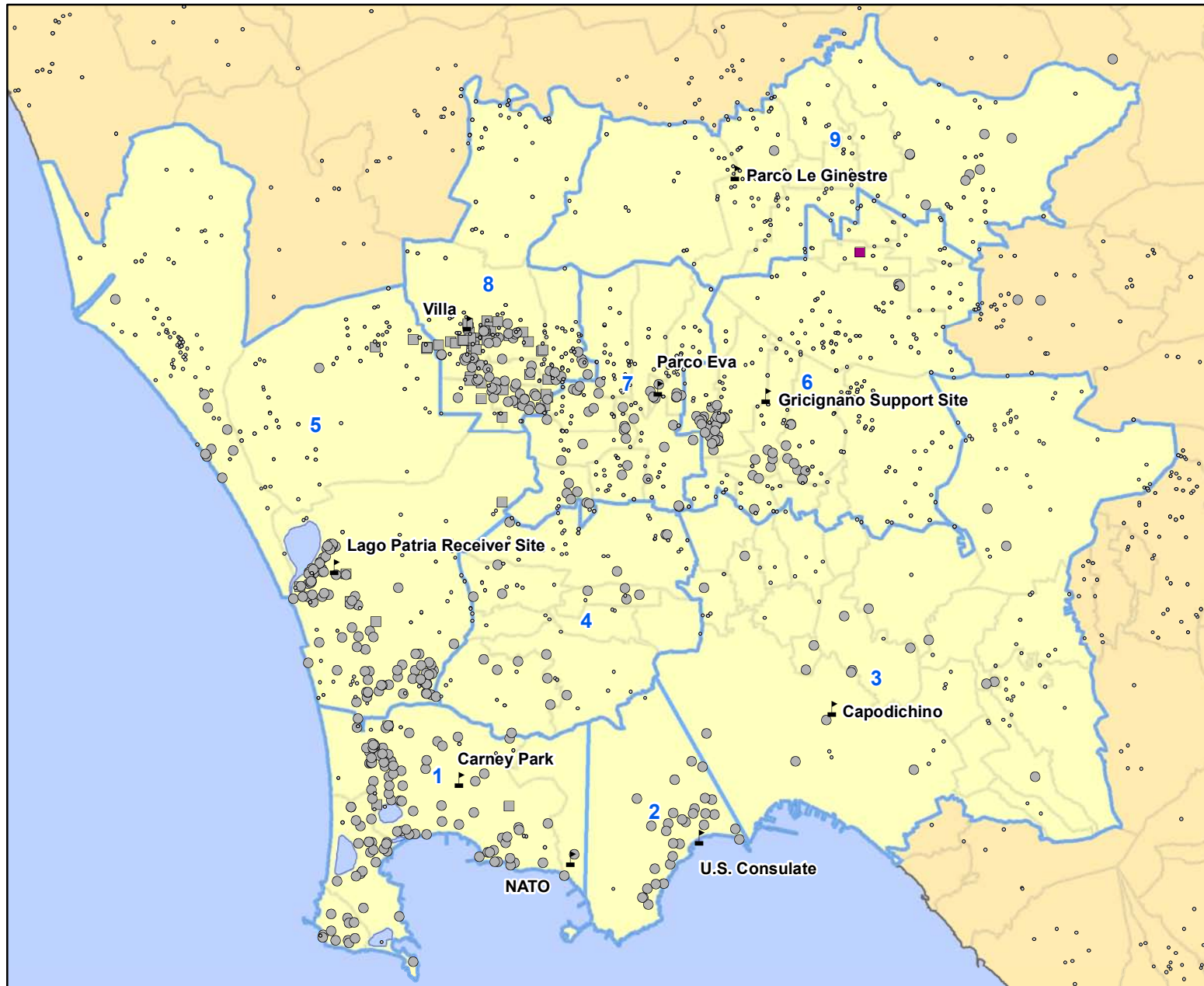
**Soil Gas Carbon Tetrachloride Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

FIGURE NO.:
F-18

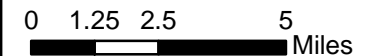


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Public Water without Exceedances**
- CEF and NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Well Water without Exceedances**
- CEF and NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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Tap Water Ingestion and Inhalation Carbon Tetrachloride Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN:

KR

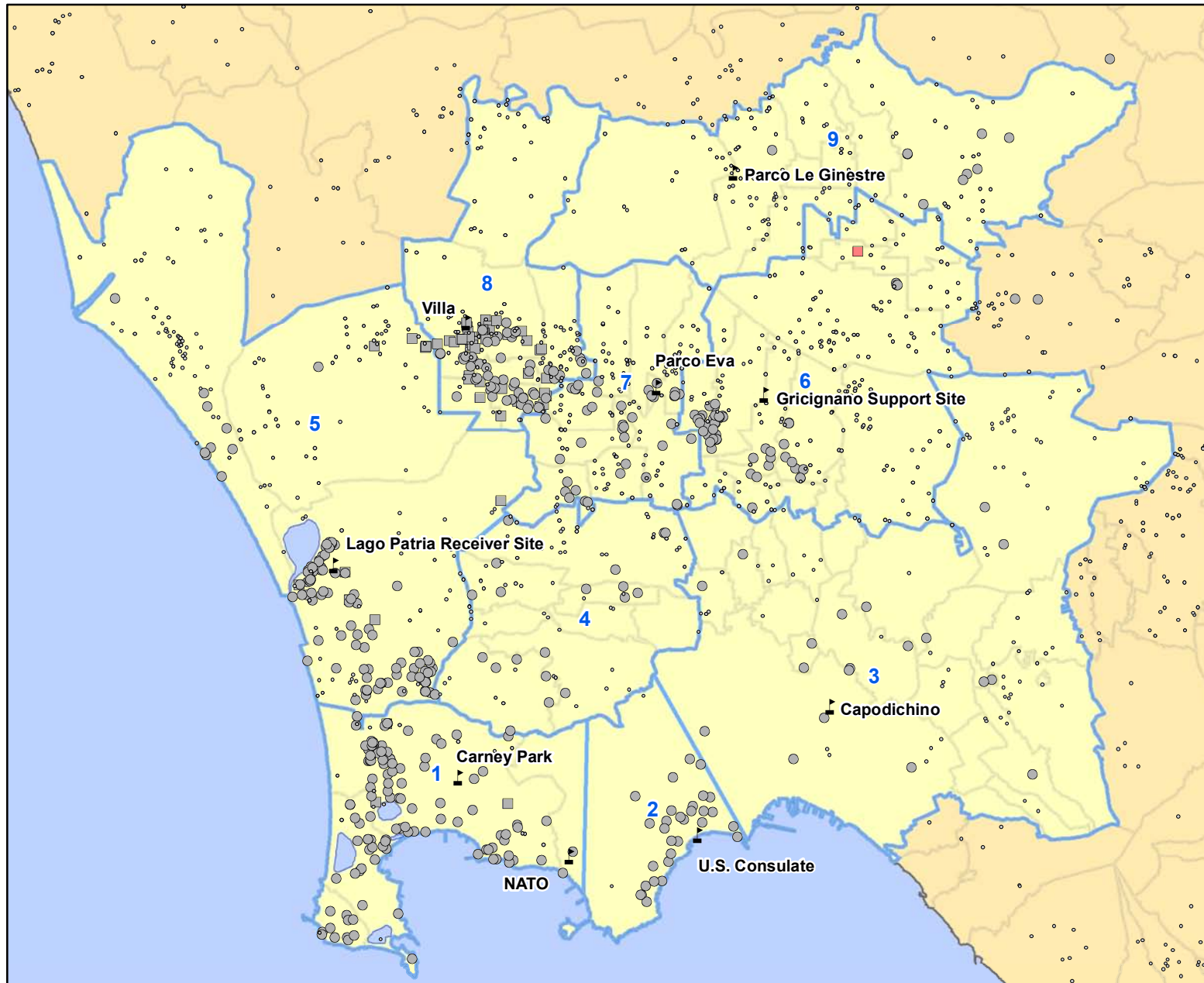
PROJECT:

DATE:

December 2010

FIGURE NO.:

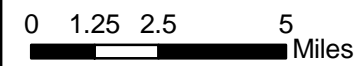
F-19



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Public Water with Exceedances**
 - CEF > 10 and/or NCEF > 1
 - 1 < CEF <= 10
 - Public Water without Exceedances**
 - CEF and NCEF <= 1
 - Nondetect
 - Well Water with Exceedances**
 - CEF > 10 and/or NCEF > 1
 - 1 < CEF <= 10
 - Well Water without Exceedances**
 - CEF and NCEF <= 1
 - Nondetect

Notes:

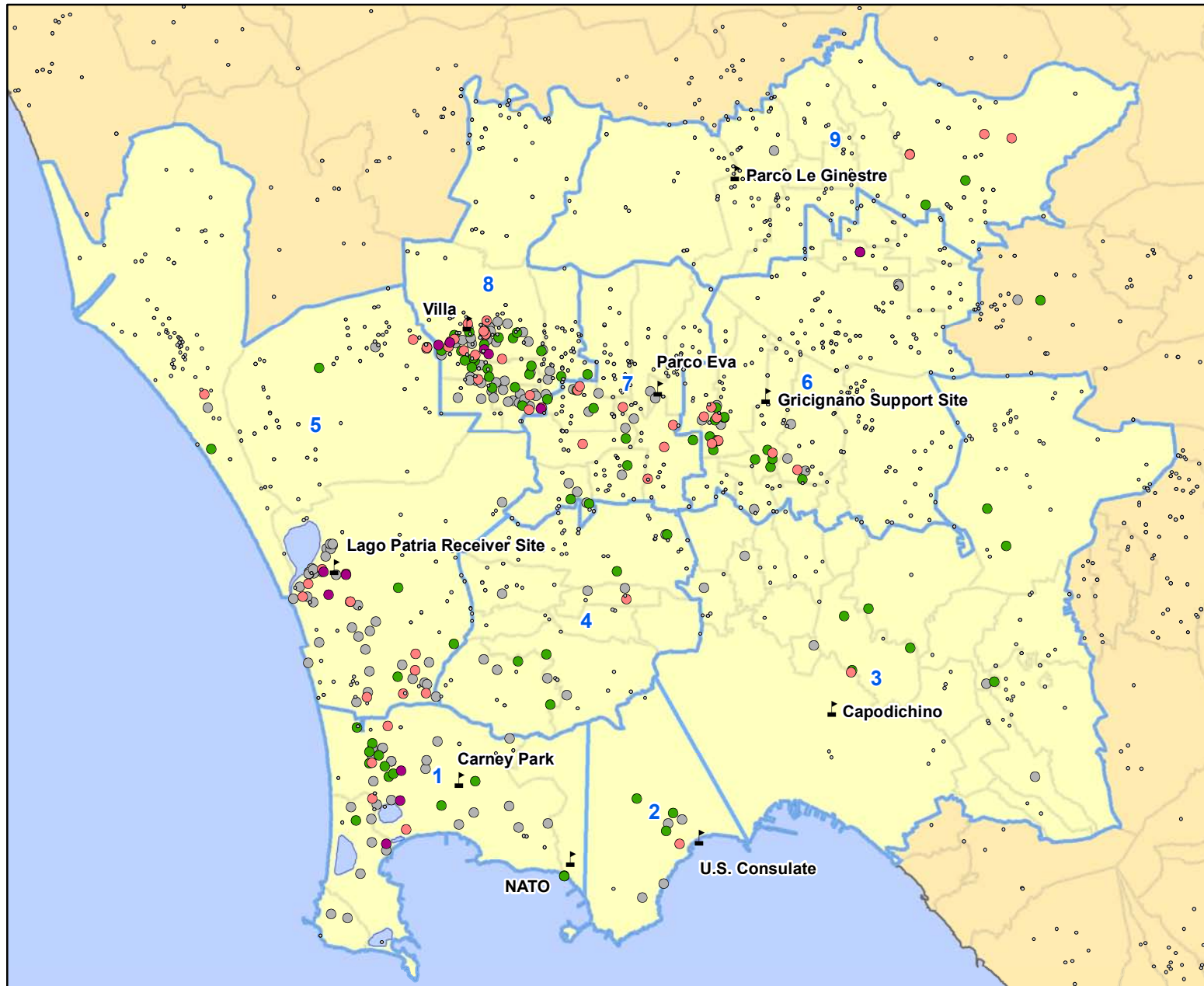
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Inhalation Carbon Tetrachloride Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation



DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-20

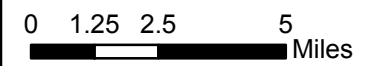


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

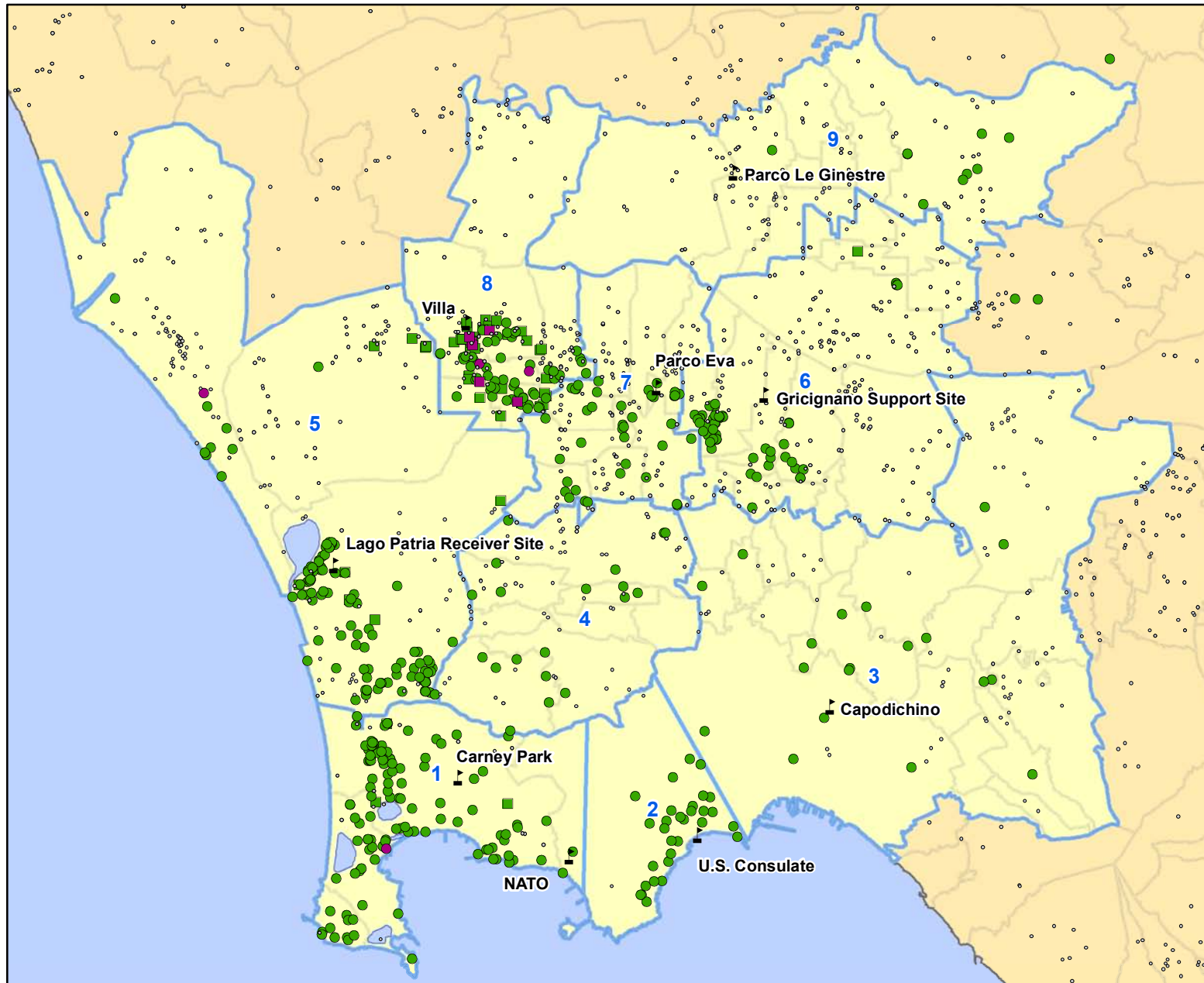
Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Soil Gas Chloroform Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-21

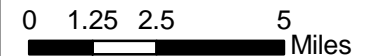


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- NCEF > 1
- Public Water without Exceedances
- NCEF <= 1
- Nondetect
- Well Water with Exceedances**
- NCEF > 1
- Well Water without Exceedances
- NCEF <= 1
- Nondetect

Notes:

- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Copper does not have a USMCL or cancer RSL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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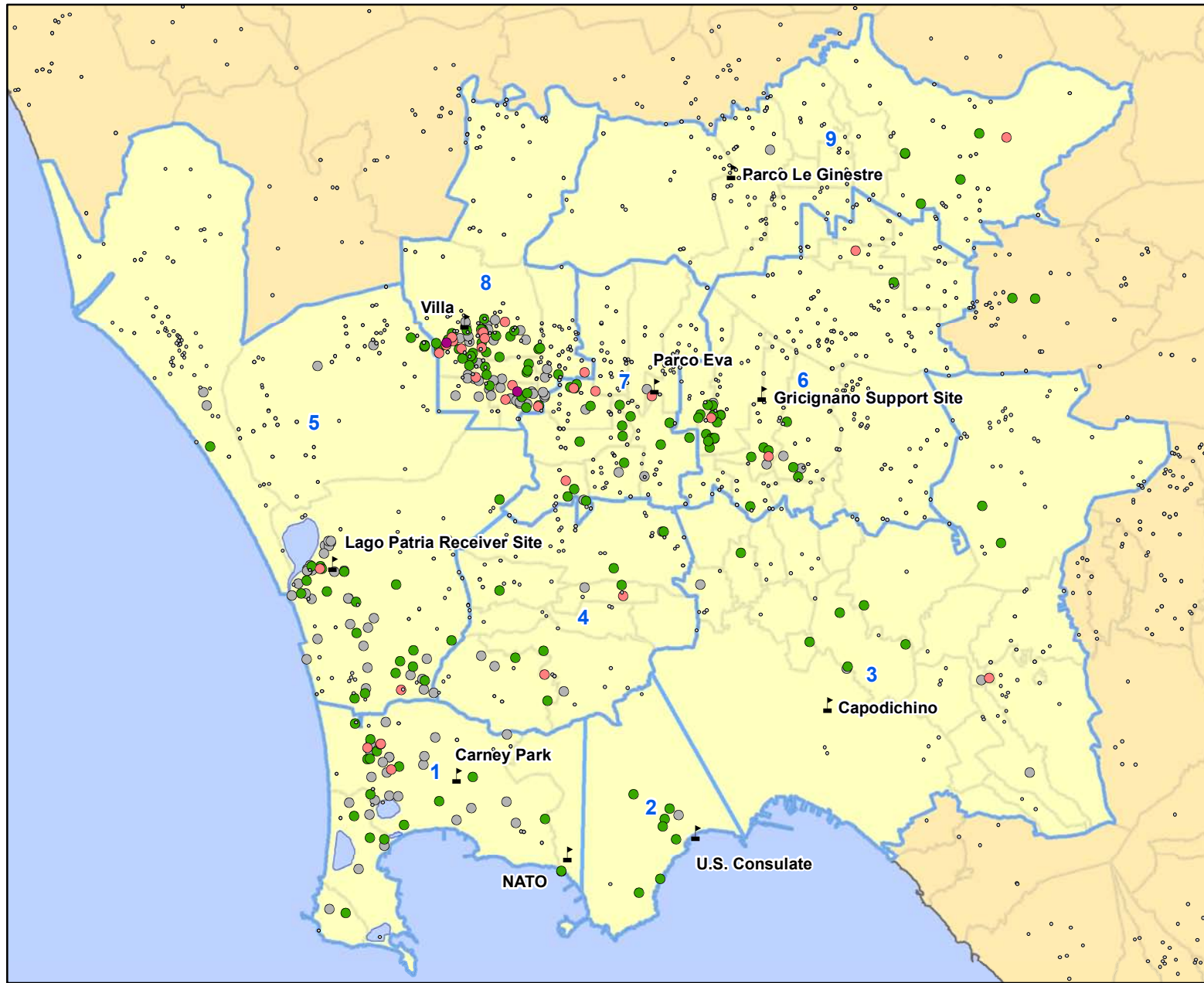
**Tap Water Ingestion and Inhalation Copper Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

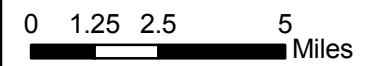
FIGURE NO.:
F-22



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Soil Gas with Exceedances**
 - CEF > 10 and/or NCEF > 1
 - 1 < CEF ≤ 10
 - Soil Gas without Exceedances**
 - CEF and NCEF ≤ 1
 - Nondetect

Notes:

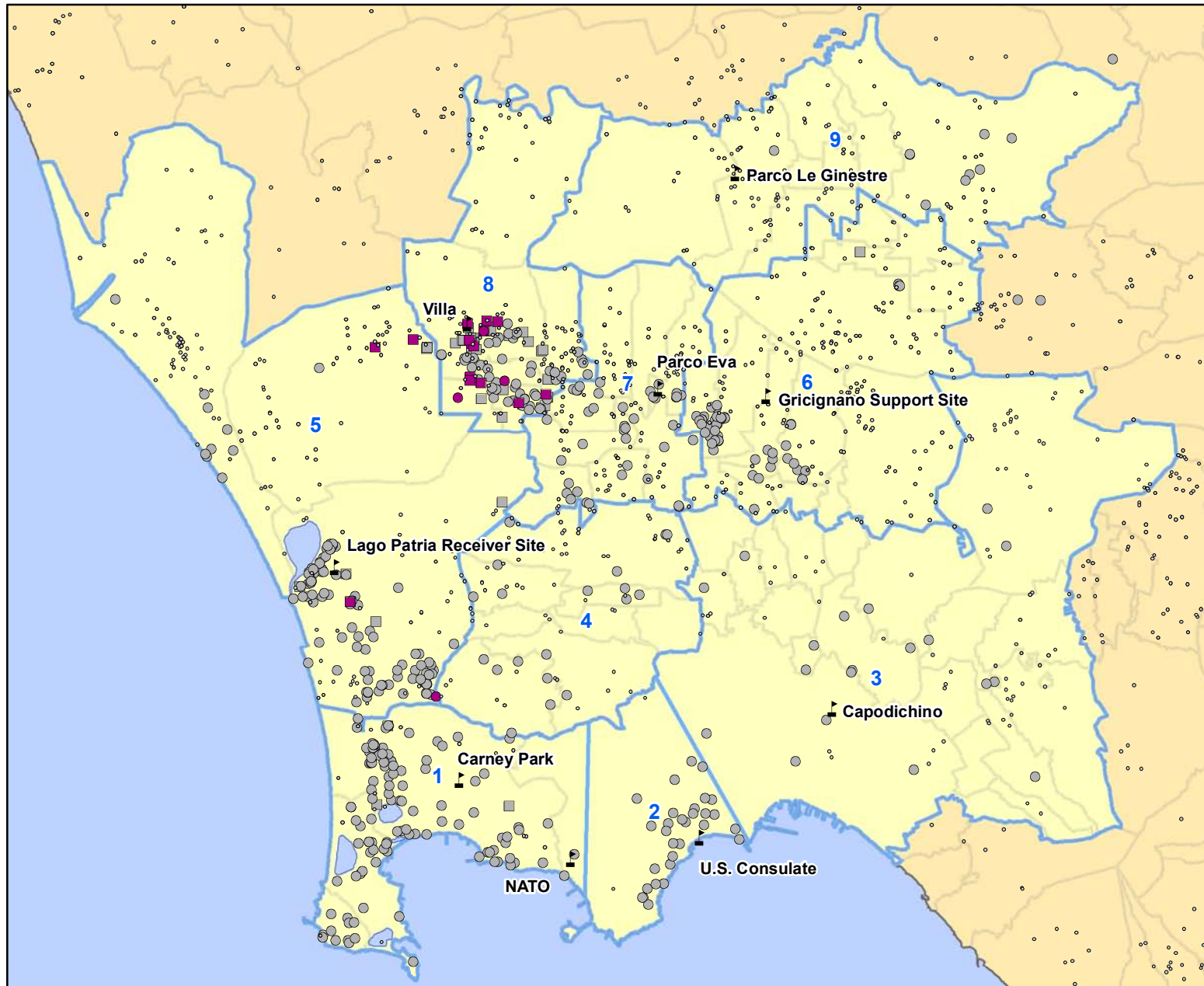
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Soil Gas Ethylbenzene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**



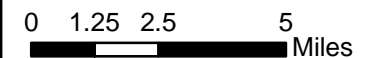
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-23



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- Concentration > USMCL
- Public Water without Exceedances**
- Nondetect
- Well Water with Exceedances**
- Concentration > USMCL
- Well Water without Exceedances**
- ▭ Nondetect

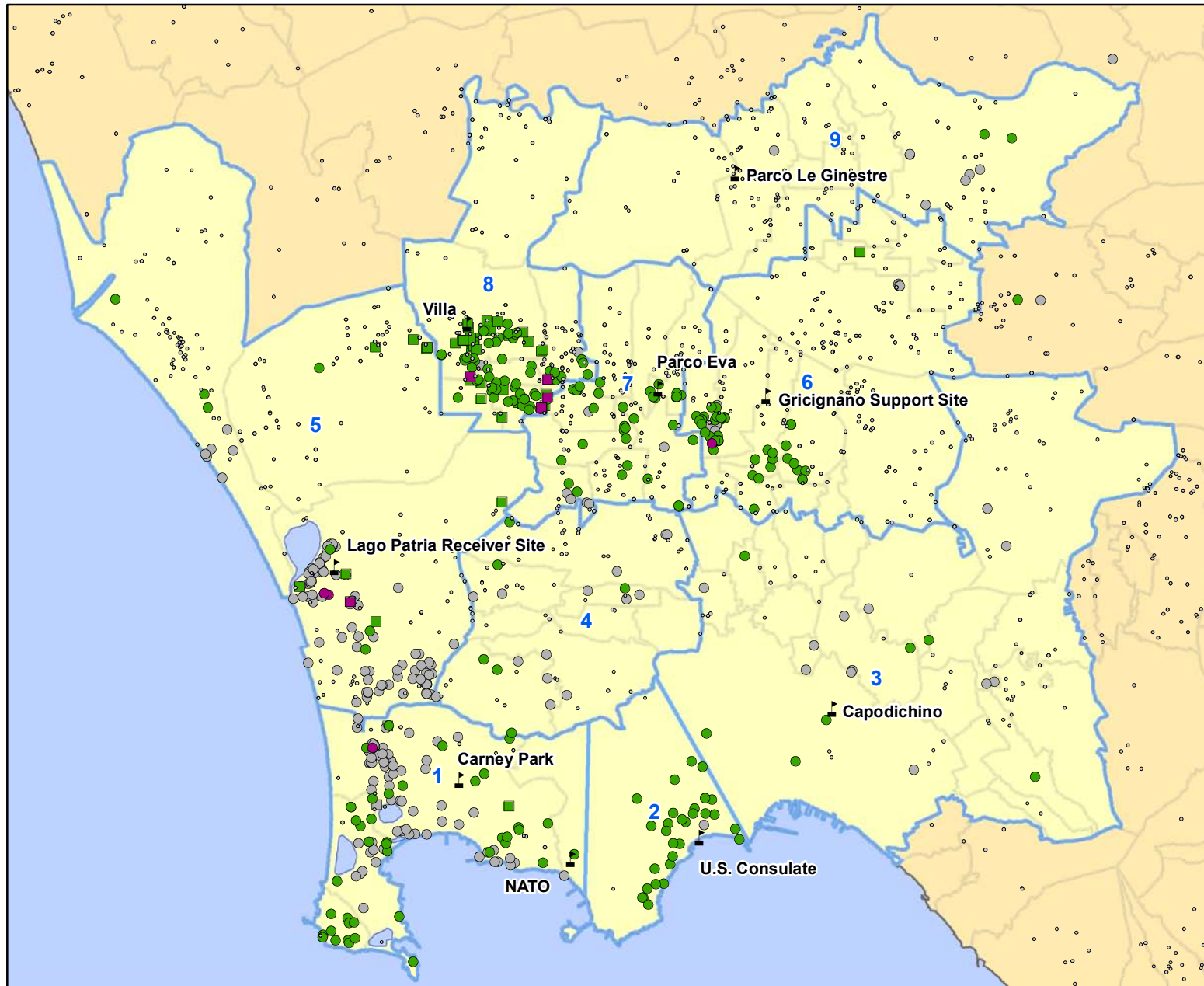
Notes:
 -USMCL = United States Maximum Contaminant Level
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Tap Water Fecal Coliform Risk Results
 All Residences Sampled in the PHE
 Naples, Italy – Public Health Evaluation
 Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-24

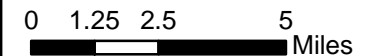


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- NCEF > 1 and/or Concentration > USMCL
- Public Water without Exceedances
- NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect
- Well Water with Exceedances**
- NCEF > 1 and/or Concentration > USMCL
- Well Water without Exceedances
- NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = United States Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Fluoride does not have a cancer RSL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Tap Water Ingestion and Inhalation Fluoride Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:

KR

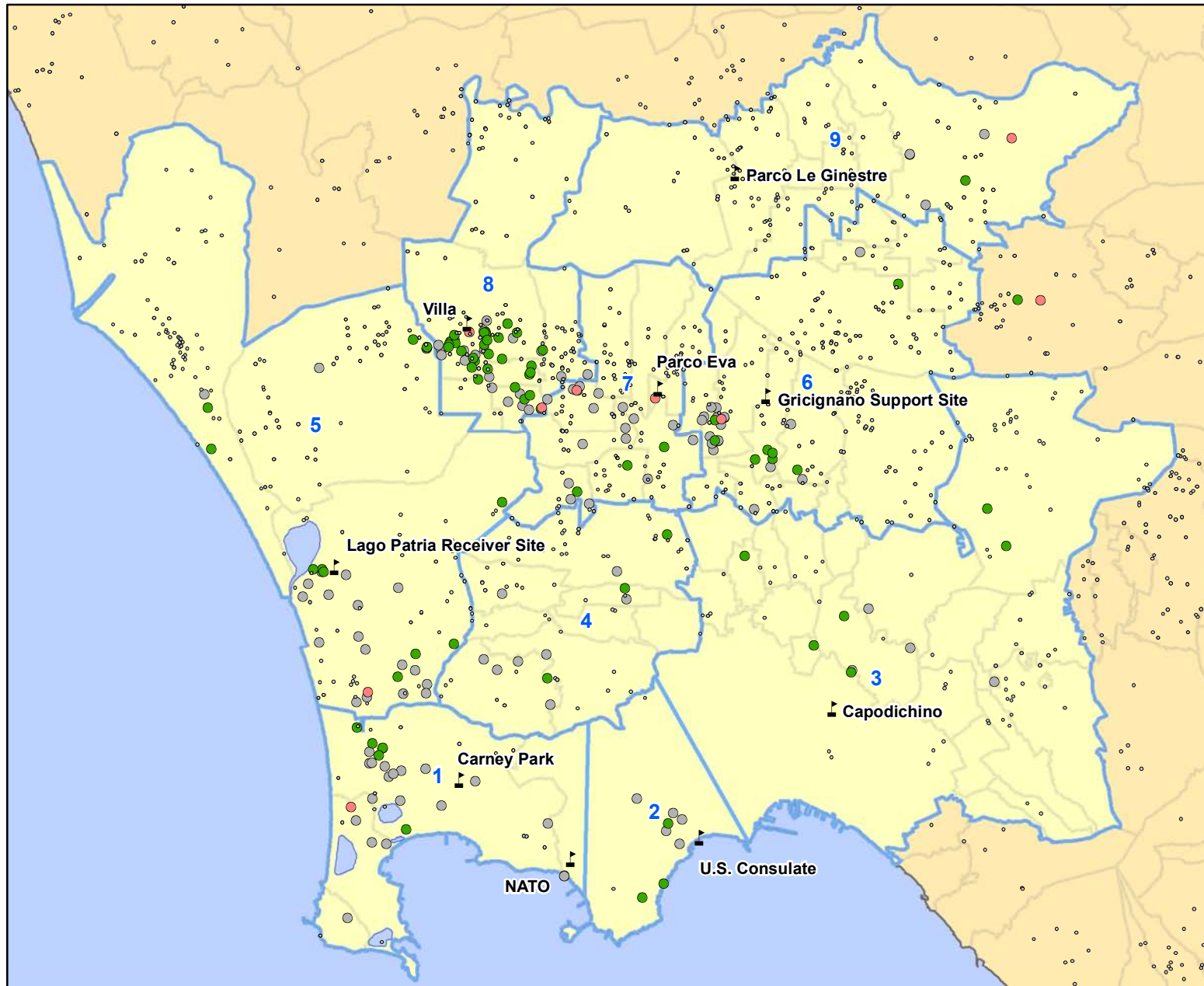
PROJECT:

DATE:

December 2010

FIGURE NO.:

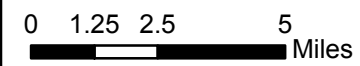
F-25



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - Comune Borders (Campania)
 - Soil Gas with Exceedances**
 - CEF > 10
 - 1 < CEF ≤ 10
 - Soil Gas without Exceedances**
 - CEF ≤ 1
 - Nondetect

Notes:

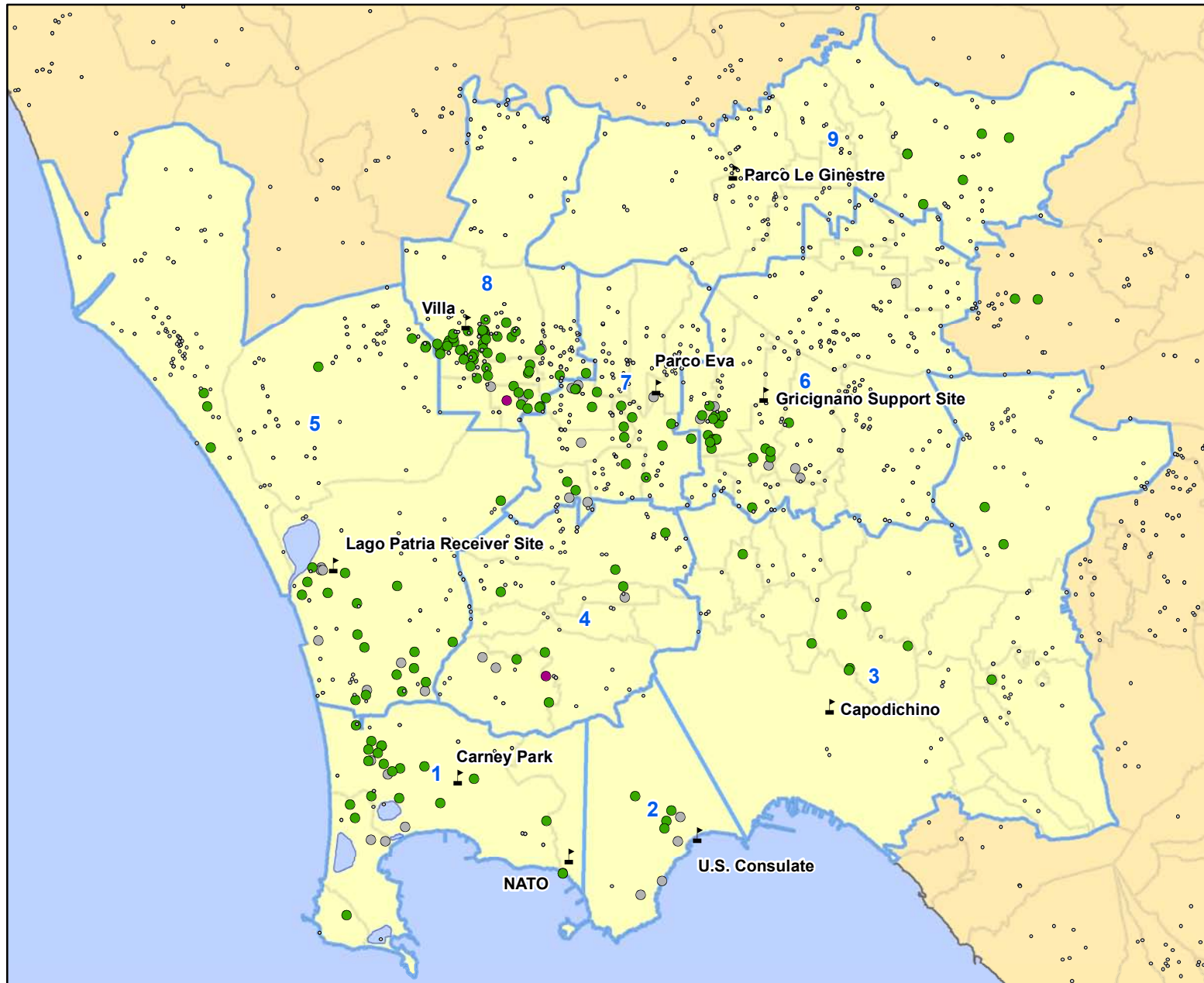
- CEF = Cancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Hexachlorobutadiene does not have a noncancer RSL.
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Soil Gas Hexachlorobutadiene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**



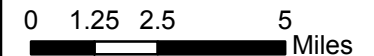
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-26



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- NCEF > 1
- Soil Gas without Exceedances**
- NCEF <= 1
- Nondetect

- Notes:**
- NCEF = Noncancer Exceedance Factor
 - RSL = USEPA's Residential Regional Screening Level
 - Hexane does not have a cancer RSL.
 - If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
 - Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
 - Some residence locations may appear as a single location due to the proximity of the residences.
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Soil Gas Hexane Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:

KR

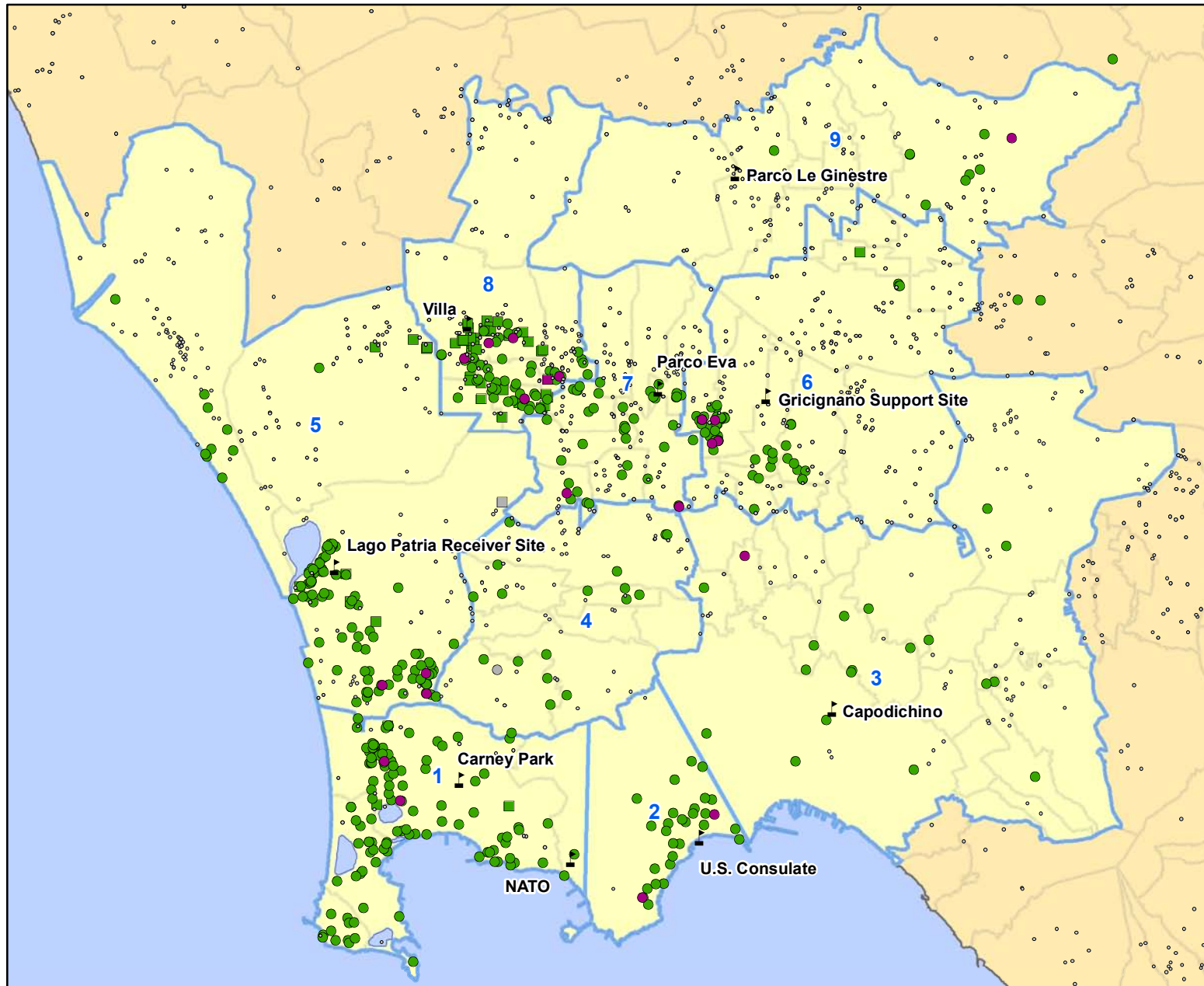
PROJECT:

DATE:

December 2010

FIGURE NO.:

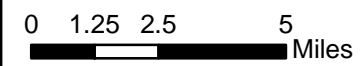
F-27



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Public Water with Exceedances**
 - NCEF > 1
 - Public Water without Exceedances**
 - NCEF <= 1
 - Nondetect
 - Well Water with Exceedances**
 - NCEF > 1
 - Well Water without Exceedances**
 - NCEF <= 1
 - Nondetect

Notes:

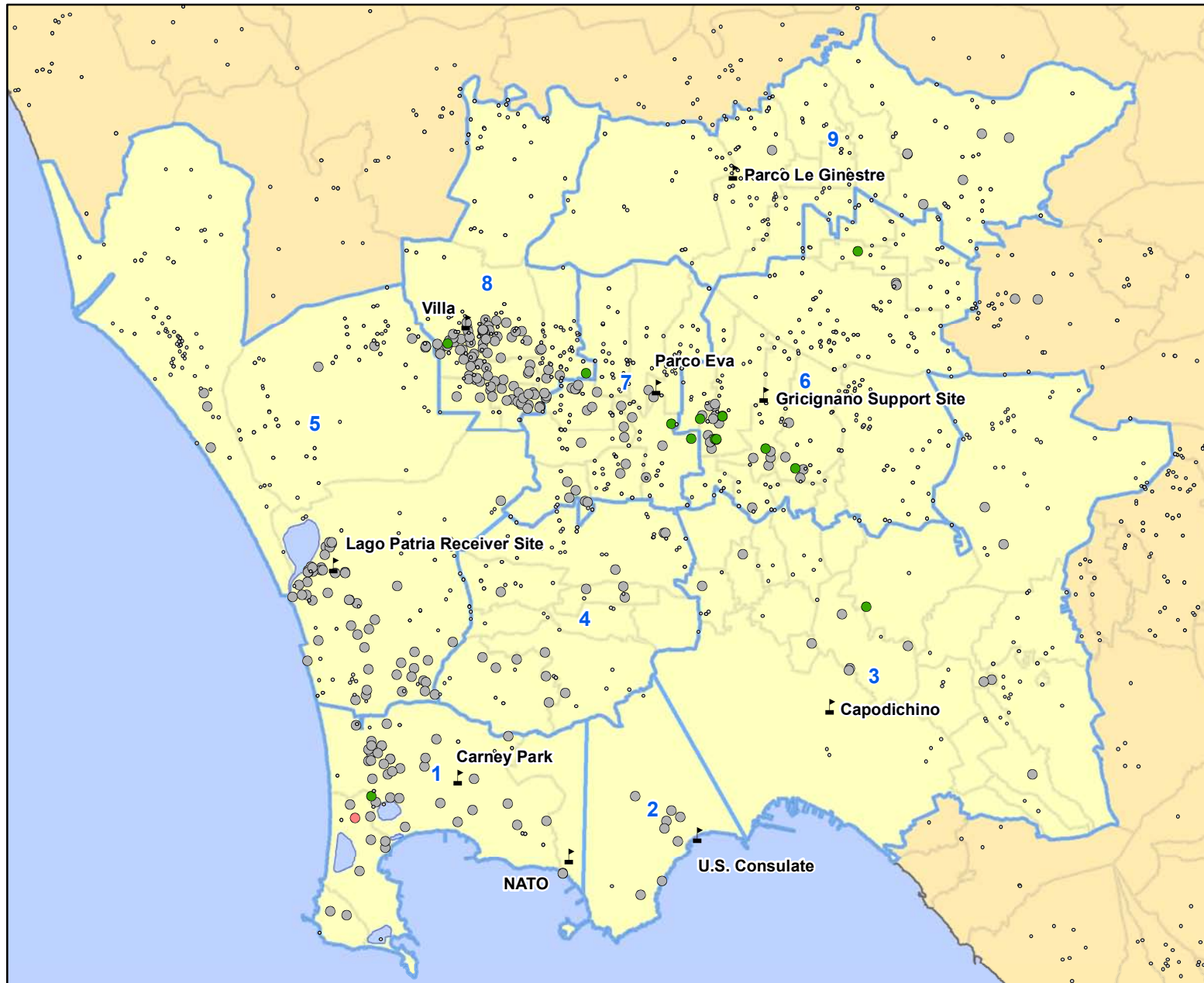
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Lead does not have a USMCL or cancer RSL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Ingestion and Inhalation Lead Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation



DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-28



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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**Soil Gas Methyl tert-Butyl Ether Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:

KR

PROJECT:

DATE:

December 2010

FIGURE NO.:

F-29



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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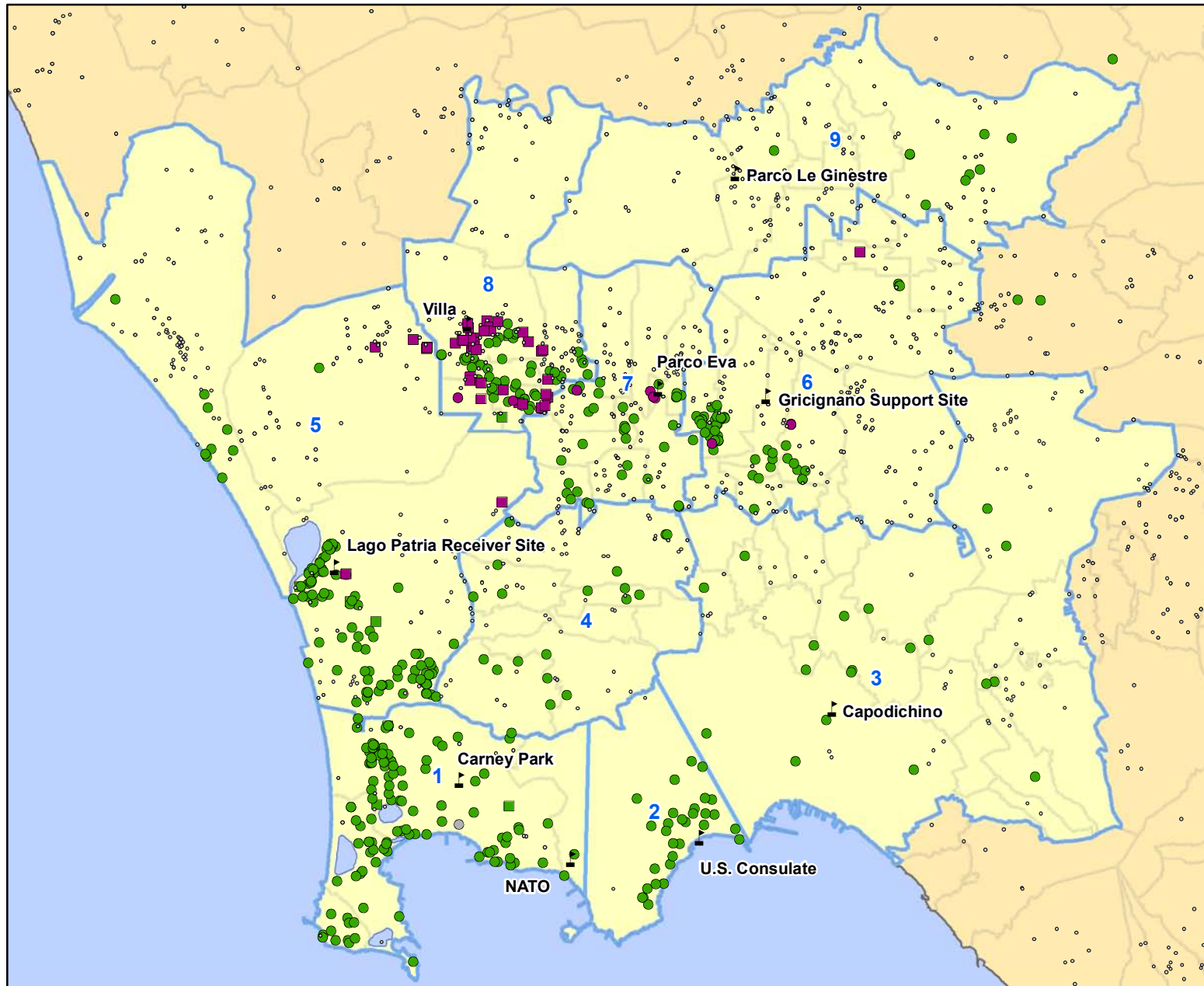
**Soil Gas Naphthalene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

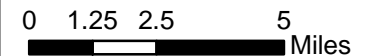
FIGURE NO.:
F-30



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- NCEF > 1 and/or Concentration > USMCL
- Public Water without Exceedances**
- NCEF <= 1 and Concentration <= USMCL
- Nondetect
- Well Water with Exceedances**
- NCEF > 1 and/or Concentration > USMCL
- Well Water without Exceedances**
- NCEF <= 1 and Concentration <= USMCL
- Nondetect

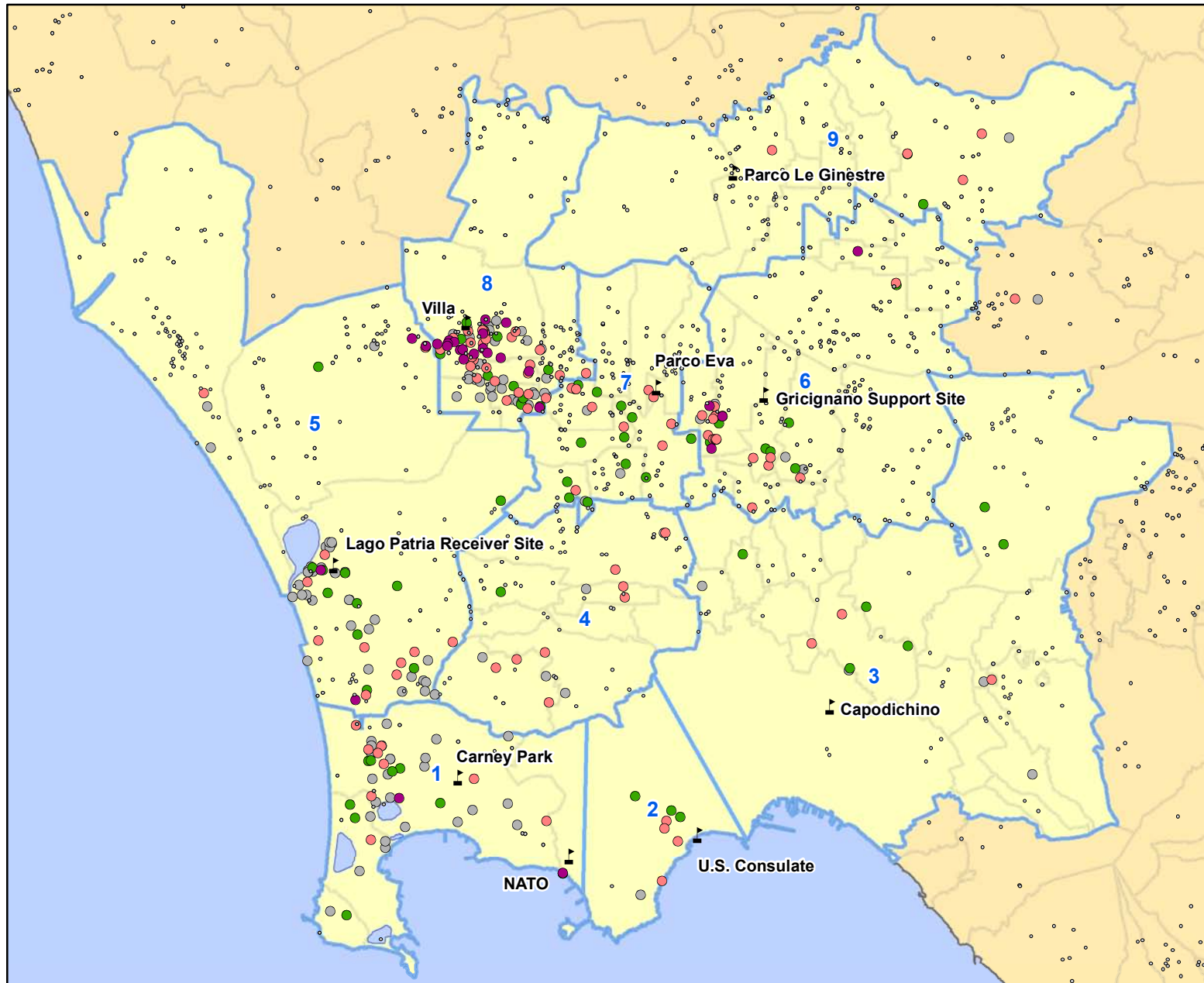
Notes:
 -USMCL = United States Maximum Contaminant Level
 -Nitrate does not have a cancer RSL.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



**Tap Water Ingestion and Inhalation Nitrate Risk Results
 All Residences Sampled in the PHE
 Naples, Italy – Public Health Evaluation
 Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-31





Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF ≤ 10
- Soil Gas without Exceedances**
- CEF and NCEF ≤ 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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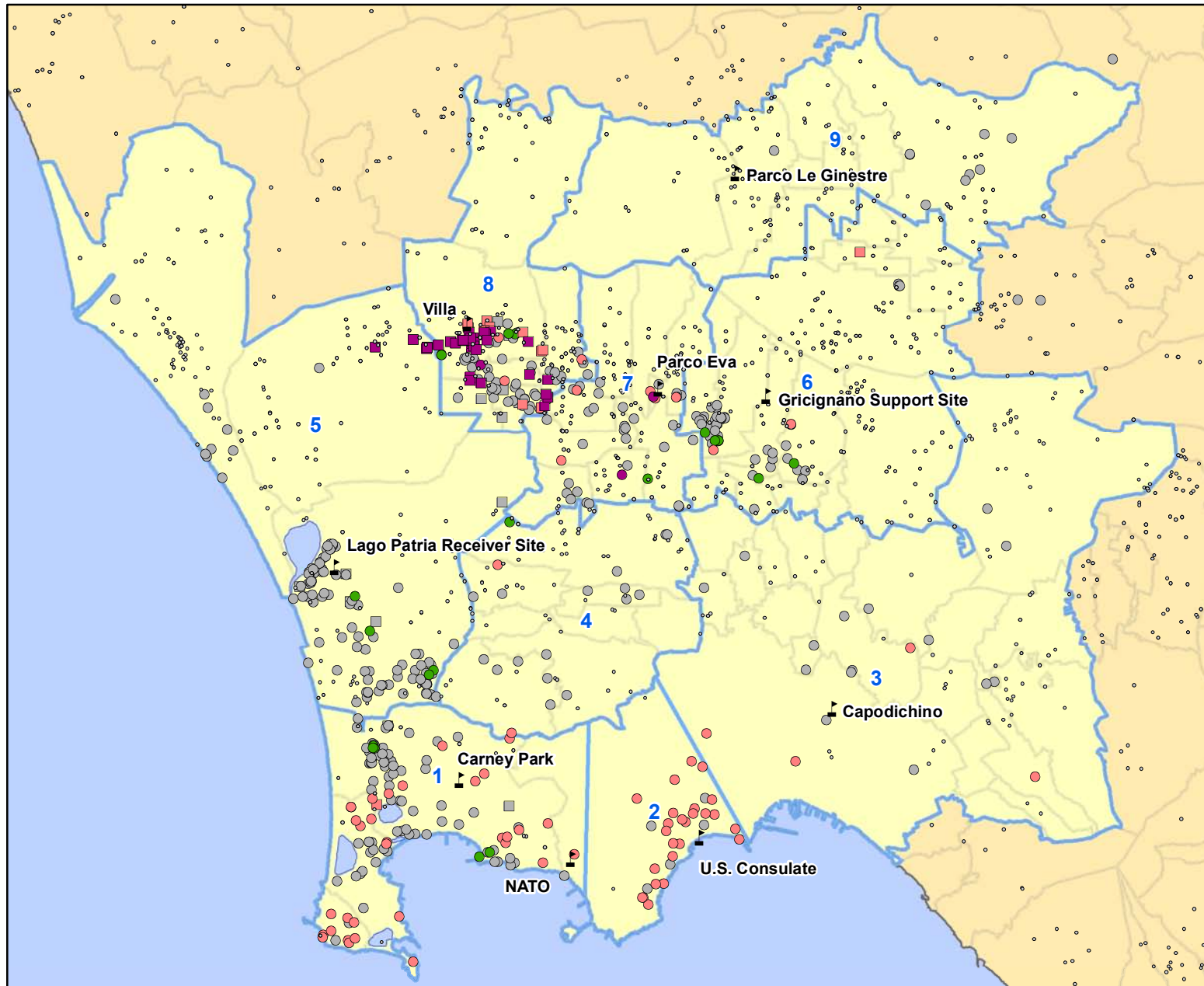
**Soil Gas Tetrachloroethene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

FIGURE NO.:
F-32

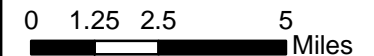


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedance**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Public Water without Exceedances**
- CEF and NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF ≤ 10
- Well Water without Exceedances**
- CEF and NCEF ≤ 1 and Concentration ≤ USMCL
- Nondetect

Notes:

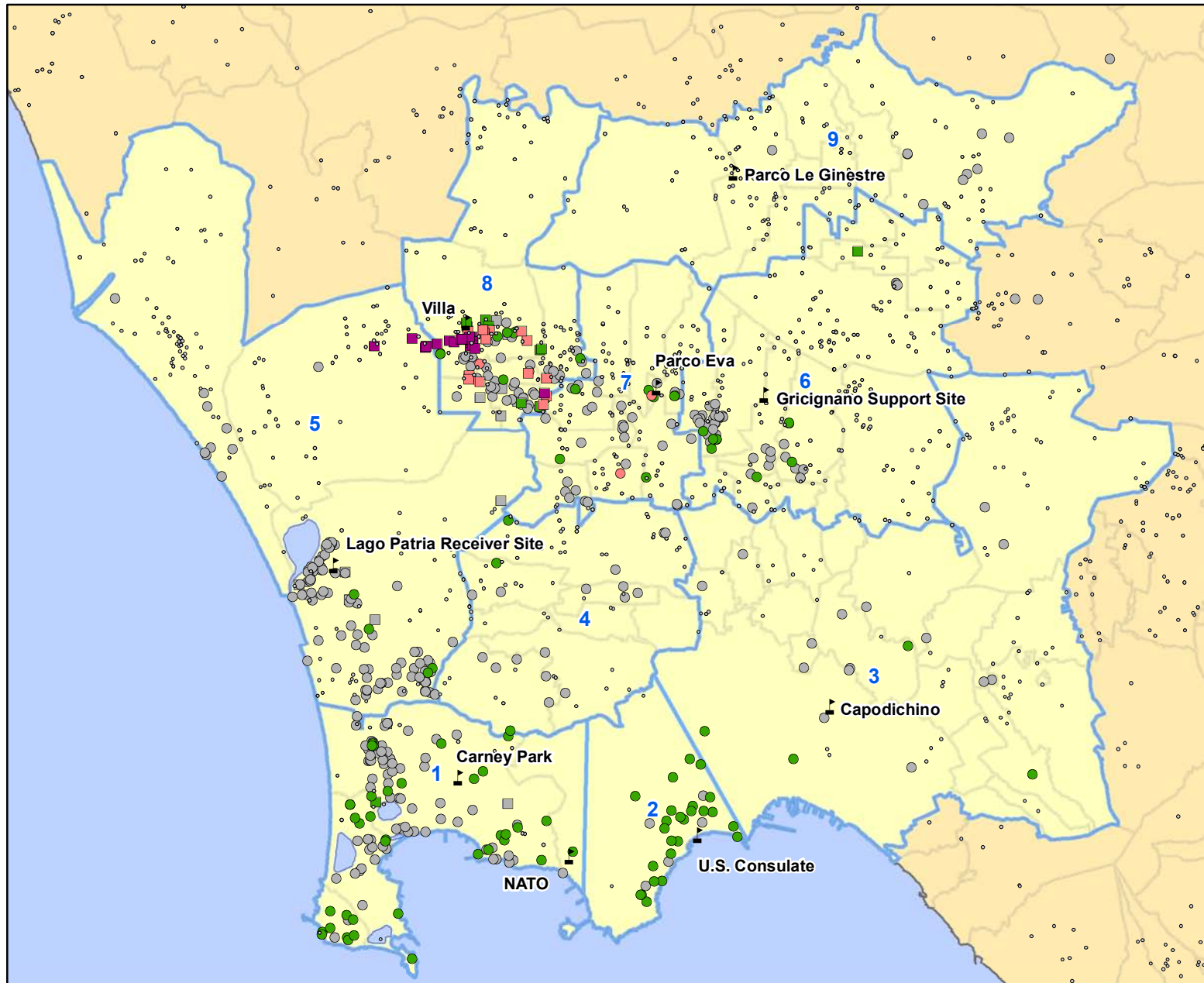
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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Tap Water Ingestion and Inhalation Tetrachloroethene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

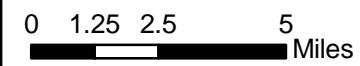
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-33



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Public Water with Exceedances**
 - CEF > 10 and/or NCEF > 1
 - 1 < CEF <= 10
 - Public Water without Exceedances**
 - CEF and NCEF <= 1
 - Nondetect
 - Well Water with Exceedances**
 - CEF > 10 and/or NCEF > 1
 - 1 < CEF <= 10
 - Well Water without Exceedances**
 - CEF and NCEF <= 1
 - Nondetect

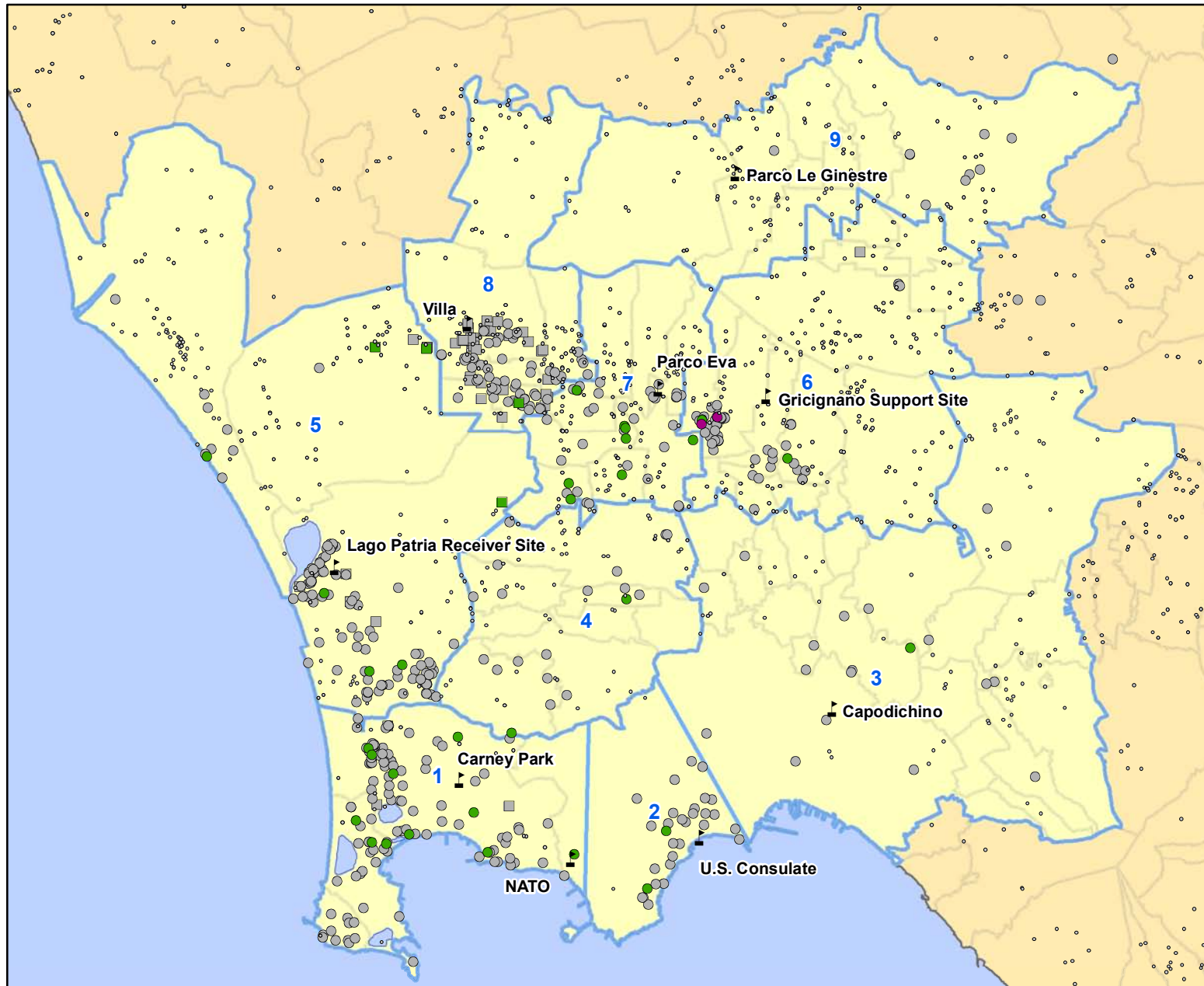
Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Exceedance factors are calculated assuming exposure via inhalation only.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Inhalation Tetrachloroethene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-34

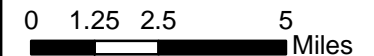


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Public Water with Exceedances**
- NCEF > 1 and/or Concentration > USMCL
- Public Water without Exceedances**
- NCEF <= 1 and Concentration <= USMCL
- Nondetect
- Well Water with Exceedances**
- NCEF > 1 and/or Concentration > USMCL
- Well Water without Exceedances**
- NCEF <= 1 and Concentration <= USMCL
- Nondetect

Notes:

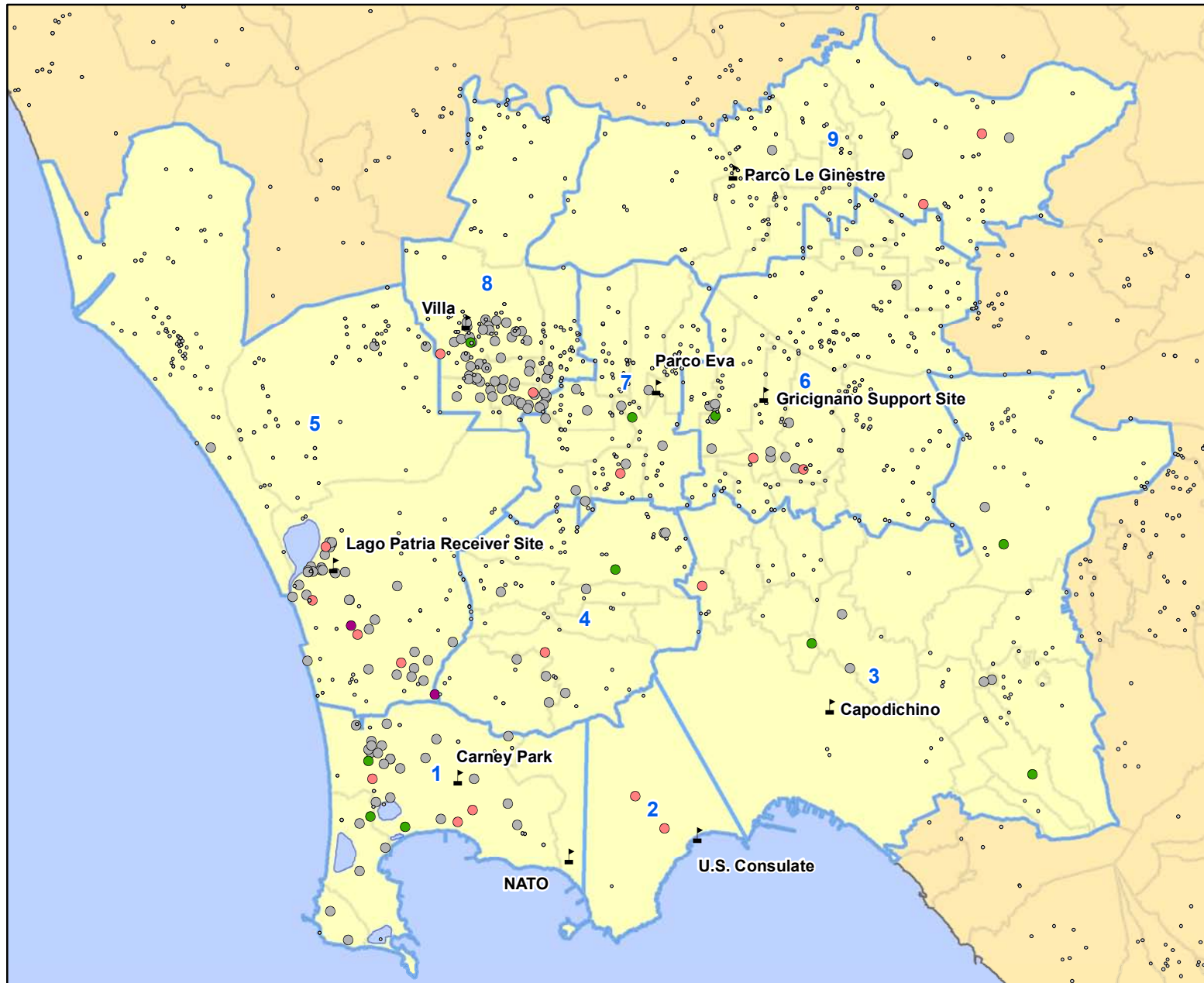
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Thallium does not have a cancer RSL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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Tap Water Ingestion and Inhalation Thallium Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-35



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil with Exceedances**
- CEF > 10
- 1 < CEF <= 10
- Soil without Exceedances**
- CEF <= 1
- Nondetect

Notes:

- BaP TEQ = Benzo(a)Pyrene Toxic Equivalents
- PAHs = Polycyclic Aromatic Hydrocarbons
- CEF = Cancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Total Carcinogenic PAHs do not have a noncancer RSL.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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**Soil Total Carcinogenic PAHs (BaP TEQs) Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-36

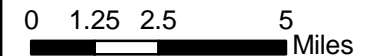


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or Concentration > USMCL
- 1 < CEF <= 10
- Public Water without Exceedances**
- CEF <= 1 and Concentration <= USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or Concentration > USMCL
- 1 < CEF <= 10
- Well Water without Exceedances**
- CEF <= 1 and Concentration <= USMCL
- Nondetect

Notes:

- BaP TEQ = Benzo(a)Pyrene Toxic Equivalents
- PAHs = Polycyclic Aromatic Hydrocarbons
- CEF = Cancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Total Carcinogenic PAHs does not have a noncancer RSL.
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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Tap Water Ingestion and Inhalation Total Carcinogenic PAHs (BaP TEQs) Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN:

KR

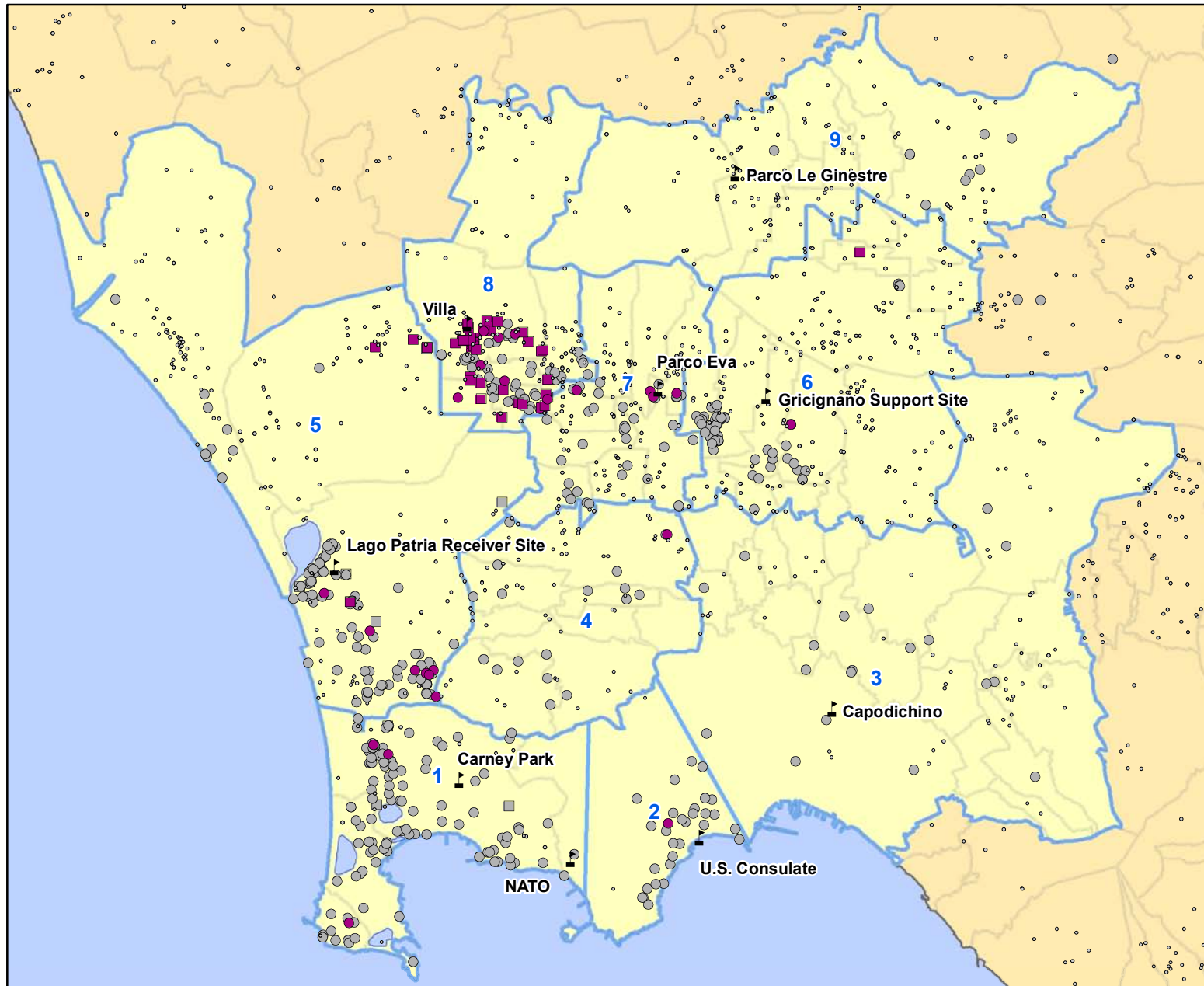
PROJECT:

DATE:

December 2010

FIGURE NO.:

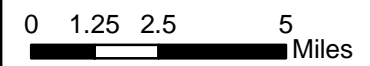
F-37



- Legend**
- ▲ Air Sampling Locations (Gov't Sites)
 - Trash, Potential Hazardous Waste, or Illegal Dump Sites
 - Study Area Boundary (1-9)
 - ▭ Comune Borders (Campania)
 - Public Water with Exceedances**
 - Concentration > USMCL
 - Public Water without Exceedances**
 - Nondetect
 - Well Water with Exceedances**
 - Concentration > USMCL
 - Well Water without Exceedances**
 - Nondetect

Notes:

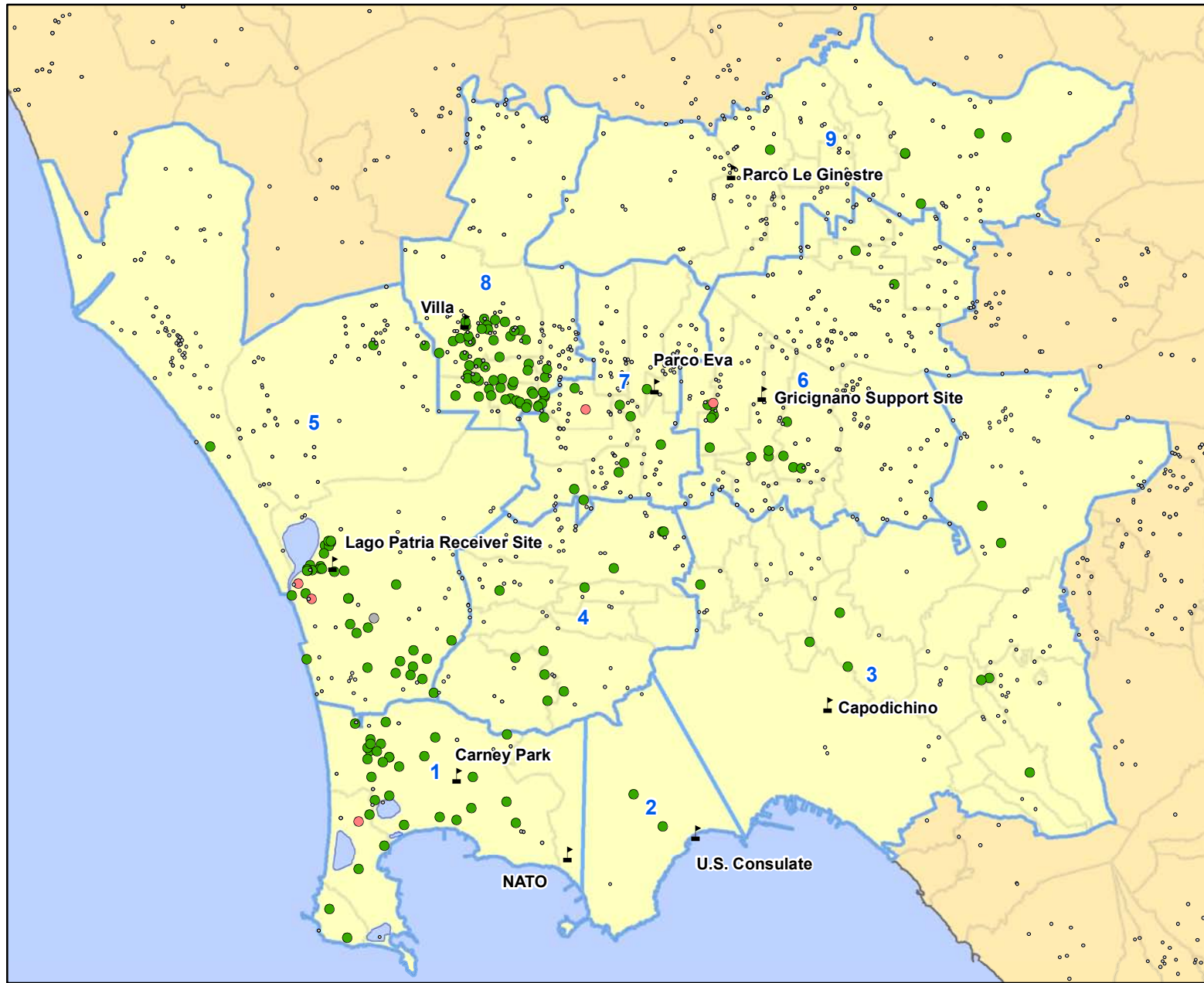
- USMCL = United States Maximum Contaminant Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Total Coliforms Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation



DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-38

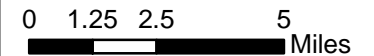


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil without Exceedances**
- CEF <= 1
- Nondetect

Notes:

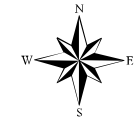
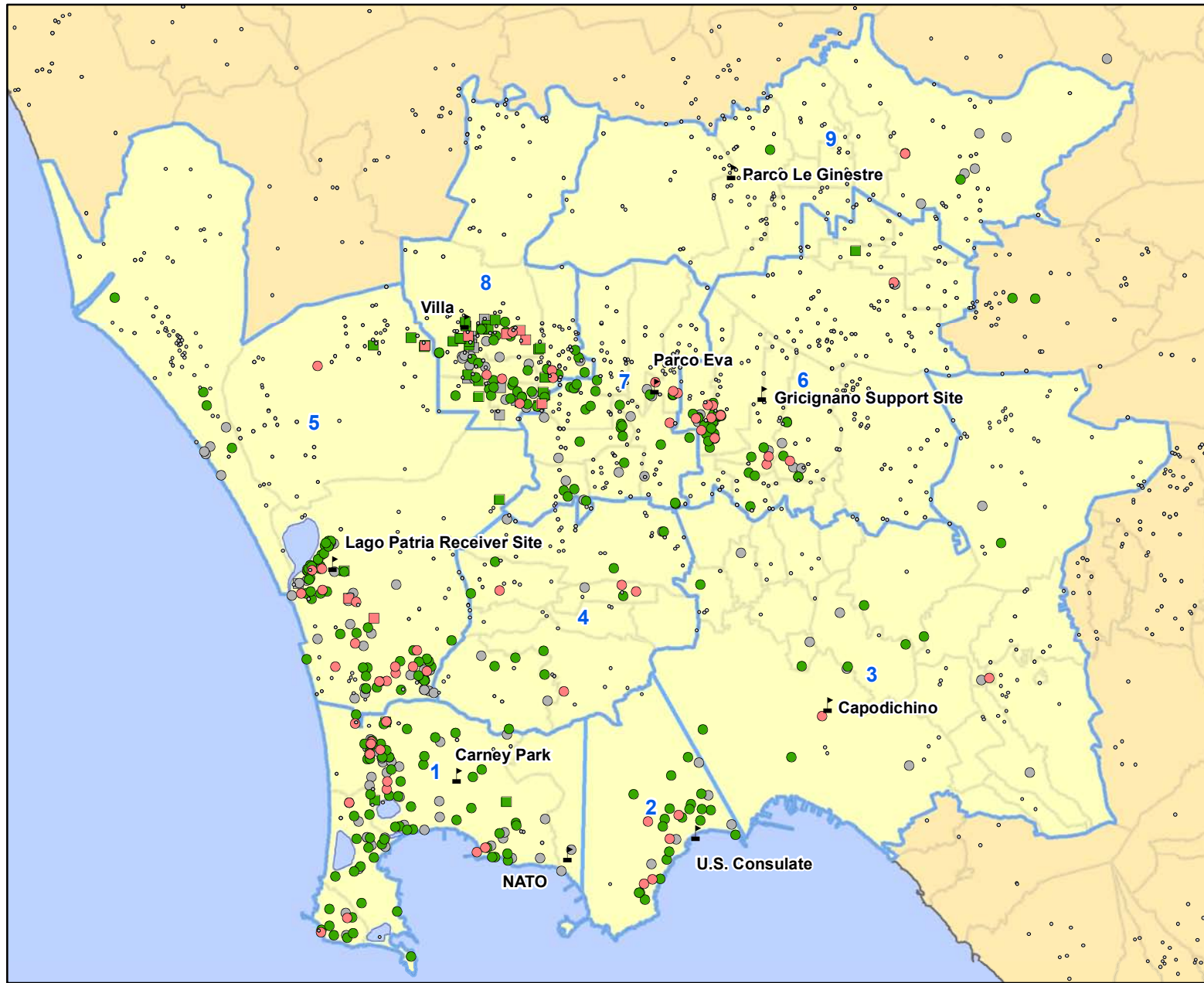
- TCDD TEQs = Tetrachlorodibenzo-p-dioxin Toxic Equivalents
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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Soil Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-39

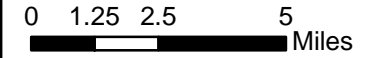


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF <= 10
- Public Water without Exceedances**
- CEF and NCEF <= 1 and Concentration <= USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF <= 10
- Well Water without Exceedances**
- CEF and NCEF <= 1 and Concentration <= USMCL
- Nondetect

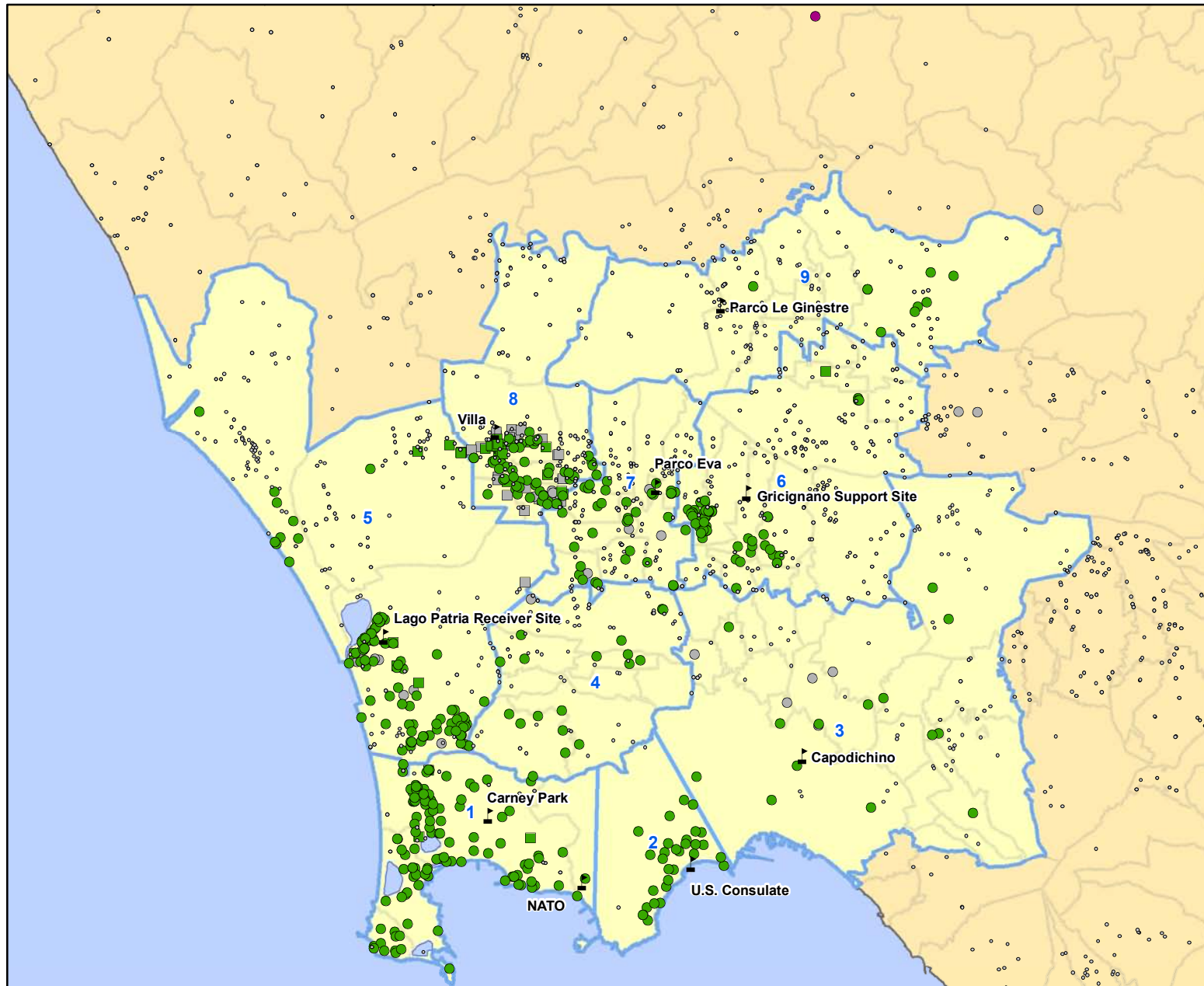
Notes:

- TCDD TEQs = Tetrachlorodibenzo-p-dioxin Toxic Equivalents
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Ingestion and Inhalation Total Dioxin/Furans (2,3,7,8-TCDD TEQs) Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

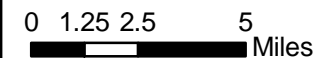
DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-40



Legend

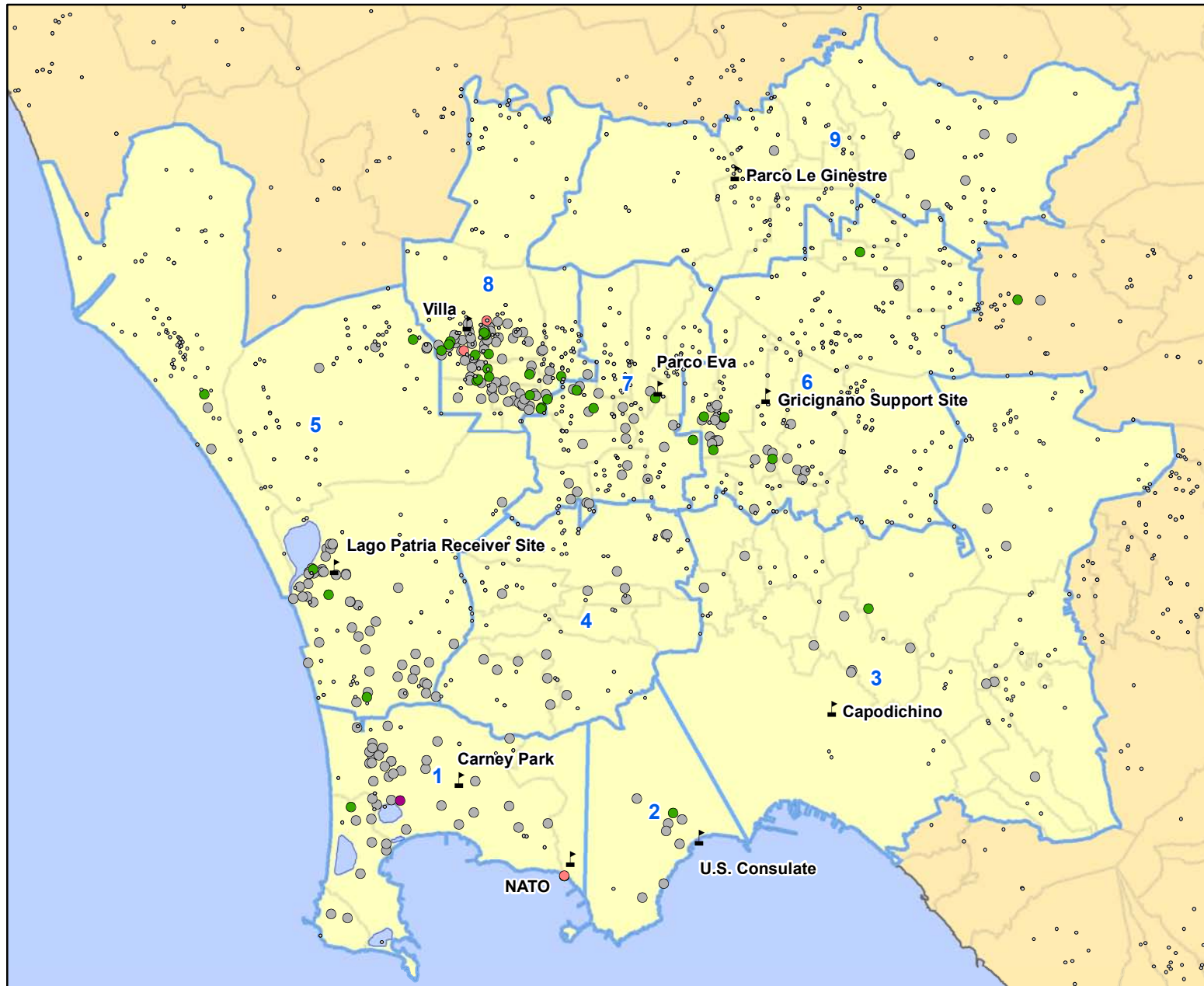
- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- Concentration > USMCL
- Public Water without Exceedances**
- Concentration ≤ USMCL
- Nondetect
- Well Water with Exceedances**
- Concentration > USMCL
- Well Water without Exceedances**
- Concentration ≤ USMCL
- Nondetect

Notes:
 -USMCL = United States Maximum Contaminant Level
 -Total Trihalomethanes does not have a cancer or noncancer RSL.
 -Some residence locations may appear as a single location due to the proximity of the residences.
 -Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



Tap Water Ingestion and Inhalation Total Trihalomethanes Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-41



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF <= 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- Trichloroethene does not have a noncancer RSL.
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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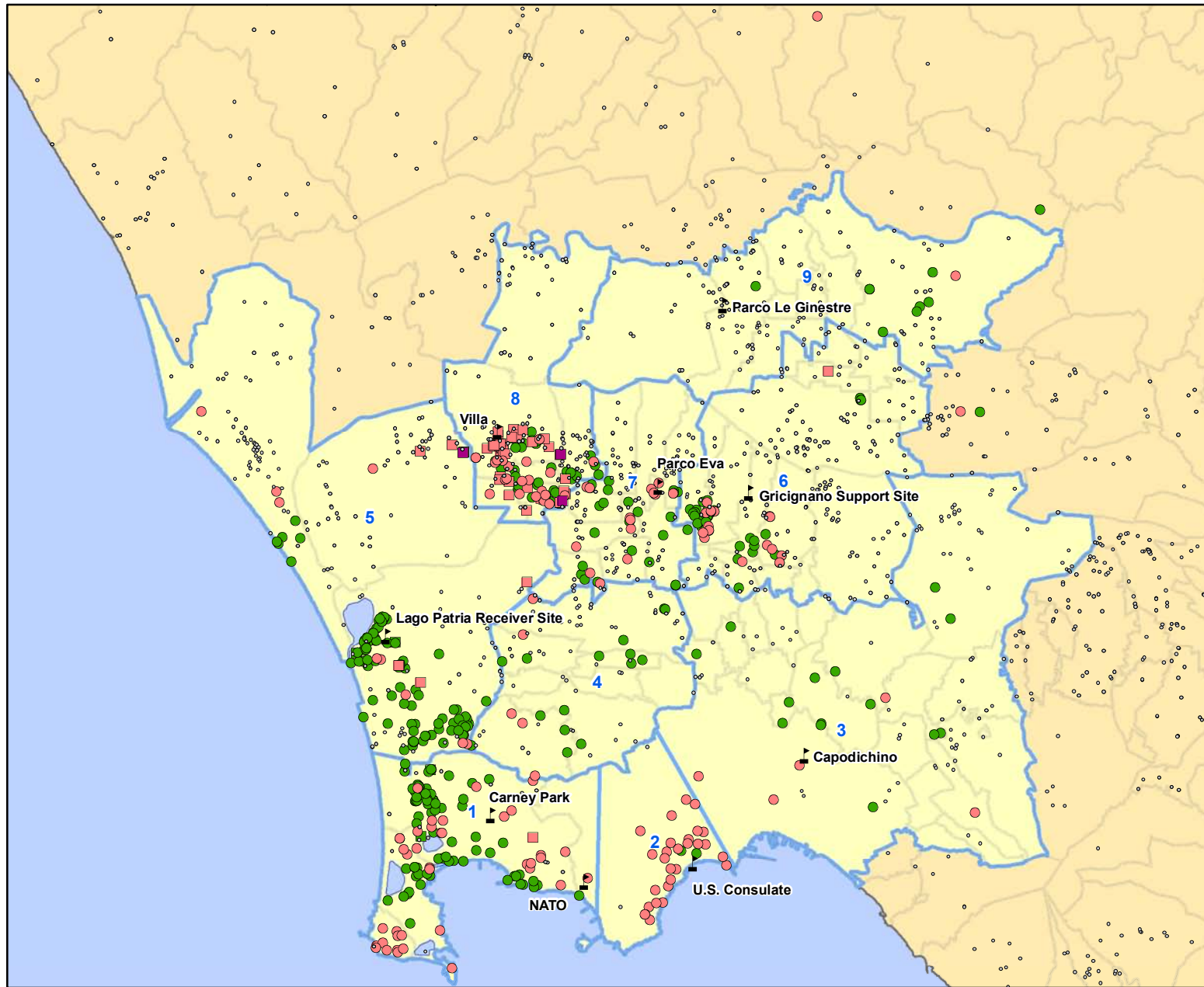
**Soil Gas Trichloroethene Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:
KR

PROJECT:

DATE:
December 2010

FIGURE NO.:
F-42

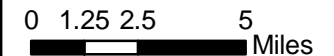


Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- ▭ Comune Borders (Campania)
- Public Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF <= 10
- Public Water without Exceedances**
- CEF and NCEF <= 1 and Concentration <= USMCL
- Nondetect
- Well Water with Exceedances**
- CEF > 10 and/or NCEF > 1 and/or Concentration > USMCL
- 1 < CEF <= 10
- Well Water without Exceedances**
- CEF and NCEF <= 1 and Concentration <= USMCL
- Nondetect

Notes:

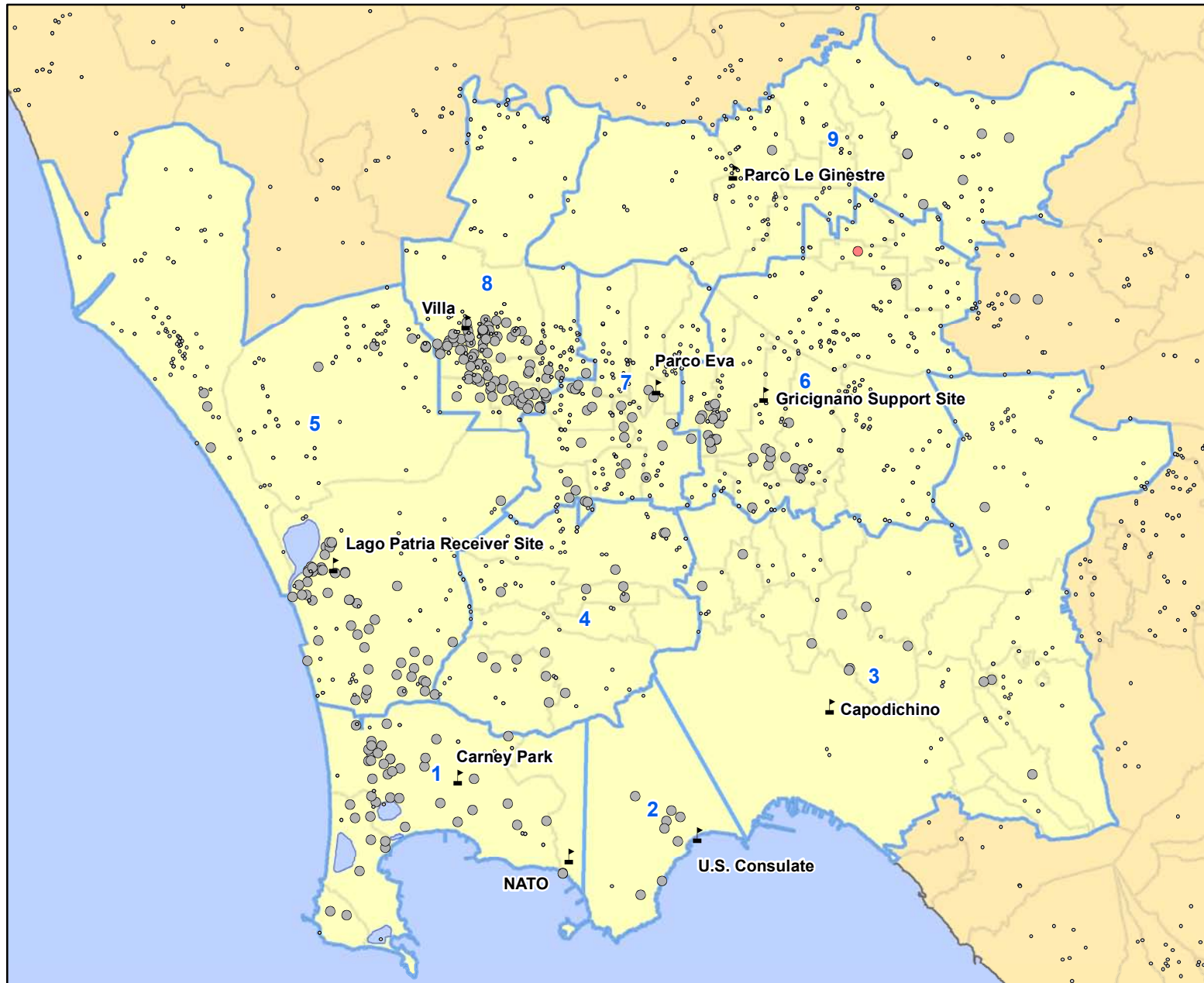
- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- USMCL = United States Maximum Contaminant Level
- Exceedance factors are calculated assuming exposure via ingestion and inhalation.
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)



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Tap Water Ingestion and Inhalation Uranium Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation

DWN: KR	PROJECT:
DATE: December 2010	FIGURE NO.: F-43



Legend

- ▲ Air Sampling Locations (Gov't Sites)
- Trash, Potential Hazardous Waste, or Illegal Dump Sites
- Study Area Boundary (1-9)
- Comune Borders (Campania)
- Soil Gas with Exceedances**
- CEF > 10 and/or NCEF > 1
- 1 < CEF <= 10
- Soil Gas without Exceedances**
- CEF and NCEF <= 1
- Nondetect

Notes:

- CEF = Cancer Exceedance Factor
- NCEF = Noncancer Exceedance Factor
- RSL = USEPA's Residential Regional Screening Level
- If both an active and passive soil gas sample were collected at a residence, the active soil gas sample was used for health risk calculations.
- Soil gas RSLs were derived from the USEPA ambient air RSLs by dividing the ambient air RSL by USEPA's default vapor attenuation factor of 0.1
- Some residence locations may appear as a single location due to the proximity of the residences.
- Trash, Potential Hazardous Waste, or Illegal Dump Sites layer provided by Agenzia Regionale per la Protezione Ambientale della Campania (ARPAC)

0 1.25 2.5 5 Miles



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**Soil Gas Vinyl Chloride Risk Results
All Residences Sampled in the PHE
Naples, Italy – Public Health Evaluation
Volume II: Phase I & II Screening Risk Evaluation**

DWN:

KR

PROJECT:

DATE:

December 2010

FIGURE NO.:

F-44

Appendix G

Radionuclides in Tap Water Screening and Speciation Analyses

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234 Mall Boulevard, Suite 260
King of Prussia, Pennsylvania 19406

DECEMBER 2010



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to allow for double-sided printing.**

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	RADIONUCLIDE SCREENING AND SPECIATION PROCESS	2
3.0	SUMMARY OF RADIONUCLIDE SCREENING AND SPECIATION RESULTS.....	4
4.0	EFFECT OF DATA GAPS FOR SPECIATED RESULTS.....	4
5.0	URANIUM IN DRINKING WATER	5
6.0	REFERENCES FOR APPENDIX G.....	6

TABLES

Table G-1:	Summary of Radionuclide Screening and Speciated Results
Table G-2:	Reasons Residences were not Re-sampled for Speciation of Radionuclides
Table G-3:	Radionuclide Results for Tap Water and Irrigation Water Samples

ATTACHMENTS

ATTACHMENT G-1:	EVOLUTION AND SUMMARY OF RADIOLOGICAL SCREENING LEVELS USED FOR TAP WATER IN THE NAPLES ENVIRONMENTAL TESTING SUPPORT ASSESSMENT
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to allow for double-sided printing.**

SCREENING AND SPECIATION OF RADIONUCLIDES IN TAP WATER

1.0 INTRODUCTION

The purpose of this appendix is to provide a general description of the approach used in the investigation to screen and evaluate tap water samples for radionuclides and to summarize the results of the analyses. In general, drinking water sources throughout the world contain low levels of radionuclides from naturally occurring sources such as uranium, radium, and potassium that are commonly present in soil and rock. These naturally occurring radionuclides can dissolve in groundwater and surface water and as result can be found in drinking water supplies. There is also the potential for drinking water to contain man-made radionuclides, or enhanced concentrations of natural radionuclides, in locations near sources such as nuclear power plants or uranium and phosphate mines. Radionuclides are not generally present in drinking water supplies in concentrations that could impact human health, but because the sources of potential contamination in water in the Naples area are unknown, screening for radionuclides was included in both Phase I and Phase II of the Public Health Evaluation (PHE). It is important to recognize that none of the tap water samples collected as part of the (ETSA) was found to contain radionuclides in excess of applicable United States Environmental Protection Agency (USEPA) Maximum Contaminant Levels (USMCLs).

Water samples collected during Phase I of the PHE (i.e., tap water collected from private wells, the public system, and water from irrigation sources) were analyzed for gross-alpha and gross-beta activity. During the Phase II investigation, the gross activity measurements were compared to screening criteria to determine whether radionuclide speciation was required to support the risk assessment. Attempts were made to return to residences sampled during the Phase I investigation that had gross radiation activities greater than the screening criteria. The process used to evaluate gross-activity results is summarized below and described in detail in Attachment A of this appendix, Volume I: Phase II ETSA (Tetra Tech, 2010), and the ETSA Quality Assurance Project Plan (QAPP [Tetra Tech, 2008]). Section 4 in the main body of this report (Phase I & II Screening Risk Evaluation) describes how risks were calculated for exposure to radionuclides via tap water ingestion.

Risk management decisions for the PHE have been based on an incremental screening risk process. For radionuclides, the incremental screening risk is defined for this project to be the total screening risk minus the screening risk attributable to potassium-40, and other naturally occurring radionuclides.

2.0 RADIONUCLIDE SCREENING AND SPECIATION PROCESS

A two-step screening approach was used to evaluate the incremental screening risks associated with radionuclides observed in tap water samples. The process is described below and illustrated in the flow charts provided in Attachment G-1:

Step 1

All water samples collected during Phase I and Phase II were analyzed for gross-alpha and gross-beta activity. Phase 1 samples exceeding the project screening criteria, defined as the United States Safe Drinking Water Act (SDWA) USMCL for gross-alpha activity (15 picocuries per liter [pCi/L]) and the SDWA screening level for gross-beta activity (50 pCi/L), were selected for resampling during the Phase II sampling evolution. The 50 pCi/L screening criterion includes all beta-emitting radionuclides, including those that would typically be subtracted in order to show compliance with the SDWA. It was selected for the initial screening of the Phase I samples because there was insufficient information to allow a lower screening concentration to be used, as was done for the Phase II samples and the Phase I resamples.

The Phase II samples and the Phase I resamples were analyzed for gross-alpha and gross-beta activity, total uranium, and naturally occurring potassium-40. Potassium-40 is a beta-emitting radionuclide that is naturally present in any material containing potassium, including most water and foods, and is not regulated by the SDWA. Potassium-40 is not considered to be a health hazard because it does not accumulate in the body. The body maintains an equilibrium concentration of potassium and the fraction of potassium-40 present remains unchanged from what is found in nature. The potassium-40 present in water samples will contribute to the gross-beta activity and must be subtracted from a gross activity measurement in order to obtain an estimate of the concentrations of regulated radionuclides. For these samples, the screening criteria were defined as 15 pCi/L for gross-alpha activity and 8 pCi/L for gross-beta activity (minus the contribution from potassium-40). The 8 pCi/L screening criterion is based on the activity-concentration equivalent of the SDWA standard for beta-emitting radionuclides. The USMCL for beta-emitting radionuclides is based on a radiation dose of 4 millirems per year (mrem/y), effective dose equivalent. A dose cannot be derived from the gross-activity concentration without knowing the radionuclide of concern. For this investigation, the strontium-90 was selected as the radioisotope of concern because it is the most restrictive man-made beta emitting radionuclide that is likely to be found as an environmental contaminant. The strontium-90 concentration equivalent to 4 mrem/y is 8 pCi/L.

If the measured gross-activity concentrations were less than their respective screening criteria, then no additional evaluation was required and the radionuclide concentrations were considered Acceptable per the risk management framework used in the PHE for alpha-emitting radionuclides (other than uranium) and beta-emitting radionuclides. If the concentrations exceeded the screening criteria, then the samples

were subjected to additional radionuclide-speciation analyses in order to determine whether radionuclides would be included in the determination of the total screening risks. If there was insufficient sample for the speciation analyses, the location was resampled, where possible.

Step 2:

If gross activity exceeded the screening criteria as described above, the radionuclide content was speciated as follows:

- A. The gross-alpha USMCL excludes uranium, so a determination of whether a sample result in excess of 15 pCi/L was considered an exceedance required analyzing the speciated sample for uranium and subtracting its contributions. Whenever the sample results exceeded the screening criterion for gross-alpha activity, those samples were then further analyzed for uranium, radium-226, and radium-228. Resampling was performed, where possible, at locations where there was insufficient sample volume for additional analyses. Radium-228 is a beta emitting radionuclide and does not contribute to the gross-alpha activity, but the SDWA defines the radium USMCL as the combined radium-226 and radium-228 concentrations. Consequently, samples with gross-alpha activity exceeding the screening criterion were required to be analyzed for radium-228 as well as radium-226. The constituent-specific results for gross-alpha, uranium, radium-226, and radium-228 for the re-sampling would be compared to the USMCLs and regional screening levels (RSL) for these constituents. The speciated results for uranium and radium-226/228 would then represent the incremental screening risks.

- B. Gross Beta Activity: Samples were analyzed for gross-beta activity and total potassium, which was used to calculate the activity concentration of the potassium-40. For each sample, the potassium-40 concentration was subtracted from the gross-beta activity and the result was then compared to the calculated-activity equivalent of the strontium-90, USMCL of 8 pCi/L. All samples with a gross-beta concentration (after subtracting potassium-40) exceeding 8 pCi/L were analyzed for strontium-90 and radium-228. Radium-228 concentrations are subtracted from the gross-beta concentration for screening because it is naturally occurring and the USMCL for beta emitters is limited to anthropogenic radionuclides. Then the strontium-90, potassium-40, and radium-228 concentrations were subtracted from the gross-activity concentration and the result was compared against the 50 pCi/L screening criterion. Corrected gross-beta activity greater than 50 pCi/L or detectable strontium-90 concentrations exceeding the USMCL or RSL would be included in the incremental screening risks.

3.0 SUMMARY OF RADIONUCLIDE SCREENING AND SPECIATION RESULTS

Table G-1 summarizes the water samples analyzed and the exceedances of the established project radionuclide screening criteria. During the entire investigation, 646 water samples, including duplicates, were analyzed for gross-alpha and gross-beta activity. Gross-alpha activity was detected in 214 of these samples. However, tap water samples from only two residences located on the Italian economy exceeded the project gross-alpha activity screening criterion of 15 pCi/L. Gross-beta activity was detected in 358 samples. The gross-beta minus potassium-40 screening criterion of 8 pCi/L was exceeded for only 58 residences located on the Italian economy.

The 58 residences on the Italian Economy with radiological activity exceeding the initial gross-alpha or gross-beta screening criteria were identified as candidates for further analysis for speciation of the radionuclides. Speciation analyses could not be completed for 22 of those locations because there was insufficient volume of the initial samples and logistical difficulties precluded gaining access to the residences to collect additional tap water. Table G-2 presents summary explanations of why re-sampling could not be accomplished at these 22 residences. The two locations with gross-alpha screening exceedances were among the locations where access could not be gained for additional sample collection. Because of the inability to collect samples needed for speciation analyses at the 22 residences listed in Table G-2, it was not possible to reach any conclusions about the effect of the radionuclide concentrations in the tapwater on the acceptability of these residences. However, because of other data available, the speciation data gaps do not have a significant effect on the PHE. The data gaps are discussed in detail in Section 4.0 of this report.

For the 37 locations where the speciation process could be applied (either because sufficient sample volume was available for the speciation process, or tap water could be re-sampled), the results for the beta-emitting speciated radionuclides (strontium-90 and radium-228) were all less than the detection limit, and the gross-beta minus potassium-40 concentrations were all less than the screening criterion of 50 pCi/L. Consequently, the radionuclide incremental screening risks at these 37 residences were all considered Acceptable. There was not a single incidence where a property was determined to be Unacceptable based on a radiological issue.

4.0 EFFECT OF DATA GAPS FOR SPECIATED RESULTS

Although it was not possible to obtain samples for re-analysis at all locations that exceeded the screening criteria, project risk-assessment personnel have concluded that the resultant data gaps do not have a significant effect on the PHE. This is primarily because 20 of the 22 locations for which speciation samples could not be collected (see Table G-2) were designated as having Unacceptable ingestion+inhalation and inhalation-only risks because of concentrations of other chemicals. That

designation would not be changed by the addition of risk from potentially-elevated radionuclide concentrations.

One location (1877 – A Pre-Lease location) potentially could be affected by elevated radionuclide concentrations. That location had a gross-beta result (after subtracting the potassium-40 contribution) that exceeded the 8 pCi/L criterion. In accordance with the QAPP (Tetra Tech, 2008), it should have been analyzed for strontium-90 and radium-228. Unfortunately, there was insufficient sample volume available from the initial sample for the speciation analyses and project personnel were unsuccessful in contacting the tenant to collect an additional sample. This location was designated as Acceptable for (ingestion+inhalation) of tap water and was also Acceptable for (inhalation-only) tap water for constituents other than radionuclides. Because of the speciation data gap, the effect of radionuclides could not be evaluated and so this location was characterized as Inconclusive for the ingestion+inhalation of tap water pathway. The location was still designated as Acceptable for the inhalation of tap water pathway because the radionuclides of interest are primarily a concern to human health through ingestion, not inhalation.

Although it is not possible to reach definitive conclusions where data gaps exist, consideration of the complete data set (presented by study area in Table G-3) provides a level of confidence that radionuclide concentrations are not likely to be sufficiently elevated to result in an Unacceptable risk at location 1877. The strontium-90 results are reasonable indicators of the presence of anthropogenic radionuclides. The strontium-90 results for the samples from the 37 speciated locations were all less than the detection limit, which would indicate that there is no significant source of anthropogenic radionuclides in the region and it is unlikely that there would be a localized source that would affect location 1877 alone. Similarly, none of the speciated samples exhibited elevated concentrations of radium-228, which indicates that regional radium-228 concentrations are not high enough to present a risk, and a localized source affecting only location 1877 is unlikely. From this, it is reasonable to conclude that if it had been possible to complete speciation analyses for all 58 indicated residences, the results for the 22 non-speciated homes would likely have been consistent with the results of the speciated locations, none of which identified any radiological exceedances warranting any further action.

5.0 URANIUM IN DRINKING WATER

In addition to the gross-alpha and gross-beta analyses, a total of 646 samples were analyzed for total uranium. The uranium results were used in determining the need for speciation, and the results of the uranium analyses were also compared directly against the applicable RSL and the USMCL. As previously stated, uranium is a naturally-occurring, radioactive element that is commonly found in water supplies. Except for some locations near uranium mining or processing facilities, uranium in drinking water is almost always attributable to naturally-occurring background sources. However, because uranium is radioactive, its ingestion presents a cancer risk and (depending on the concentration) it may

harm the kidneys if prolonged exposure occurs. Because of the risks and common occurrence, the USEPA has established a USMCL of 30 micrograms per liter (ug/L) for uranium in public drinking water supplies. In establishing the USMCL, the USEPA considered a number of factors, including the radiation risk, the kidney toxicity, the feasibility of achieving reduced uranium concentrations and the cost effectiveness of removal. The USEPA concluded that it would not be feasible to reduce uranium concentrations below 20 ug/L. As a result, the USEPA established a 30 ug/L USMCL as an achievable concentration considered to be protective of human health, and having an associated cancer risk that is within the target range of 1E-04 and 1E-06 used in developing the U.S. drinking water standards. To be consistent with the SRE's evaluation of other constituents, observed uranium concentrations were compared to both the USMCL and an RSL of 1.62 ug/L. However, the RSL is based on a cancer risk of 1E-06, without addressing the other factors considered by the USEPA. Also, the RSL is comparable to the mean uranium concentrations found in U.S. drinking water supplies. For the Naples SRE, the uranium RSL was used to calculate the incremental screening risk associated with drinking water because site-specific natural background concentrations of uranium in tap water were not available. The RSL for the PHE is very conservative and is approximately 19 times lower than the uranium concentration that would be considered Acceptable (i.e., the USMCL of 30 ug/L) in drinking water supplies in the U.S.

Uranium concentrations in all of the tap water samples collected during this investigation were less than the USMCL of 30 ug/L. Water samples from 191 residences exceeded the RSL of 1.62 ug/L. All residences for which uranium concentrations exceeded the RSL were identified as Unacceptable because of the presence of other chemical constituents. Therefore, no properties evaluated in this investigation were found to be Unacceptable based on a radiological issue alone.

6.0 REFERENCES FOR APPENDIX G

Tetra Tech, 2009. Draft –Evolution and Summary of Radiological Screening Levels Used for Tap Water in the Naples Environmental Testing Support Assessment; Prepared for the Department of the Navy, Atlantic Division, Tetra Tech, Inc. March 24, 2009.

Tetra Tech, 2008. Quality Assurance Project Plan, Environmental Testing Support Assessment for the Naples Public Health Evaluation; Prepared for the Department of the Navy, Atlantic Division, Tetra Tech, Inc. September 2008.

Tetra Tech, 2010. Phase II Environmental Testing Support Assessment Report: Volume 1. Naval Support Activity Naples. Naples, Italy. Tetra Tech NUS. June 2010.

Tables

Table G-1
Summary of Radionuclide Screening and Speciated Results

Radiological Parameter	Number of Samples Analyzed	Number of Detected Results	Project Screening Criterion	Number of Residences with Samples Exceeding Screening Criterion
Gross-Alpha	646 ^(a)	214	15 pCi/L	3 ^(b)
Gross-Beta	646 ^(a)	358	8 pCi/L	58 ^(c)
Speciated Analyses	37 ^(d)	0	Radium-226/228 – 5 pCi/L	3 (Radium-228)
			Strontium-90 – 8 pCi/L	0
			Other beta/photon emitters – 50 pCi/L	0

Notes:

^aTotal number of samples analyzed includes tap water, irrigation water, samples from U.S. Government-related facilities, and field duplicates.

^bGross-Alpha samples from three locations exceeded the screening criterion but only two were from private residences located on the Italian Economy. The other sample with a screening exceedance was an irrigation water sample from Parco Le Ginestre.

^cGross-Beta samples exceeded the screening criterion at 58 residences located on the Italian Economy. At two of these locations, samples also exceeded the gross-alpha activity screening criterion.

^dAccording to the provisions of QAPP and Radiological Screening Procedure, 58 locations should have been reanalyzed for speciation but speciation was possible for only 37 residences because of logistical difficulties associated with gaining access to 22 residences to collect additional tap water samples (see Table G-2). This count (i.e., 22) includes one residence, #1614, where the original gross-beta sample result exceeded 50 pCi/L but water source was blended; re-sampled as pre-lease location on 10/17/08 but plumbing was changed to public water source and gross-beta was < 8 pCi/L after K-40 correction; outside well was re-sampled on 5/23/09 (sample named 1614IW - speciation results were not detected).

Table G-2

Reasons Residences Were Not Re-sampled for Speciation of Radionuclides

Locations with Exceedance of the Gross Activity Screening Level	Water Source	Reason Residence Was Not Re-sampled for Speciation of Radionuclides
0217	Well	Landlord declined access
0238	Well	Home has been changed to public water source; well is no longer accessible.
0250	Well	Home has been changed to public water source; well has been removed.
0263	Well	Unable to contact landlord; wrong contact information.
0271	Well	Landlord declined access
0283	Well	Landlord cancelled; house is now on city water
0309	Well	Landlord declined access
0332	Well	House no longer available for rent through Navy housing
0333	Well	Landlord declined access
0366	Well	No well source available
0368	Well	Landlord no longer interested in leasing home through Navy housing
0388	Well	No well source available
0409	Well	Unable to reach landlord
0440	Well	Landlord declined access
0454	Well	Unable to reach landlord
1608	Well	No power in well
1614	Well	Original gross-beta sample result exceeded 50 pCi/L but water source was blended; re-sampled as pre-lease location on 10/17/08 but plumbing was changed to public water source and gross-beta was < 8 pCi/L after K-40 correction; outside well was re-sampled on 5/23/09 (sample named 1614IW - speciation results were not detected).
1634	Well	Unable to sample location; unable to reach tenant; left messages
1713	Well	Well was disconnected and was no longer accessible.
1767	Well	Vacated after Pilot study; location rented to Italian family as of 9/08.
1877	Public	Pre-lease location; unable to sample location; unable to reach tenant; left messages
Villa	Well	No re-sampling was planned

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
CAPODICHINO												
CAIW01	CA01IW001	Alpha Particles	5.9		Irrigation Well	WELL	--	--	--	--	15	0.4
CAIW01	CA01IW001	Beta Particles and Photon Emitters	45.7		Irrigation Well	WELL	--	--	--	--	50	0.9
CATW01	CA01TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW01	CA01TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
CATW02	CA02TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW02	CA02TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
CATW03	CA03TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW03	CA03TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
CATW04	CA04TW001	Alpha Particles	1.08	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW04	CA04TW001	Beta Particles and Photon Emitters	5.14	U	Tap Water	PUBLIC	--	--	--	--	50	--
CATW05	CA05TW001	Alpha Particles	1.08	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW05	CA05TW001	Beta Particles and Photon Emitters	5.68	U	Tap Water	PUBLIC	--	--	--	--	50	--
CATW06	CA06TW001	Alpha Particles	1.08	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW06	CA06TW001	Beta Particles and Photon Emitters	4.86	U	Tap Water	PUBLIC	--	--	--	--	50	--
CATW07	CA07TW001	Alpha Particles	1.35	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW07	CA07TW001	Beta Particles and Photon Emitters	6.22	U	Tap Water	PUBLIC	--	--	--	--	50	--
CATW08	CA08TW001	Alpha Particles	1.35	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW08	CA08TW001	Beta Particles and Photon Emitters	4.59	U	Tap Water	PUBLIC	--	--	--	--	50	--
CATW09	CA09TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW09	CA09TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
CATW10	CA10TW001	Alpha Particles	1.08	U	Tap Water	PUBLIC	--	--	--	--	15	--
CATW10	CA10TW001	Beta Particles and Photon Emitters	4.86	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
CARNEY PARK												
CPIW01	CP01IW001	Alpha Particles	1.9		Irrigation Well	PUBLIC	--	--	--	--	15	0.1
CPIW01	CP01IW001	Beta Particles and Photon Emitters	43		Irrigation Well	PUBLIC	--	--	--	--	50	0.9
CPIW01	CP01IW001-D	Alpha Particles	1.9		Irrigation Well	PUBLIC	--	--	--	--	15	0.1
CPIW01	CP01IW001-D	Beta Particles and Photon Emitters	47		Irrigation Well	PUBLIC	--	--	--	--	50	0.9
CPIW04	CP04IW001	Alpha Particles	1.6	U	Irrigation Well	PUBLIC	--	--	--	--	15	--
CPIW04	CP04IW001	Beta Particles and Photon Emitters	26.5		Irrigation Well	PUBLIC	--	--	--	--	50	0.5
CPTW01	CP01TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
CPTW01	CP01TW001	Beta Particles and Photon Emitters	11.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
CPTW02	CP02TW001	Alpha Particles	1.35		Tap Water	PUBLIC	--	--	--	--	15	0.1
CPTW02	CP02TW001	Beta Particles and Photon Emitters	12.16		Tap Water	PUBLIC	--	--	--	--	50	0.2
CPTW02	CP02TW002	Alpha Particles	4.1		Tap Water	PUBLIC	--	--	--	--	15	0.3
CPTW02	CP02TW002	Beta Particles and Photon Emitters	21.6		Tap Water	PUBLIC	--	--	--	--	50	0.4
CPTW03	CP03TW001	Alpha Particles	1.35	U	Tap Water	PUBLIC	--	--	--	--	15	--
CPTW03	CP03TW001	Beta Particles and Photon Emitters	14.32		Tap Water	PUBLIC	--	--	--	--	50	0.3

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
CONSULATE												
CSTW01	CS01TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
CSTW01	CS01TW001	Beta Particles and Photon Emitters	13.5		Tap Water	PUBLIC	--	--	--	--	50	0.3
CSTW02	CS02TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
CSTW02	CS02TW001	Beta Particles and Photon Emitters	18.9		Tap Water	PUBLIC	--	--	--	--	50	0.4
CSTW03	CS03TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
CSTW03	CS03TW001	Beta Particles and Photon Emitters	14.6		Tap Water	PUBLIC	--	--	--	--	50	0.3
CSTW04	CS04TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
CSTW04	CS04TW001	Beta Particles and Photon Emitters	17		Tap Water	PUBLIC	--	--	--	--	50	0.3

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
FLAG OFFICER QUARTERS												
FQ01	FQ01TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
FQ01	FQ01TW001	Beta Particles and Photon Emitters	18.4		Tap Water	PUBLIC	--	--	--	--	50	0.4
FQ02	FQ02TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
FQ02	FQ02TW001	Beta Particles and Photon Emitters	20.3		Tap Water	PUBLIC	--	--	--	--	50	0.4
FQ03	FQ03TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
FQ03	FQ03TW001	Beta Particles and Photon Emitters	19.5		Tap Water	PUBLIC	--	--	--	--	50	0.4
FQ04	FQ04TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
FQ04	FQ04TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
FQ05	FQ05TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
FQ05	FQ05TW001	Beta Particles and Photon Emitters	22.4		Tap Water	PUBLIC	--	--	--	--	50	0.4
FQ06	FQ06TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
FQ06	FQ06TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
FQ07	FQ07TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
FQ07	FQ07TW001	Beta Particles and Photon Emitters	12.4		Tap Water	PUBLIC	--	--	--	--	50	0.2

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
JFC NATO												
NA01	NA01TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
NA01	NA01TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
NA02	NA02TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
NA02	NA02TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
NA03	NA03TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
NA03	NA03TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
PARCO ARTEMIDE												
AR03	AR03TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR03	AR03TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
AR05	AR05TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR05	AR05TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
AR05	AR05TW001-D	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR05	AR05TW001-D	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
AR08	AR08TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR08	AR08TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
AR09	AR09TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR09	AR09TW001	Beta Particles and Photon Emitters	9.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
AR10	AR10TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR10	AR10TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
AR11	AR11TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR11	AR11TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
AR13	AR13TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR13	AR13TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
AR16	AR16TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR16	AR16TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
AR21	AR21TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR21	AR21TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
AR24	AR24TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
AR24	AR24TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
PARCO EVA												
EV03	EV03TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV03	EV03TW001	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
EV04	EV04TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV04	EV04TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
EV05	EV05TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV05	EV05TW001	Beta Particles and Photon Emitters	7.8		Tap Water	PUBLIC	--	--	--	--	50	0.2
EV06	EV06TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV06	EV06TW001	Beta Particles and Photon Emitters	5.7		Tap Water	PUBLIC	--	--	--	--	50	0.1
EV07	EV07TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV07	EV07TW001	Beta Particles and Photon Emitters	8.9		Tap Water	PUBLIC	--	--	--	--	50	0.2
EV08	EV08TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV08	EV08TW001	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
EV09	EV09TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV09	EV09TW001	Beta Particles and Photon Emitters	7		Tap Water	PUBLIC	--	--	--	--	50	0.1
EV10	EV10TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV10	EV10TW001	Beta Particles and Photon Emitters	9.7		Tap Water	PUBLIC	--	--	--	--	50	0.2
EV11	EV11TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV11	EV11TW001	Beta Particles and Photon Emitters	7.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
EV12	EV12TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
EV12	EV12TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
PARCO LE GINESTRE												
LE01	LE01TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE01	LE01TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
LE03	LE03TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE03	LE03TW001	Beta Particles and Photon Emitters	5.7		Tap Water	PUBLIC	--	--	--	--	50	0.1
LE07	LE07TW001	Alpha Particles	3.5		Tap Water	PUBLIC	--	--	--	--	15	0.2
LE07	LE07TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	--	50	0.1
LE08	LE08TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE08	LE08TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
LE10	LE10TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE10	LE10TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
LE11	LE11TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE11	LE11TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
LE12	LE12TW001	Alpha Particles	2.2	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE12	LE12TW001	Beta Particles and Photon Emitters	9.7		Tap Water	PUBLIC	--	--	--	--	50	0.2
LE15	LE15TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE15	LE15TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
LE19	LE19TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE19	LE19TW001	Beta Particles and Photon Emitters	4.3	U	Tap Water	PUBLIC	--	--	--	--	50	--
LE20	LE20TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE20	LE20TW001	Beta Particles and Photon Emitters	6.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
LE20	LE20TW001-D	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
LE20	LE20TW001-D	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
LEIW01	LE01IW001	Alpha Particles	20.8		Irrigation Well	PUBLIC	--	--	--	--	15	1.4
LEIW01	LE01IW001	Beta Particles and Photon Emitters	48.1		Irrigation Well	PUBLIC	--	--	--	--	50	1.0

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
RECEIVER SITE												
RS01	RS01TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
RS01	RS01TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
RS02	RS02TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
RS02	RS02TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
RS03	RS03TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
RS03	RS03TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
SUPPORT SITE												
SUIW01	SU01IW001	Alpha Particles	4.9		Irrigation Well	WELL	--	--	--	--	15	0.3
SUIW01	SU01IW001	Beta Particles and Photon Emitters	55.4		Irrigation Well	WELL	--	--	--	--	50	1.1
SUIW02	SU02IW001	Alpha Particles	6.5		Irrigation Well	WELL	--	--	--	--	15	0.4
SUIW02	SU02IW001	Beta Particles and Photon Emitters	54.3		Irrigation Well	WELL	--	--	--	--	50	1.1
SUIW03	SU03IW001	Alpha Particles	6.5		Irrigation Well	WELL	--	--	--	--	15	0.4
SUIW03	SU03IW001	Beta Particles and Photon Emitters	49.2		Irrigation Well	WELL	--	--	--	--	50	1.0
SUIW04	SU04IW001	Alpha Particles	5.4		Irrigation Well	WELL	--	--	--	--	15	0.4
SUIW04	SU04IW001	Beta Particles and Photon Emitters	57.8		Irrigation Well	WELL	--	--	--	--	50	1.2
SUIW05	SU05IW001	Alpha Particles	8.4		Irrigation Well	WELL	--	--	--	--	15	0.6
SUIW05	SU05IW001	Beta Particles and Photon Emitters	60.3		Irrigation Well	WELL	--	--	--	--	50	1.2
SUIW06	SU06IW001	Alpha Particles	5.4		Irrigation Well	WELL	--	--	--	--	15	0.4
SUIW06	SU06IW001	Beta Particles and Photon Emitters	57		Irrigation Well	WELL	--	--	--	--	50	1.1
SUIW07	SU07IW001	Alpha Particles	4.1		Irrigation Well	WELL	--	--	--	--	15	0.3
SUIW07	SU07IW001	Beta Particles and Photon Emitters	56.5		Irrigation Well	WELL	--	--	--	--	50	1.1
SUIW08	SU08IW001	Alpha Particles	1.9	U	Irrigation Well	WELL	--	--	--	--	15	--
SUIW08	SU08IW001	Beta Particles and Photon Emitters	44.3		Irrigation Well	WELL	--	--	--	--	50	0.9
SUIW11	SU11IW001	Alpha Particles	3.2		Irrigation Well	WELL	--	--	--	--	15	0.2
SUIW11	SU11IW001	Beta Particles and Photon Emitters	35.4		Irrigation Well	WELL	--	--	--	--	50	0.7
SUTW01	SU01TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW01	SU01TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
SUTW02	SU02TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW02	SU02TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
SUTW03	SU03TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW03	SU03TW001	Beta Particles and Photon Emitters	4.3	U	Tap Water	PUBLIC	--	--	--	--	50	--
SUTW03	SU03TW001-D	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW03	SU03TW001-D	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
SUTW04	SU04TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW04	SU04TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
SUTW05	SU05TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW05	SU05TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
SUTW06	SU06TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW06	SU06TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
SUTW07	SU07TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW07	SU07TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
SUTW08	SU08TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW08	SU08TW001	Beta Particles and Photon Emitters	11.6		Tap Water	PUBLIC	--	--	--	--	50	0.2

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
SUTW09	SU09TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW09	SU09TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
SUTW10	SU10TW001	Alpha Particles	6.5		Tap Water	PUBLIC	--	--	--	--	15	0.4
SUTW10	SU10TW001	Beta Particles and Photon Emitters	14.9		Tap Water	PUBLIC	--	--	--	--	50	0.3
SUTW10	SU10TW002	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
SUTW10	SU10TW002	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
STUDY AREA 01												
0009	0009TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
0009	0009TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
0010	0010TW001	Alpha Particles	2.98	U	Tap Water	PUBLIC	--	--	--	--	15	--
0010	0010TW001	Beta Particles and Photon Emitters	2.62		Tap Water	PUBLIC	--	--	--	--	50	0.1
0021	0021TW001	Alpha Particles	2.88	U	Tap Water	PUBLIC	--	--	--	--	15	--
0021	0021TW001	Beta Particles and Photon Emitters	2.95	U	Tap Water	PUBLIC	--	--	--	--	50	--
0021	0021TW001-D	Alpha Particles	2.95	U	Tap Water	PUBLIC	--	--	--	--	15	--
0021	0021TW001-D	Beta Particles and Photon Emitters	2.88	U	Tap Water	PUBLIC	--	--	--	--	50	--
0024	0024TW001	Alpha Particles	1.87	U	Tap Water	PUBLIC	--	--	--	--	15	--
0024	0024TW001	Beta Particles and Photon Emitters	3.68		Tap Water	PUBLIC	--	--	--	--	50	0.1
0030	0030TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0030	0030TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
0043	0043TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
0043	0043TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
0045	0045TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
0045	0045TW001	Beta Particles and Photon Emitters	13		Tap Water	PUBLIC	--	--	--	--	50	0.3
0049	0049TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0049	0049TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
0055	0055TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0055	0055TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
0058	0058TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0058	0058TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
0061	0061TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0061	0061TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0063	0063TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0063	0063TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0071	0071TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0071	0071TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0073	0073PW001	Alpha Particles	4.1		Private Well	WELL	--	--	--	--	15	0.3
0073	0073PW001	Beta Particles and Photon Emitters	14.6		Private Well	WELL	--	--	--	--	50	0.3
0073	0073TW001	Alpha Particles	1.6	U	Tap Water	WELL	--	--	--	--	15	--
0073	0073TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	WELL	--	--	--	--	50	--
0074	0074TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0074	0074TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0076	0076TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0076	0076TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
0077	0077TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
0077	0077TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
0079	0079TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0079	0079TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0082	0082TW001	Alpha Particles	2.21	U	Tap Water	PUBLIC	--	--	--	--	15	--
0082	0082TW001	Beta Particles and Photon Emitters	2.7		Tap Water	PUBLIC	--	--	--	--	50	0.1
0085	0085TW001	Alpha Particles	2.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0085	0085TW001	Beta Particles and Photon Emitters	1.97	U	Tap Water	PUBLIC	--	--	--	--	50	--
0117	0117TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0117	0117TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
0138	0138TW002	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
0138	0138TW002	Beta Particles and Photon Emitters	16.5		Tap Water	PUBLIC	--	--	--	--	50	0.3
0139	0139TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0139	0139TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
0143	0143TW001	Alpha Particles	7		Tap Water	PUBLIC	--	--	--	--	15	0.5
0143	0143TW001	Beta Particles and Photon Emitters	10.8		Tap Water	PUBLIC	--	--	--	--	50	0.2
0143	0143TW002	Strontium-90	1.51	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
0146	0146TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0146	0146TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0147	0147TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
0147	0147TW001	Beta Particles and Photon Emitters	13		Tap Water	PUBLIC	--	--	--	--	50	0.3
0151	0151TW001	Alpha Particles	5.1		Tap Water	PUBLIC	--	--	--	--	15	0.3
0151	0151TW001	Beta Particles and Photon Emitters	10.3		Tap Water	PUBLIC	--	--	--	--	50	0.2
0151	0151TW002	Strontium-90	1.63	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
0154	0154TW001	Alpha Particles	12.2		Tap Water	PUBLIC	--	--	--	--	15	0.8
0154	0154TW001	Beta Particles and Photon Emitters	18.4		Tap Water	PUBLIC	--	--	--	--	50	0.4
0156	0156TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0156	0156TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0157	0157TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
0157	0157TW001	Beta Particles and Photon Emitters	15.9		Tap Water	PUBLIC	--	--	--	--	50	0.3
0163	0163TW001	Alpha Particles	9.7		Tap Water	PUBLIC	--	--	--	--	15	0.6
0163	0163TW001	Beta Particles and Photon Emitters	27.3		Tap Water	PUBLIC	--	--	--	--	50	0.5
0167	0167TW001	Alpha Particles	2.59	U	Tap Water	PUBLIC	--	--	--	--	15	--
0167	0167TW001	Beta Particles and Photon Emitters	3.38	U	Tap Water	PUBLIC	--	--	--	--	50	--
0170	0170TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0170	0170TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0171	0171TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
0171	0171TW001	Beta Particles and Photon Emitters	18.9		Tap Water	PUBLIC	--	--	--	--	50	0.4
0171	0171TW001-D	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0171	0171TW001-D	Beta Particles and Photon Emitters	15.9		Tap Water	PUBLIC	--	--	--	--	50	0.3
0171	0171TW002	Strontium-90	1.89	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
0180	0180TW001	Alpha Particles	1.82	U	Tap Water	PUBLIC	--	--	--	--	15	--
0180	0180TW001	Beta Particles and Photon Emitters	3.94		Tap Water	PUBLIC	--	--	--	--	50	0.1
0588	0588TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
0588	0588TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
0589	0589TW001	Alpha Particles	1.38	U	Tap Water	PUBLIC	--	--	--	--	15	--
0589	0589TW001	Beta Particles and Photon Emitters	2.08	U	Tap Water	PUBLIC	--	--	--	--	50	--
0598	0598TW001	Alpha Particles	2.92	U	Tap Water	PUBLIC	--	--	--	--	15	--
0598	0598TW001	Beta Particles and Photon Emitters	3.58		Tap Water	PUBLIC	--	--	--	--	50	0.1
1139	1139TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1139	1139TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1159	1159TW001	Alpha Particles	3.8		Tap Water	PUBLIC	--	--	--	--	15	0.3
1159	1159TW001	Beta Particles and Photon Emitters	7.3		Tap Water	PUBLIC	--	--	--	--	50	0.1
1187	1187TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1187	1187TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1190	1190TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1190	1190TW001	Beta Particles and Photon Emitters	12.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
1191	1191TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
1191	1191TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1211	1211TW001	Alpha Particles	3		Tap Water	PUBLIC	--	--	--	--	15	0.2
1211	1211TW001	Beta Particles and Photon Emitters	17.6		Tap Water	PUBLIC	--	--	--	--	50	0.4
1227	1227TW001	Alpha Particles	2.43		Tap Water	PUBLIC	--	--	--	--	15	0.2
1227	1227TW001	Beta Particles and Photon Emitters	12.5		Tap Water	PUBLIC	--	--	--	--	50	0.3
1237	1237TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1237	1237TW001	Beta Particles and Photon Emitters	13.5		Tap Water	PUBLIC	--	--	--	--	50	0.3
1239	1239TW001	Alpha Particles	3		Tap Water	PUBLIC	--	--	--	--	15	0.2
1239	1239TW001	Beta Particles and Photon Emitters	13.5		Tap Water	PUBLIC	--	--	--	--	50	0.3
1264	1264TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
1264	1264TW001	Beta Particles and Photon Emitters	12.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
1269	1269TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1269	1269TW001	Beta Particles and Photon Emitters	13.5		Tap Water	PUBLIC	--	--	--	--	50	0.3
1273	1273TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
1273	1273TW001	Beta Particles and Photon Emitters	12.4		Tap Water	PUBLIC	--	--	--	--	50	0.2
1284	1284TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1284	1284TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1284	1284TW001-D	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1284	1284TW001-D	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1304	1304TW001	Alpha Particles	1.4		Tap Water	PUBLIC	--	--	--	--	15	0.1
1304	1304TW001	Beta Particles and Photon Emitters	5.4		Tap Water	PUBLIC	--	--	--	--	50	0.1
1312	1312TW001	Alpha Particles	1.77	U	Tap Water	PUBLIC	--	--	--	--	15	--
1312	1312TW001	Beta Particles and Photon Emitters	1.41	U	Tap Water	PUBLIC	--	--	--	--	50	--
1320	1320TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1320	1320TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1409	1409TW001	Alpha Particles	1.4	U	Tap Water	WELL	--	--	--	--	15	--
1409	1409TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	WELL	--	--	--	--	50	--
1433	1433TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1433	1433TW001	Beta Particles and Photon Emitters	6.5		Tap Water	PUBLIC	--	--	--	--	50	0.1
1443	1443TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
1443	1443TW001	Beta Particles and Photon Emitters	11.4		Tap Water	PUBLIC	--	--	--	--	50	0.2
1449	1449TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1449	1449TW001	Beta Particles and Photon Emitters	7.8		Tap Water	PUBLIC	--	--	--	--	50	0.2
1450	1450TW001	Alpha Particles	2.58	U	Tap Water	PUBLIC	--	--	--	--	15	--
1450	1450TW001	Beta Particles and Photon Emitters	4.4		Tap Water	PUBLIC	--	--	--	--	50	0.1
1450	1450TW001-D	Alpha Particles	2.96	U	Tap Water	PUBLIC	--	--	--	--	15	--
1450	1450TW001-D	Beta Particles and Photon Emitters	3.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1454	1454TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1454	1454TW001	Beta Particles and Photon Emitters	11.9		Tap Water	PUBLIC	--	--	--	--	50	0.2
1456	1456TW001	Alpha Particles	2.86	U	Tap Water	PUBLIC	--	--	--	--	15	--
1456	1456TW001	Beta Particles and Photon Emitters	4.74		Tap Water	PUBLIC	--	--	--	--	50	0.1
1459	1459TW001	Alpha Particles	2.4		Tap Water	PUBLIC	--	--	--	--	15	0.2
1459	1459TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1463	1463TW001	Alpha Particles	1.4	U	Tap Water	WELL	--	--	--	--	15	--
1463	1463TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	WELL	--	--	--	--	50	--
1473	1473TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1473	1473TW001	Beta Particles and Photon Emitters	17.6		Tap Water	PUBLIC	--	--	--	--	50	0.4
1486	1486TW001	Alpha Particles	2.4		Tap Water	PUBLIC	--	--	--	--	15	0.2
1486	1486TW001	Beta Particles and Photon Emitters	15.4		Tap Water	PUBLIC	--	--	--	--	50	0.3
1501	1501TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1501	1501TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1511	1511TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1511	1511TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1516	1516PW001	Alpha Particles	4.6		Private Well	PUBLIC	--	--	--	--	15	0.3
1516	1516PW001	Beta Particles and Photon Emitters	8.6		Private Well	PUBLIC	--	--	--	--	50	0.2
1516	1516TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1516	1516TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1517	1517TW001	Alpha Particles	4.3		Tap Water	PUBLIC	--	--	--	--	15	0.3
1517	1517TW001	Beta Particles and Photon Emitters	17.8		Tap Water	PUBLIC	--	--	--	--	50	0.4
1517	1517TW002	Strontium-90	1.5	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1520	1520TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1520	1520TW001	Beta Particles and Photon Emitters	33.2		Tap Water	PUBLIC	--	--	--	--	50	0.7
1522	1522TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1522	1522TW001	Beta Particles and Photon Emitters	6.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
1529	1529TW001	Alpha Particles	1.83	U	Tap Water	PUBLIC	--	--	--	--	15	--
1529	1529TW001	Beta Particles and Photon Emitters	3.72	U	Tap Water	PUBLIC	--	--	--	--	50	--
1545	1545PW001	Alpha Particles	12.7		Private Well	PUBLIC	--	--	--	--	15	0.8
1545	1545PW001	Beta Particles and Photon Emitters	45.9		Private Well	PUBLIC	--	--	--	--	50	0.9
1545	1545TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1545	1545TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1547	1547TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1547	1547TW001	Beta Particles and Photon Emitters	6.5		Tap Water	PUBLIC	--	--	--	--	50	0.1
1548	1548TW001	Alpha Particles	2.4		Tap Water	PUBLIC	--	--	--	--	15	0.2
1548	1548TW001	Beta Particles and Photon Emitters	13.5		Tap Water	PUBLIC	--	--	--	--	50	0.3
1567	1567TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1567	1567TW001	Beta Particles and Photon Emitters	13.2		Tap Water	PUBLIC	--	--	--	--	50	0.3
1807	1807TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1807	1807TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1811	1811TW001	Alpha Particles	2.7		Tap Water	PUBLIC	--	--	--	--	15	0.2
1811	1811TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1812	1812TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1812	1812TW001	Beta Particles and Photon Emitters	5.4		Tap Water	PUBLIC	--	--	--	--	50	0.1
1814	1814TW001	Alpha Particles	2.4		Tap Water	PUBLIC	--	--	--	--	15	0.2
1814	1814TW001	Beta Particles and Photon Emitters	12.7		Tap Water	PUBLIC	--	--	--	--	50	0.3
1821	1821TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1821	1821TW001	Beta Particles and Photon Emitters	4.3	U	Tap Water	PUBLIC	--	--	--	--	50	--
1822	1822TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1822	1822TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
1823	1823TW001	Alpha Particles	3.8		Tap Water	PUBLIC	--	--	--	--	15	0.3
1823	1823TW001	Beta Particles and Photon Emitters	17		Tap Water	PUBLIC	--	--	--	--	50	0.3

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1826	1826TW001	Alpha Particles	2.4		Tap Water	PUBLIC	--	--	--	--	15	0.2
1826	1826TW001	Beta Particles and Photon Emitters	6.2		Tap Water	PUBLIC	--	--	--	--	50	0.1
1829	1829TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1829	1829TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1830	1830TW001	Alpha Particles	1.4		Tap Water	PUBLIC	--	--	--	--	15	0.1
1830	1830TW001	Beta Particles and Photon Emitters	5.1		Tap Water	PUBLIC	--	--	--	--	50	0.1
1832	1832TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1832	1832TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	--	50	0.1
1834	1834TW001	Alpha Particles	2.7		Tap Water	PUBLIC	--	--	--	--	15	0.2
1834	1834TW001	Beta Particles and Photon Emitters	16.2		Tap Water	PUBLIC	--	--	--	--	50	0.3
1839	1839TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
1839	1839TW001	Beta Particles and Photon Emitters	12.4		Tap Water	PUBLIC	--	--	--	--	50	0.2
1852	1852TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1852	1852TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1853	1853TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1853	1853TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1854	1854TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1854	1854TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1860	1860TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1860	1860TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1861	1861TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1861	1861TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1863	1863TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1863	1863TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1867	1867TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1867	1867TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1869	1869TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1869	1869TW001	Beta Particles and Photon Emitters	16.2		Tap Water	PUBLIC	--	--	--	--	50	0.3
1870	1870TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
1870	1870TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	--	50	0.1
1875	1875TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1875	1875TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1882	1882TW001	Alpha Particles	3		Tap Water	PUBLIC	--	--	--	--	15	0.2
1882	1882TW001	Beta Particles and Photon Emitters	5.7		Tap Water	PUBLIC	--	--	--	--	50	0.1
1886	1886TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1886	1886TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1890	1890TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1890	1890TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1892	1892TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1892	1892TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1893	1893TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1893	1893TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1895	1895TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1895	1895TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1896	1896TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1896	1896TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1896	1896TW001-D	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1896	1896TW001-D	Beta Particles and Photon Emitters	6.5	U	Tap Water	PUBLIC	--	--	--	--	50	--
1901	1901TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1901	1901TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1903	1903TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1903	1903TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1903	1903TW001-D	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1903	1903TW001-D	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1907	1907TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1907	1907TW001	Beta Particles and Photon Emitters	11.1	J	Tap Water	PUBLIC	--	--	--	--	50	0.2
1908	1908TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1908	1908TW001	Beta Particles and Photon Emitters	11.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
1916	1916TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1916	1916TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1917	1917TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1917	1917TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1919	1919TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1919	1919TW001	Beta Particles and Photon Emitters	6.5		Tap Water	PUBLIC	--	--	--	--	50	0.1
1920	1920TW001	Alpha Particles	2.7		Tap Water	PUBLIC	--	--	--	--	15	0.2
1920	1920TW001	Beta Particles and Photon Emitters	11.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
1925	1925TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1925	1925TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1928	1928TW001	Alpha Particles	2.4		Tap Water	PUBLIC	--	--	--	--	15	0.2
1928	1928TW001	Beta Particles and Photon Emitters	12.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
1941	1941TW001	Alpha Particles	3		Tap Water	PUBLIC	--	--	--	--	15	0.2
1941	1941TW001	Beta Particles and Photon Emitters	14.3		Tap Water	PUBLIC	--	--	--	--	50	0.3
1943	1943TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1943	1943TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1947	1947TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1947	1947TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1964	1964TW001	Alpha Particles	9.7		Tap Water	PUBLIC	--	--	--	--	15	0.6
1964	1964TW001	Beta Particles and Photon Emitters	20.5		Tap Water	PUBLIC	--	--	--	--	50	0.4
1964	1964TW002	Strontium-90	1.09	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1980	1980TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1980	1980TW001	Beta Particles and Photon Emitters	14.6		Tap Water	PUBLIC	--	--	--	--	50	0.3
2090	2090TW001	Alpha Particles	2.18	U	Tap Water	PUBLIC	--	--	--	--	15	--
2090	2090TW001	Beta Particles and Photon Emitters	8.37		Tap Water	PUBLIC	--	--	--	--	50	0.2
2103	2103TW001	Alpha Particles	1.8	U	Tap Water	PUBLIC	--	--	--	--	15	--
2103	2103TW001	Beta Particles and Photon Emitters	2.42	U	Tap Water	PUBLIC	--	--	--	--	50	--
2139	2139TW001	Alpha Particles	3.9		Tap Water	PUBLIC	--	--	--	--	15	0.3
2139	2139TW001	Beta Particles and Photon Emitters	6.56		Tap Water	PUBLIC	--	--	--	--	50	0.1

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
STUDY AREA 02												
	1327	1327TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.1
	1327	1327TW001	Beta Particles and Photon Emitters	U	Tap Water	PUBLIC	--	--	--	--	50	--
	1332	1332TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.1
	1332	1332TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.4
	1332	1332TW002	Strontium-90	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
	1333	1333TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.1
	1333	1333TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.4
	1334	1334TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.2
	1334	1334TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.3
	1337	1337TW001	Alpha Particles	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1337	1337TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.1
	1344	1344TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.1
	1344	1344TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.3
	1345	1345TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.2
	1345	1345TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.3
	1346	1346TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.1
	1346	1346TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.3
	1351	1351TW001	Alpha Particles	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1351	1351TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.2
	1355	1355TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.2
	1355	1355TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.3
	1356	1356TW001	Alpha Particles	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1356	1356TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.1
	1384	1384TW001	Alpha Particles	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1384	1384TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.2
	1385	1385TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.1
	1385	1385TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.3
	1389	1389TW001	Alpha Particles	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1389	1389TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.4
	1391	1391TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.2
	1391	1391TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.4
	1391	1391TW001-D	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.1
	1391	1391TW001-D	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.4
	1395	1395TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.2
	1395	1395TW001	Beta Particles and Photon Emitters		Tap Water	PUBLIC	--	--	--	--	50	0.3
	1402	1402TW001	Alpha Particles		Tap Water	PUBLIC	--	--	--	--	15	0.2

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1402	1402TW001	Beta Particles and Photon Emitters	15.4		Tap Water	PUBLIC	--	--	--	--	50	0.3
1783	1783TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
1783	1783TW001	Beta Particles and Photon Emitters	13.8		Tap Water	PUBLIC	--	--	--	--	50	0.3
1785	1785TW001	Alpha Particles	2.7		Tap Water	PUBLIC	--	--	--	--	15	0.2
1785	1785TW001	Beta Particles and Photon Emitters	20.8		Tap Water	PUBLIC	--	--	--	--	50	0.4
1787	1787TW001	Alpha Particles	3.94		Tap Water	PUBLIC	--	--	--	--	15	0.3
1787	1787TW001	Beta Particles and Photon Emitters	11.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
1788	1788TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1788	1788TW001	Beta Particles and Photon Emitters	16.2		Tap Water	PUBLIC	--	--	--	--	50	0.3
1790	1790TW001	Alpha Particles	2.02		Tap Water	PUBLIC	--	--	--	--	15	0.1
1790	1790TW001	Beta Particles and Photon Emitters	14.2		Tap Water	PUBLIC	--	--	--	--	50	0.3
1794	1794TW001	Alpha Particles	2.87	U	Tap Water	PUBLIC	--	--	--	--	15	--
1794	1794TW001	Beta Particles and Photon Emitters	12.4		Tap Water	PUBLIC	--	--	--	--	50	0.2
1795	1795TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1795	1795TW001	Beta Particles and Photon Emitters	8.4		Tap Water	PUBLIC	--	--	--	--	50	0.2
1817	1817TW001	Alpha Particles	5.4		Tap Water	PUBLIC	--	--	--	--	15	0.4
1817	1817TW001	Beta Particles and Photon Emitters	20.8		Tap Water	PUBLIC	--	--	--	--	50	0.4
1817	1817TW002	Strontium-90	1.77	U	Tap Water	PUBLIC	--	--	--	--	--	--
1838	1838TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1838	1838TW001	Beta Particles and Photon Emitters	13.2		Tap Water	PUBLIC	--	--	--	--	50	0.3
1914	1914TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1914	1914TW001	Beta Particles and Photon Emitters	14.6		Tap Water	PUBLIC	--	--	--	--	50	0.3
2110	2110TW001	Alpha Particles	2.86	U	Tap Water	PUBLIC	--	--	--	--	15	--
2110	2110TW001	Beta Particles and Photon Emitters	13.4		Tap Water	PUBLIC	--	--	--	--	50	0.3
2151	2151TW001	Alpha Particles	2.75	U	Tap Water	PUBLIC	--	--	--	--	15	--
2151	2151TW001	Beta Particles and Photon Emitters	11.9		Tap Water	PUBLIC	--	--	--	--	50	0.2

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
STUDY AREA 03												
	0479TW001	Alpha Particles	2.7		Tap Water	PUBLIC	--	--	--	--	15	0.2
	0479TW001	Beta Particles and Photon Emitters	10.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
	0479TW001-D	Alpha Particles	3		Tap Water	PUBLIC	--	--	--	--	15	0.2
	0479TW001-D	Beta Particles and Photon Emitters	10		Tap Water	PUBLIC	--	--	--	--	50	0.2
	1204TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1204TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
	1204TW001-D	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1204TW001-D	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
	1341TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
	1341TW001	Beta Particles and Photon Emitters	16.8		Tap Water	PUBLIC	--	--	--	--	50	0.3
	1380TW001	Alpha Particles	2.2	J	Tap Water	PUBLIC	--	--	--	--	15	0.1
	1380TW001	Beta Particles and Photon Emitters	33.5	J	Tap Water	PUBLIC	--	--	--	--	50	0.7
	1380TW001-D	Alpha Particles	1.6	J	Tap Water	PUBLIC	--	--	--	--	15	0.1
	1380TW001-D	Beta Particles and Photon Emitters	24.1	J	Tap Water	PUBLIC	--	--	--	--	50	0.5
	1641TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1641TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
	1641TW001-D	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1641TW001-D	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
	1799TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1799TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
	1989TW001	Alpha Particles	2.43	U	Tap Water	PUBLIC	--	--	--	--	15	--
	1989TW001	Beta Particles and Photon Emitters	1.75	U	Tap Water	PUBLIC	--	--	--	--	50	--
	2006TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
	2006TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
	2030TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
	2030TW001	Beta Particles and Photon Emitters	14.6		Tap Water	PUBLIC	--	--	--	--	50	0.3
	2035TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
	2035TW001	Beta Particles and Photon Emitters	6.5		Tap Water	PUBLIC	--	--	--	--	50	0.1
	2035TW001-D	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
	2035TW001-D	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
	2044TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
	2044TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
	2045TW001	Alpha Particles	3.2		Tap Water	PUBLIC	--	--	--	--	15	0.2
	2045TW001	Beta Particles and Photon Emitters	7.3		Tap Water	PUBLIC	--	--	--	--	50	0.1
	2065TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
	2065TW001	Beta Particles and Photon Emitters	17.6		Tap Water	PUBLIC	--	--	--	--	50	0.4

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
2079	2079TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
2079	2079TW001	Beta Particles and Photon Emitters	6.5		Tap Water	PUBLIC	--	--	--	--	50	0.1
2106	2106TW001	Alpha Particles	2.93	U	Tap Water	PUBLIC	--	--	--	--	15	--
2106	2106TW001	Beta Particles and Photon Emitters	2.68	U	Tap Water	PUBLIC	--	--	--	--	50	--
2108	2108TW001	Alpha Particles	2.2	U	Tap Water	PUBLIC	--	--	--	--	15	--
2108	2108TW001	Beta Particles and Photon Emitters	2.33	U	Tap Water	PUBLIC	--	--	--	--	50	--
2111	2111TW001	Alpha Particles	0.799	U	Tap Water	PUBLIC	--	--	--	--	15	--
2111	2111TW001	Beta Particles and Photon Emitters	2.21	U	Tap Water	PUBLIC	--	--	--	--	50	--
2112	2112TW001	Alpha Particles	1.89		Tap Water	PUBLIC	--	--	--	--	15	0.1
2112	2112TW001	Beta Particles and Photon Emitters	3.22		Tap Water	PUBLIC	--	--	--	--	50	0.1
2140	2140TW001	Alpha Particles	5.13		Tap Water	PUBLIC	--	--	--	--	15	0.3
2140	2140TW001	Beta Particles and Photon Emitters	43.4		Tap Water	PUBLIC	--	--	--	--	50	0.9
2140	2140TW001	Strontium-90	1.57	U	Tap Water	PUBLIC	--	--	--	--	--	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
STUDY AREA 04												
	0114	0114TW001	Alpha Particles	6.5		Tap Water	PUBLIC	--	--	--	15	0.4
	0114	0114TW001	Beta Particles and Photon Emitters	15.4		Tap Water	PUBLIC	--	--	--	50	0.3
	0114	0114TW002	Strontium-90	1.9	U	Tap Water	PUBLIC	--	--	--	--	--
	0114	0114TW002-D	Strontium-90	1.5	U	Tap Water	PUBLIC	--	--	--	--	--
	0771	0771TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	15	--
	0771	0771TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	50	--
	0774	0774TW001	Alpha Particles	2.7		Tap Water	PUBLIC	--	--	--	15	0.2
	0774	0774TW001	Beta Particles and Photon Emitters	6.2		Tap Water	PUBLIC	--	--	--	50	0.1
	0777	0777TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	15	--
	0777	0777TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	50	--
	1485	1485TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	15	0.1
	1485	1485TW001	Beta Particles and Photon Emitters	11.4		Tap Water	PUBLIC	--	--	--	50	0.2
	1559	1559TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	1559	1559TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	50	--
	1562	1562TW001	Alpha Particles	2.95	U	Tap Water	PUBLIC	--	--	--	15	--
	1562	1562TW001	Beta Particles and Photon Emitters	2.75	U	Tap Water	PUBLIC	--	--	--	50	--
	1566	1566TW001	Alpha Particles	2.69		Tap Water	PUBLIC	--	--	--	15	0.2
	1566	1566TW001	Beta Particles and Photon Emitters	10.4		Tap Water	PUBLIC	--	--	--	50	0.2
	1569	1569TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	1569	1569TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	50	--
	1570	1570TW001	Alpha Particles	1.65	U	Tap Water	PUBLIC	--	--	--	15	--
	1570	1570TW001	Beta Particles and Photon Emitters	7.38		Tap Water	PUBLIC	--	--	--	50	0.1
	1719	1719TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	1719	1719TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	50	--
	1809	1809TW001	Alpha Particles	2.4		Tap Water	PUBLIC	--	--	--	15	0.2
	1809	1809TW001	Beta Particles and Photon Emitters	15.4		Tap Water	PUBLIC	--	--	--	50	0.3
	1872	1872TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	1872	1872TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	50	--
	2060	2060TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	2060	2060TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	50	--
	2071	2071TW001	Alpha Particles	2.98	U	Tap Water	PUBLIC	--	--	--	15	--
	2071	2071TW001	Beta Particles and Photon Emitters	4.13		Tap Water	PUBLIC	--	--	--	50	0.1
	2073	2073TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	15	--
	2073	2073TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	50	--
	2093	2093TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	15	--
	2093	2093TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
2152	2152TW001	Alpha Particles	2.08	U	Tap Water	PUBLIC	--	--	--	--	15	--
2152	2152TW001	Beta Particles and Photon Emitters	2.47	U	Tap Water	PUBLIC	--	--	--	--	50	--
2153	2153TW001	Alpha Particles	2.58	U	Tap Water	PUBLIC	--	--	--	--	15	--
2153	2153TW001	Beta Particles and Photon Emitters	2.34	UJ	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
STUDY AREA 05												
	0564TW001	Alpha Particles	2.96		Tap Water	PUBLIC	--	--	--	--	15	0.2
0564	0564TW001	Beta Particles and Photon Emitters	13.8		Tap Water	PUBLIC	--	--	--	--	50	0.3
0567	0567TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0567	0567TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	--	50	0.1
0574	0574TW001	Alpha Particles	2.86	U	Tap Water	PUBLIC	--	--	--	--	15	--
0574	0574TW001	Beta Particles and Photon Emitters	15.7		Tap Water	PUBLIC	--	--	--	--	50	0.3
0764	0764TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0764	0764TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
0775	0775TW001	Alpha Particles	3.2		Tap Water	PUBLIC	--	--	--	--	15	0.2
0775	0775TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
0882	0882IW001	Alpha Particles	5.25		Irrigation Well	WELL	--	--	--	--	15	0.4
0882	0882IW001	Beta Particles and Photon Emitters	32.8		Irrigation Well	WELL	--	--	--	--	50	0.7
0882	0882IW001	Strontium-90	1.64	U	Irrigation Well	WELL	0.644	--	--	--	8	--
0894	0894TW001	Alpha Particles	2.55	U	Tap Water	PUBLIC	--	--	--	--	15	--
0894	0894TW001	Beta Particles and Photon Emitters	1.76	U	Tap Water	PUBLIC	--	--	--	--	50	--
0897	0897TW001	Alpha Particles	3.8		Tap Water	WELL	--	--	--	--	15	0.3
0897	0897TW001	Beta Particles and Photon Emitters	33.5		Tap Water	WELL	--	--	--	--	50	0.7
0901	0901TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0901	0901TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
0907	0907TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0907	0907TW001	Beta Particles and Photon Emitters	39.2	J	Tap Water	PUBLIC	--	--	--	--	50	0.8
0907	0907TW001-D	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
0907	0907TW001-D	Beta Particles and Photon Emitters	4.9	UJ	Tap Water	PUBLIC	--	--	--	--	50	--
0917	0917TW001	Alpha Particles	2.47	U	Tap Water	PUBLIC	--	--	--	--	15	--
0917	0917TW001	Beta Particles and Photon Emitters	3.28		Tap Water	PUBLIC	--	--	--	--	50	0.1
0921	0921PW001	Alpha Particles	1.4	U	Private Well	WELL	--	--	--	--	15	--
0921	0921PW001	Beta Particles and Photon Emitters	6.2	U	Private Well	WELL	--	--	--	--	50	--
0921	0921TW001	Alpha Particles	1.9	U	Tap Water	WELL	--	--	--	--	15	--
0921	0921TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	WELL	--	--	--	--	50	--
0923	0923TW001	Alpha Particles	2.67	U	Tap Water	PUBLIC	--	--	--	--	15	--
0923	0923TW001	Beta Particles and Photon Emitters	25.8		Tap Water	PUBLIC	--	--	--	--	50	0.5
0945	0945TW001	Alpha Particles	3		Tap Water	PUBLIC	--	--	--	--	15	0.2
0945	0945TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	--	50	0.1
0947	0947TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
0947	0947TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
0949	0949TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
0949	0949TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
0950	0950TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0950	0950TW001	Beta Particles and Photon Emitters	6.5	U	Tap Water	PUBLIC	--	--	--	--	50	--
0953	0953TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
0953	0953TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
0961	0961TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
0961	0961TW001	Beta Particles and Photon Emitters	36.2		Tap Water	PUBLIC	--	--	--	--	50	0.7
0961	0961TW002	Strontium-90	1.48	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
0964	0964TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0964	0964TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
0967	0967TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0967	0967TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
0967	0967TW001-D	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0967	0967TW001-D	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0973	0973TW001	Alpha Particles	2.97		Tap Water	WELL	--	--	--	--	15	0.2
0973	0973TW001	Beta Particles and Photon Emitters	30.27		Tap Water	WELL	--	--	--	--	50	0.6
0974	0974TW001	Alpha Particles	1.1	U	Tap Water	WELL	--	--	--	--	15	--
0974	0974TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	WELL	--	--	--	--	50	--
0975	0975TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0975	0975TW001	Beta Particles and Photon Emitters	4.3	U	Tap Water	PUBLIC	--	--	--	--	50	--
0984	0984TW001	Alpha Particles	1.08	U	Tap Water	PUBLIC	--	--	--	--	15	--
0984	0984TW001	Beta Particles and Photon Emitters	4.86	U	Tap Water	PUBLIC	--	--	--	--	50	--
0989	0989TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0989	0989TW001	Beta Particles and Photon Emitters	11.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
0998	0998TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
0998	0998TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1008	1008TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1008	1008TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1010	1010TW001	Alpha Particles	2.7		Tap Water	PUBLIC	--	--	--	--	15	0.2
1010	1010TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1013	1013TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1013	1013TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1016	1016TW001	Alpha Particles	1.35	U	Tap Water	PUBLIC	--	--	--	--	15	--
1016	1016TW001	Beta Particles and Photon Emitters	6.76	U	Tap Water	PUBLIC	--	--	--	--	50	--
1020	1020TW001	Alpha Particles	1.45	U	Tap Water	PUBLIC	--	--	--	--	15	--
1020	1020TW001	Beta Particles and Photon Emitters	2.55	U	Tap Water	PUBLIC	--	--	--	--	50	--
1023	1023TW001	Alpha Particles	1.62	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1023	1023TW001	Beta Particles and Photon Emitters	5.95	U	Tap Water	PUBLIC	--	--	--	--	50	--
1050	1050TW001	Alpha Particles	1.35	U	Tap Water	PUBLIC	--	--	--	--	15	--
1050	1050TW001	Beta Particles and Photon Emitters	4.86	U	Tap Water	PUBLIC	--	--	--	--	50	--
1053	1053TW001	Alpha Particles	1.35	U	Tap Water	PUBLIC	--	--	--	--	15	--
1053	1053TW001	Beta Particles and Photon Emitters	4.86	U	Tap Water	PUBLIC	--	--	--	--	50	--
1059	1059TW001	Alpha Particles	1.35	U	Tap Water	PUBLIC	--	--	--	--	15	--
1059	1059TW001	Beta Particles and Photon Emitters	5.68	U	Tap Water	PUBLIC	--	--	--	--	50	--
1074	1074TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1074	1074TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
1082	1082TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1082	1082TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1098	1098TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1098	1098TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1098	1098TW001-D	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1098	1098TW001-D	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1100	1100TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1100	1100TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1115	1115TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1115	1115TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1116	1116TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1116	1116TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1119	1119TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1119	1119TW001	Beta Particles and Photon Emitters	7		Tap Water	PUBLIC	--	--	--	--	50	0.1
1120	1120TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1120	1120TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1130	1130TW001	Alpha Particles	1.35	U	Tap Water	PUBLIC	--	--	--	--	15	--
1130	1130TW001	Beta Particles and Photon Emitters	5.14	U	Tap Water	PUBLIC	--	--	--	--	50	--
1132	1132TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1132	1132TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
1135	1135TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1135	1135TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1137	1137TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1137	1137TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1148	1148TW001	Alpha Particles	3.91		Tap Water	PUBLIC	--	--	--	--	15	0.3
1148	1148TW001	Beta Particles and Photon Emitters	2.86	U	Tap Water	PUBLIC	--	--	--	--	50	--
1151	1151TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1151	1151TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1157	1157TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1157	1157TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
1168	1168TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1168	1168TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1169	1169TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1169	1169TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1179	1179TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1179	1179TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1182	1182TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1182	1182TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1184	1184TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1184	1184TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1315	1315TW001	Alpha Particles	1.86	U	Tap Water	PUBLIC	--	--	--	--	15	--
1315	1315TW001	Beta Particles and Photon Emitters	2.34	U	Tap Water	PUBLIC	--	--	--	--	50	--
1688	1688TW001	Alpha Particles	2.16		Tap Water	PUBLIC	--	--	--	--	15	0.1
1688	1688TW001	Beta Particles and Photon Emitters	6.5	U	Tap Water	PUBLIC	--	--	--	--	50	--
1692	1692PW001	Alpha Particles	1.6	U	Private Well	PUBLIC	--	--	--	--	15	--
1692	1692PW001	Beta Particles and Photon Emitters	35.4		Private Well	PUBLIC	--	--	--	--	50	0.7
1692	1692TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
1692	1692TW001	Beta Particles and Photon Emitters	41.9		Tap Water	PUBLIC	--	--	--	--	50	0.8
1694	1694TW001	Alpha Particles	3.5		Tap Water	PUBLIC	--	--	--	--	15	0.2
1694	1694TW001	Beta Particles and Photon Emitters	12.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
1694	1694TW002	Strontium-90	1.15	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1699	1699TW001	Alpha Particles	2.99	U	Tap Water	PUBLIC	--	--	--	--	15	--
1699	1699TW001	Beta Particles and Photon Emitters	3.09		Tap Water	PUBLIC	--	--	--	--	50	0.1
1713	1713PW001	Alpha Particles	1.6		Private Well	WELL	--	--	--	--	15	0.1
1713	1713PW001	Beta Particles and Photon Emitters	68.1		Private Well	WELL	--	--	--	--	50	1.4
1713	1713TW002	Alpha Particles	1.6		Tap Water	WELL	--	--	--	--	15	0.1
1713	1713TW002	Beta Particles and Photon Emitters	39.5		Tap Water	WELL	--	--	--	--	50	0.8
1715	1715TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1715	1715TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1751	1751TW001	Alpha Particles	5.35	J	Tap Water	WELL	--	--	--	--	15	0.4
1751	1751TW001	Beta Particles and Photon Emitters	35.4		Tap Water	WELL	--	--	--	--	50	0.7
1756	1756TW001	Alpha Particles	5.13		Tap Water	WELL	--	--	--	--	15	0.3
1756	1756TW001	Beta Particles and Photon Emitters	39		Tap Water	WELL	--	--	--	--	50	0.8
1766	1766IW001	Alpha Particles	5.21		Irrigation Well	WELL	--	--	--	--	15	0.3
1766	1766IW001	Beta Particles and Photon Emitters	35.5		Irrigation Well	WELL	--	--	--	--	50	0.7

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1767	1767TW003	Alpha Particles	5.7		Tap Water	WELL	--	--	--	--	15	0.4
1767	1767TW003	Beta Particles and Photon Emitters	58.6		Tap Water	WELL	--	--	--	--	50	1.2
1771	1771TW001	Alpha Particles	6.71		Tap Water	WELL	--	--	--	--	15	0.4
1771	1771TW001	Beta Particles and Photon Emitters	42.9		Tap Water	WELL	--	--	--	--	50	0.9
1800	1800TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1800	1800TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
1804	1804TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1804	1804TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1806	1806TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1806	1806TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1813	1813TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1813	1813TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1819	1819TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1819	1819TW001	Beta Particles and Photon Emitters	4.3	U	Tap Water	PUBLIC	--	--	--	--	50	--
1825	1825TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1825	1825TW001	Beta Particles and Photon Emitters	7.8		Tap Water	PUBLIC	--	--	--	--	50	0.2
1828	1828TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1828	1828TW001	Beta Particles and Photon Emitters	4.6	U	Tap Water	PUBLIC	--	--	--	--	50	--
1841	1841TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1841	1841TW001	Beta Particles and Photon Emitters	15.7		Tap Water	PUBLIC	--	--	--	--	50	0.3
1842	1842TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1842	1842TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1843	1843TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1843	1843TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1844	1844TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1844	1844TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1845	1845TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1845	1845TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1849	1849TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1849	1849TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1855	1855TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1855	1855TW001	Beta Particles and Photon Emitters	6.8	U	Tap Water	PUBLIC	--	--	--	--	50	--
1868	1868TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1868	1868TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1873	1873TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1873	1873TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1876	1876TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1876	1876TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1880	1880TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1880	1880TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1881	1881TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1881	1881TW001	Beta Particles and Photon Emitters	5.9		Tap Water	PUBLIC	--	--	--	--	50	0.1
1883	1883TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1883	1883TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1887	1887TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1887	1887TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1888	1888TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1888	1888TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1889	1889TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1889	1889TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1891	1891TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1891	1891TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1894	1894TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1894	1894TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1898	1898TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1898	1898TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1902	1902TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1902	1902TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1905	1905TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1905	1905TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1909	1909TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1909	1909TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1912	1912TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1912	1912TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1918	1918TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
1918	1918TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1922	1922TW001	Alpha Particles	6.5		Tap Water	PUBLIC	--	--	--	--	15	0.4
1922	1922TW001	Beta Particles and Photon Emitters	29.7		Tap Water	PUBLIC	--	--	--	--	50	0.6

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1924	1924TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1924	1924TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1930	1930TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1930	1930TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1931	1931TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1931	1931TW001	Beta Particles and Photon Emitters	11.9		Tap Water	PUBLIC	--	--	--	--	50	0.2
1933	1933TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1933	1933TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1937	1937TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1937	1937TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1945	1945TW001	Alpha Particles	10		Tap Water	PUBLIC	--	--	--	--	15	0.7
1945	1945TW001	Beta Particles and Photon Emitters	15.9		Tap Water	PUBLIC	--	--	--	--	50	0.3
1945	1945TW002	Strontium-90	1.41	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1961	1961TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1961	1961TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1966	1966TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1966	1966TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1966	1966TW001-D	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1966	1966TW001-D	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1967	1967TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1967	1967TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1969	1969TW001	Alpha Particles	6.2		Tap Water	PUBLIC	--	--	--	--	15	0.4
1969	1969TW001	Beta Particles and Photon Emitters	10.3		Tap Water	PUBLIC	--	--	--	--	50	0.2
1969	1969TW002	Strontium-90	1.38	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
2016	2016TW001	Alpha Particles	4.6		Tap Water	WELL	--	--	--	--	15	0.3
2016	2016TW001	Beta Particles and Photon Emitters	56.8		Tap Water	WELL	--	--	--	--	50	1.1
2016	2016TW002	Strontium-90	1.76	U	Tap Water	WELL	--	--	--	--	--	--
2021	2021TW001	Alpha Particles	3.07		Tap Water	WELL	--	--	--	--	15	0.2
2021	2021TW001	Beta Particles and Photon Emitters	28.4		Tap Water	WELL	--	--	--	--	50	0.6
2049	2049TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
2049	2049TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
2051	2051TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
2051	2051TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
0882-PBL	0882TW001	Alpha Particles	1.15	U	Tap Water	PUBLIC	--	--	--	--	15	--
0882-PBL	0882TW001	Beta Particles and Photon Emitters	2.41	U	Tap Water	PUBLIC	--	--	--	--	50	--
1766-PBL	1766TW001	Alpha Particles	2.81	U	Tap Water	PUBLIC	--	--	--	--	15	--
1766-PBL	1766TW001	Beta Particles and Photon Emitters	11.9		Tap Water	PUBLIC	--	--	--	--	50	0.2

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
STUDY AREA 06												
	0197	0197TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	0197	0197TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	50	--
	0198	0198TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	0198	0198TW001	Beta Particles and Photon Emitters	8.4		Tap Water	PUBLIC	--	--	--	50	0.2
	0199	0199TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	0199	0199TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	50	--
	0548	0548PW001	Alpha Particles	5.9		Private Well	WELL	--	--	--	15	0.4
	0548	0548PW001	Beta Particles and Photon Emitters	38.4		Private Well	WELL	--	--	--	50	0.8
	0548	0548TW001	Alpha Particles	8.9		Tap Water	WELL	--	--	--	15	0.6
	0548	0548TW001	Beta Particles and Photon Emitters	47.8		Tap Water	WELL	--	--	--	50	1.0
	0789	0789TW001	Alpha Particles	2.4		Tap Water	PUBLIC	--	--	--	15	0.2
	0789	0789TW001	Beta Particles and Photon Emitters	7.8		Tap Water	PUBLIC	--	--	--	50	0.2
	0801	0801TW001	Alpha Particles	1.55	U	Tap Water	PUBLIC	--	--	--	15	--
	0801	0801TW001	Beta Particles and Photon Emitters	2.76		Tap Water	PUBLIC	--	--	--	50	0.1
	0805	0805TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	15	--
	0805	0805TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	50	0.1
	0806	0806TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	0806	0806TW001	Beta Particles and Photon Emitters	9.2		Tap Water	PUBLIC	--	--	--	50	0.2
	0813	0813TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	0813	0813TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	50	--
	0814	0814TW001	Alpha Particles	2.71	U	Tap Water	PUBLIC	--	--	--	15	--
	0814	0814TW001	Beta Particles and Photon Emitters	4.55		Tap Water	PUBLIC	--	--	--	50	0.1
	0823	0823TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	15	0.1
	0823	0823TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	50	0.1
	0827	0827TW001	Alpha Particles	2.92	U	Tap Water	PUBLIC	--	--	--	15	--
	0827	0827TW001	Beta Particles and Photon Emitters	8.37		Tap Water	PUBLIC	--	--	--	50	0.2
	0831	0831TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	15	--
	0831	0831TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	50	--
	0834	0834TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	0834	0834TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	50	--
	0837	0837TW001	Alpha Particles	2.04	U	Tap Water	PUBLIC	--	--	--	15	--
	0837	0837TW001	Beta Particles and Photon Emitters	2.36	U	Tap Water	PUBLIC	--	--	--	50	--
	0838	0838TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	15	--
	0838	0838TW001	Beta Particles and Photon Emitters	9.5		Tap Water	PUBLIC	--	--	--	50	0.2
	0844	0844TW002	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	15	--
	0844	0844TW002	Beta Particles and Photon Emitters	9.2		Tap Water	PUBLIC	--	--	--	50	0.2

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
0848	0848TW001	Alpha Particles	2.82	U	Tap Water	PUBLIC	--	--	--	--	15	--
0848	0848TW001	Beta Particles and Photon Emitters	9.44		Tap Water	PUBLIC	--	--	--	--	50	0.2
0850	0850TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
0850	0850TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
0851	0851TW001	Alpha Particles	4.6		Tap Water	PUBLIC	--	--	--	--	15	0.3
0851	0851TW001	Beta Particles and Photon Emitters	9.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
0854	0854TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0854	0854TW001	Beta Particles and Photon Emitters	7		Tap Water	PUBLIC	--	--	--	--	50	0.1
1201	1201TW001	Alpha Particles	2.62	U	Tap Water	PUBLIC	--	--	--	--	15	--
1201	1201TW001	Beta Particles and Photon Emitters	3.98	U	Tap Water	PUBLIC	--	--	--	--	50	--
1202	1202TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1202	1202TW001	Beta Particles and Photon Emitters	7.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
1361	1361TW002	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
1361	1361TW002	Beta Particles and Photon Emitters	8.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
1362	1362TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1362	1362TW001	Beta Particles and Photon Emitters	9.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
1363	1363TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1363	1363TW001	Beta Particles and Photon Emitters	7.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
1364	1364TW001	Alpha Particles	5.1		Tap Water	PUBLIC	--	--	--	--	15	0.3
1364	1364TW001	Beta Particles and Photon Emitters	59.5		Tap Water	PUBLIC	--	--	--	--	50	1.2
1364	1364TW002	Strontium-90	1.41	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1365	1365TW001	Alpha Particles	7		Tap Water	PUBLIC	--	--	--	--	15	0.5
1365	1365TW001	Beta Particles and Photon Emitters	55.4		Tap Water	PUBLIC	--	--	--	--	50	1.1
1365	1365TW004	Strontium-90	1.34	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1659	1659TW001	Alpha Particles	1.37	U	Tap Water	PUBLIC	--	--	--	--	15	--
1659	1659TW001	Beta Particles and Photon Emitters	4.36		Tap Water	PUBLIC	--	--	--	--	50	0.1
1661	1661TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
1661	1661TW001	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
1665	1665TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
1665	1665TW001	Beta Particles and Photon Emitters	10.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
1704	1704TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1704	1704TW001	Beta Particles and Photon Emitters	9.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
1797	1797TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1797	1797TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1808	1808TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1808	1808TW001	Beta Particles and Photon Emitters	8.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
1816	1816TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1816	1816TW001	Beta Particles and Photon Emitters	4.3	U	Tap Water	PUBLIC	--	--	--	--	50	--
1818	1818TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1818	1818TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1818	1818TW001-D	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1818	1818TW001-D	Beta Particles and Photon Emitters	6.5	U	Tap Water	PUBLIC	--	--	--	--	50	--
1836	1836TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
1836	1836TW001	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
1836	1836TW001-D	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
1836	1836TW001-D	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1864	1864TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1864	1864TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1866	1866TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1866	1866TW001	Beta Particles and Photon Emitters	10		Tap Water	PUBLIC	--	--	--	--	50	0.2
1877	1877TW001	Alpha Particles	1.4		Tap Water	PUBLIC	--	--	--	--	15	0.1
1877	1877TW001	Beta Particles and Photon Emitters	53		Tap Water	PUBLIC	--	--	--	--	50	1.1
1910	1910TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1910	1910TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1910	1910TW001-D	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1910	1910TW001-D	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1921	1921TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1921	1921TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1927	1927TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1927	1927TW001	Beta Particles and Photon Emitters	9.7		Tap Water	PUBLIC	--	--	--	--	50	0.2
1929	1929TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1929	1929TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1942	1942TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1942	1942TW001	Beta Particles and Photon Emitters	9.7		Tap Water	PUBLIC	--	--	--	--	50	0.2
1962	1962TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1962	1962TW001	Beta Particles and Photon Emitters	8.9		Tap Water	PUBLIC	--	--	--	--	50	0.2
1965	1965TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1965	1965TW001	Beta Particles and Photon Emitters	8.9		Tap Water	PUBLIC	--	--	--	--	50	0.2
1968	1968TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1968	1968TW001	Beta Particles and Photon Emitters	10.8		Tap Water	PUBLIC	--	--	--	--	50	0.2
1971	1971TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1971	1971TW001	Beta Particles and Photon Emitters	9.7		Tap Water	PUBLIC	--	--	--	--	50	0.2
2017	2017TW001	Alpha Particles	1.18	U	Tap Water	PUBLIC	--	--	--	--	15	--
2017	2017TW001	Beta Particles and Photon Emitters	4.98		Tap Water	PUBLIC	--	--	--	--	50	0.1

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
2027	2027TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
2027	2027TW001	Beta Particles and Photon Emitters	6.5		Tap Water	PUBLIC	--	--	--	--	50	0.1
2055	2055TW001	Alpha Particles	1.4		Tap Water	PUBLIC	--	--	--	--	15	0.1
2055	2055TW001	Beta Particles and Photon Emitters	11.9		Tap Water	PUBLIC	--	--	--	--	50	0.2
2080	2080TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
2080	2080TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
2081	2081TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
2081	2081TW001	Beta Particles and Photon Emitters	5.7		Tap Water	PUBLIC	--	--	--	--	50	0.1
2082	2082TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
2082	2082TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
STUDY AREA 07												
0104	0104TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0104	0104TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
0459	0459TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0459	0459TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
0659	0659TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0659	0659TW001	Beta Particles and Photon Emitters	9.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
1369	1369TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1369	1369TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1370	1370TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1370	1370TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1633	1633TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1633	1633TW001	Beta Particles and Photon Emitters	7		Tap Water	PUBLIC	--	--	--	--	50	0.1
1635	1635TW001	Alpha Particles	2.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1635	1635TW001	Beta Particles and Photon Emitters	7.42		Tap Water	PUBLIC	--	--	--	--	50	0.1
1637	1637TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1637	1637TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1675	1675TW001	Alpha Particles	6.2		Tap Water	PUBLIC	--	--	--	--	15	0.4
1675	1675TW001	Beta Particles and Photon Emitters	53.8		Tap Water	PUBLIC	--	--	--	--	50	1.1
1675	1675TW003	Strontium-90	1.05	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1732	1732PW001	Alpha Particles	1.4	U	Private Well	PUBLIC	--	--	--	--	15	--
1732	1732PW001	Beta Particles and Photon Emitters	5.4	U	Private Well	PUBLIC	--	--	--	--	50	--
1732	1732TW002	Alpha Particles	5.4		Tap Water	PUBLIC	--	--	--	--	15	0.4
1732	1732TW002	Beta Particles and Photon Emitters	54.6		Tap Water	PUBLIC	--	--	--	--	50	1.1
1732	1732TW004	Strontium-90	1.57	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1744	1744TW001	Alpha Particles	6.5		Tap Water	WELL	--	--	--	--	15	0.4
1744	1744TW001	Beta Particles and Photon Emitters	60		Tap Water	WELL	--	--	--	--	50	1.2
1744	1744TW003	Strontium-90	1.72	U	Tap Water	WELL	--	--	--	--	--	--
1749	1749TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1749	1749TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1805	1805TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1805	1805TW001	Beta Particles and Photon Emitters	13		Tap Water	PUBLIC	--	--	--	--	50	0.3
1810	1810TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1810	1810TW001	Beta Particles and Photon Emitters	12.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
1851	1851TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1851	1851TW001	Beta Particles and Photon Emitters	5.9		Tap Water	PUBLIC	--	--	--	--	50	0.1
1879	1879TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1879	1879TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1900	1900TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1900	1900TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1911	1911TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1911	1911TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1923	1923TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1923	1923TW001	Beta Particles and Photon Emitters	10.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
1926	1926TW001	Alpha Particles	3.5		Tap Water	PUBLIC	--	--	--	--	15	0.2
1926	1926TW001	Beta Particles and Photon Emitters	32.4		Tap Water	PUBLIC	--	--	--	--	50	0.6
1926	1926TW002	Strontium-90	1.57	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1935	1935TW001	Alpha Particles	5.1		Tap Water	PUBLIC	--	--	--	--	15	0.3
1935	1935TW001	Beta Particles and Photon Emitters	40.5		Tap Water	PUBLIC	--	--	--	--	50	0.8
1936	1936TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1936	1936TW001	Beta Particles and Photon Emitters	7.3		Tap Water	PUBLIC	--	--	--	--	50	0.1
1940	1940TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1940	1940TW001	Beta Particles and Photon Emitters	5.4		Tap Water	PUBLIC	--	--	--	--	50	0.1
1944	1944TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1944	1944TW001	Beta Particles and Photon Emitters	9.7		Tap Water	PUBLIC	--	--	--	--	50	0.2
1944	1944TW001-D	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
1944	1944TW001-D	Beta Particles and Photon Emitters	9.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
1946	1946TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1946	1946TW001	Beta Particles and Photon Emitters	6.5		Tap Water	PUBLIC	--	--	--	--	50	0.1
1960	1960TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1960	1960TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
1963	1963TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
1963	1963TW001	Beta Particles and Photon Emitters	8.9		Tap Water	PUBLIC	--	--	--	--	50	0.2
1970	1970TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1970	1970TW001	Beta Particles and Photon Emitters	12.4		Tap Water	PUBLIC	--	--	--	--	50	0.2
2023	2023TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
2023	2023TW001	Beta Particles and Photon Emitters	11.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
2077	2077TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
2077	2077TW001	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
2113	2113TW001	Alpha Particles	1.21	U	Tap Water	PUBLIC	--	--	--	--	15	--
2113	2113TW001	Beta Particles and Photon Emitters	7.05		Tap Water	PUBLIC	--	--	--	--	50	0.1
2114	2114TW001	Alpha Particles	2.76	U	Tap Water	PUBLIC	--	--	--	--	15	--
2114	2114TW001	Beta Particles and Photon Emitters	3.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
2115	2115TW001	Alpha Particles	2.76	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
2115	2115TW001	Beta Particles and Photon Emitters	4.91		Tap Water	PUBLIC	--	--	--	--	50	0.1
2116	2116TW001	Alpha Particles	9.05		Tap Water	PUBLIC	--	--	--	--	15	0.6
2116	2116TW001	Beta Particles and Photon Emitters	37.5		Tap Water	PUBLIC	--	--	--	--	50	0.8
2117	2117TW001	Alpha Particles	2.49	U	Tap Water	PUBLIC	--	--	--	--	15	--
2117	2117TW001	Beta Particles and Photon Emitters	7.58		Tap Water	PUBLIC	--	--	--	--	50	0.2
2118	2118TW001	Alpha Particles	1.52	U	Tap Water	PUBLIC	--	--	--	--	15	--
2118	2118TW001	Beta Particles and Photon Emitters	3.14	U	Tap Water	PUBLIC	--	--	--	--	50	--
2130	2130TW001	Alpha Particles	1.18	U	Tap Water	PUBLIC	--	--	--	--	15	--
2130	2130TW001	Beta Particles and Photon Emitters	7.08		Tap Water	PUBLIC	--	--	--	--	50	0.1
2150	2150TW001	Alpha Particles	2.8	U	Tap Water	PUBLIC	--	--	--	--	15	--
2150	2150TW001	Beta Particles and Photon Emitters	6.6		Tap Water	PUBLIC	--	--	--	--	50	0.1
2154	2154TW001	Alpha Particles	2.93	U	Tap Water	PUBLIC	--	--	--	--	15	--
2154	2154TW001	Beta Particles and Photon Emitters	5.95		Tap Water	PUBLIC	--	--	--	--	50	0.1
2156	2156TW001	Alpha Particles	2.72	U	Tap Water	PUBLIC	--	--	--	--	15	--
2156	2156TW001	Beta Particles and Photon Emitters	8.7		Tap Water	PUBLIC	--	--	--	--	50	0.2

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
STUDY AREA 08												
0120	0120TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
0120	0120TW001	Beta Particles and Photon Emitters	9.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
0193	0193TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0193	0193TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
0214	0214TW001	Alpha Particles	4.3		Tap Water	WELL	--	--	--	--	15	0.3
0214	0214TW001	Beta Particles and Photon Emitters	56.2		Tap Water	WELL	--	--	--	--	50	1.1
0214	0214TW002	Alpha Particles	1.4	U	Tap Water	WELL	--	--	--	--	15	--
0214	0214TW002	Beta Particles and Photon Emitters	11.4		Tap Water	WELL	--	--	--	--	50	0.2
0214	0214TW004	Strontium-90	1.73	U	Tap Water	WELL	0.644	--	--	--	8	--
0217	0217TW001	Alpha Particles	10.3		Tap Water	WELL	--	--	--	--	15	0.7
0217	0217TW001	Beta Particles and Photon Emitters	57.3		Tap Water	WELL	--	--	--	--	50	1.1
0227	0227TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
0227	0227TW001	Beta Particles and Photon Emitters	9.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
0238	0238TW001	Alpha Particles	3.24		Tap Water	WELL	--	--	--	--	15	0.2
0238	0238TW001	Beta Particles and Photon Emitters	48.11		Tap Water	WELL	--	--	--	--	50	1.0
0238	0238TW002	Alpha Particles	5.9		Tap Water	WELL	--	--	--	--	15	0.4
0238	0238TW002	Beta Particles and Photon Emitters	58.9		Tap Water	WELL	--	--	--	--	50	1.2
0244	0244TW001	Alpha Particles	3.5		Tap Water	WELL	--	--	--	--	15	0.2
0244	0244TW001	Beta Particles and Photon Emitters	47		Tap Water	WELL	--	--	--	--	50	0.9
0246	0246TW001	Alpha Particles	4.1		Tap Water	WELL	--	--	--	--	15	0.3
0246	0246TW001	Beta Particles and Photon Emitters	47.6		Tap Water	WELL	--	--	--	--	50	1.0
0250	0250TW001	Alpha Particles	6.2		Tap Water	WELL	--	--	--	--	15	0.4
0250	0250TW001	Beta Particles and Photon Emitters	59.5		Tap Water	WELL	--	--	--	--	50	1.2
0263	0263TW001	Alpha Particles	4.86		Tap Water	WELL	--	--	--	--	15	0.3
0263	0263TW001	Beta Particles and Photon Emitters	50.27		Tap Water	WELL	--	--	--	--	50	1.0
0263	0263TW002	Alpha Particles	4.9		Tap Water	WELL	--	--	--	--	15	0.3
0263	0263TW002	Beta Particles and Photon Emitters	51.4		Tap Water	WELL	--	--	--	--	50	1.0
0266	0266IW001	Strontium-90	1.28	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
0266	0266IW001	Strontium-90	1.28	U	Irrigation Well	PUBLIC	0.644	--	--	--	8	--
0266	0266TW001	Alpha Particles	3.8		Tap Water	PUBLIC	--	--	--	--	15	0.3
0266	0266TW001	Beta Particles and Photon Emitters	12.4		Tap Water	PUBLIC	--	--	--	--	50	0.2
0266	0266TW002	Strontium-90	1.24	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
0270	0270TW001	Alpha Particles	7.6		Tap Water	WELL	--	--	--	--	15	0.5
0270	0270TW001	Beta Particles and Photon Emitters	48.1		Tap Water	WELL	--	--	--	--	50	1.0
0271	0271TW001	Alpha Particles	17.3		Tap Water	WELL	--	--	--	--	15	1.2
0271	0271TW001	Beta Particles and Photon Emitters	74.6		Tap Water	WELL	--	--	--	--	50	1.5

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
0271	0271TW001-D	Alpha Particles	23.5		Tap Water	WELL	--	--	--	--	15	1.6
0271	0271TW001-D	Beta Particles and Photon Emitters	61.6		Tap Water	WELL	--	--	--	--	50	1.2
0283	0283TW001	Alpha Particles	5.4		Tap Water	WELL	--	--	--	--	15	0.4
0283	0283TW001	Beta Particles and Photon Emitters	52.7		Tap Water	WELL	--	--	--	--	50	1.1
0283	0283TW002	Alpha Particles	6.2		Tap Water	WELL	--	--	--	--	15	0.4
0283	0283TW002	Beta Particles and Photon Emitters	57.3		Tap Water	WELL	--	--	--	--	50	1.1
0290	0290TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0290	0290TW001	Beta Particles and Photon Emitters	8.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
0302	0302TW001	Alpha Particles	6.44		Tap Water	WELL	--	--	--	--	15	0.4
0302	0302TW001	Beta Particles and Photon Emitters	36.8		Tap Water	WELL	--	--	--	--	50	0.7
0309	0309TW001	Alpha Particles	15.4		Tap Water	WELL	--	--	--	--	15	1.0
0309	0309TW001	Beta Particles and Photon Emitters	75.4		Tap Water	WELL	--	--	--	--	50	1.5
0332	0332TW001	Alpha Particles	5.4		Tap Water	WELL	--	--	--	--	15	0.4
0332	0332TW001	Beta Particles and Photon Emitters	59.7		Tap Water	WELL	--	--	--	--	50	1.2
0333	0333TW001	Alpha Particles	5.4		Tap Water	WELL	--	--	--	--	15	0.4
0333	0333TW001	Beta Particles and Photon Emitters	53.5		Tap Water	WELL	--	--	--	--	50	1.1
0346	0346TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
0346	0346TW001	Beta Particles and Photon Emitters	13.8		Tap Water	PUBLIC	--	--	--	--	50	0.3
0362	0362TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0362	0362TW001	Beta Particles and Photon Emitters	13.2		Tap Water	PUBLIC	--	--	--	--	50	0.3
0366	0366TW001	Alpha Particles	4.1		Tap Water	WELL	--	--	--	--	15	0.3
0366	0366TW001	Beta Particles and Photon Emitters	53.8		Tap Water	WELL	--	--	--	--	50	1.1
0368	0368TW001	Alpha Particles	7.3		Tap Water	WELL	--	--	--	--	15	0.5
0368	0368TW001	Beta Particles and Photon Emitters	52.4		Tap Water	WELL	--	--	--	--	50	1.0
0376	0376TW001	Alpha Particles	2.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
0376	0376TW001	Beta Particles and Photon Emitters	3.95		Tap Water	PUBLIC	--	--	--	--	50	0.1
0380	0380TW001	Alpha Particles	1.4		Tap Water	PUBLIC	--	--	--	--	15	0.1
0380	0380TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
0383	0383TW001	Alpha Particles	1.4	U	Tap Water	WELL	--	--	--	--	15	--
0383	0383TW001	Beta Particles and Photon Emitters	8.1		Tap Water	WELL	--	--	--	--	50	0.2
0388	0388TW001	Alpha Particles	4.9		Tap Water	WELL	--	--	--	--	15	0.3
0388	0388TW001	Beta Particles and Photon Emitters	53.5		Tap Water	WELL	--	--	--	--	50	1.1
0393	0393TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
0393	0393TW001	Beta Particles and Photon Emitters	7.3		Tap Water	PUBLIC	--	--	--	--	50	0.1
0395	0395TW001	Alpha Particles	4.1		Tap Water	WELL	--	--	--	--	15	0.3
0395	0395TW001	Beta Particles and Photon Emitters	48.1		Tap Water	WELL	--	--	--	--	50	1.0
0397	0397TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
0397	0397TW001	Beta Particles and Photon Emitters	10.5		Tap Water	PUBLIC	--	--	--	--	50	0.2
0402	0402TW001	Alpha Particles	1.6		Tap Water	WELL	--	--	--	--	15	0.1
0402	0402TW001	Beta Particles and Photon Emitters	7.6		Tap Water	WELL	--	--	--	--	50	0.2
0409	0409TW001	Alpha Particles	6.2		Tap Water	WELL	--	--	--	--	15	0.4
0409	0409TW001	Beta Particles and Photon Emitters	53.5		Tap Water	WELL	--	--	--	--	50	1.1
0409	0409TW001-D	Alpha Particles	5.7		Tap Water	WELL	--	--	--	--	15	0.4
0409	0409TW001-D	Beta Particles and Photon Emitters	53.2		Tap Water	WELL	--	--	--	--	50	1.1
0411	0411TW001	Alpha Particles	5.1		Tap Water	WELL	--	--	--	--	15	0.3
0411	0411TW001	Beta Particles and Photon Emitters	46.5		Tap Water	WELL	--	--	--	--	50	0.9
0419	0419TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0419	0419TW001	Beta Particles and Photon Emitters	11.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
0434	0434TW001	Alpha Particles	4.1		Tap Water	WELL	--	--	--	--	15	0.3
0434	0434TW001	Beta Particles and Photon Emitters	49.2		Tap Water	WELL	--	--	--	--	50	1.0
0438	0438TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0438	0438TW001	Beta Particles and Photon Emitters	5.9		Tap Water	PUBLIC	--	--	--	--	50	0.1
0440	0440TW001	Alpha Particles	7.6		Tap Water	WELL	--	--	--	--	15	0.5
0440	0440TW001	Beta Particles and Photon Emitters	59.5		Tap Water	WELL	--	--	--	--	50	1.2
0454	0454TW001	Alpha Particles	7.8		Tap Water	WELL	--	--	--	--	15	0.5
0454	0454TW001	Beta Particles and Photon Emitters	63		Tap Water	WELL	--	--	--	--	50	1.3
0457	0457TW001	Alpha Particles	5.4		Tap Water	WELL	--	--	--	--	15	0.4
0457	0457TW001	Beta Particles and Photon Emitters	57.3		Tap Water	WELL	--	--	--	--	50	1.1
0457	0457TW003	Strontium-90	2.12	U	Tap Water	WELL	--	--	--	--	--	--
0460	0460TW001	Alpha Particles	2.42	U	Tap Water	PUBLIC	--	--	--	--	15	--
0460	0460TW001	Beta Particles and Photon Emitters	6.71		Tap Water	PUBLIC	--	--	--	--	50	0.1
0476	0476TW001	Alpha Particles	5.9		Tap Water	WELL	--	--	--	--	15	0.4
0476	0476TW001	Beta Particles and Photon Emitters	48.9		Tap Water	WELL	--	--	--	--	50	1.0
0488	0488TW001	Alpha Particles	6.2		Tap Water	WELL	--	--	--	--	15	0.4
0488	0488TW001	Beta Particles and Photon Emitters	62.2		Tap Water	WELL	--	--	--	--	50	1.2
0488	0488TW002	Strontium-90	1.86	U	Tap Water	WELL	0.644	--	--	--	8	--
0491	0491TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0491	0491TW001	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
0497	0497TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0497	0497TW001	Beta Particles and Photon Emitters	155.7		Tap Water	PUBLIC	--	--	--	--	50	3.1
0497	0497TW002	Strontium-90	1.62	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
0499	0499TW001	Alpha Particles	4.3		Tap Water	WELL	--	--	--	--	15	0.3
0499	0499TW001	Beta Particles and Photon Emitters	33.8		Tap Water	WELL	--	--	--	--	50	0.7
0501	0501TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
0501	0501TW001	Beta Particles and Photon Emitters	11.4		Tap Water	PUBLIC	--	--	--	--	50	0.2
0502	0502TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0502	0502TW001	Beta Particles and Photon Emitters	9.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
0504	0504TW001	Alpha Particles	1.35		Tap Water	PUBLIC	--	--	--	--	15	0.1
0504	0504TW001	Beta Particles and Photon Emitters	11.08		Tap Water	PUBLIC	--	--	--	--	50	0.2
0512	0512TW001	Alpha Particles	2.95	U	Tap Water	PUBLIC	--	--	--	--	15	--
0512	0512TW001	Beta Particles and Photon Emitters	4.96		Tap Water	PUBLIC	--	--	--	--	50	0.1
0516	0516TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
0516	0516TW001	Beta Particles and Photon Emitters	48.9		Tap Water	PUBLIC	--	--	--	--	50	1.0
0517	0517TW001	Alpha Particles	3.8		Tap Water	WELL	--	--	--	--	15	0.3
0517	0517TW001	Beta Particles and Photon Emitters	48.6		Tap Water	WELL	--	--	--	--	50	1.0
0525	0525TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0525	0525TW001	Beta Particles and Photon Emitters	7.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
0529	0529TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
0529	0529TW001	Beta Particles and Photon Emitters	9.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
0539	0539TW001	Alpha Particles	3.24		Tap Water	WELL	--	--	--	--	15	0.2
0539	0539TW001	Beta Particles and Photon Emitters	51.35		Tap Water	WELL	--	--	--	--	50	1.0
0539	0539TW003	Strontium-90	1.42	U	Tap Water	WELL	0.644	--	--	--	8	--
0547	0547TW001	Alpha Particles	3.78		Tap Water	WELL	--	--	--	--	15	0.3
0547	0547TW001	Beta Particles and Photon Emitters	44.86		Tap Water	WELL	--	--	--	--	50	0.9
1591	1591TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1591	1591TW001	Beta Particles and Photon Emitters	9.7		Tap Water	PUBLIC	--	--	--	--	50	0.2
1602	1602TW001	Alpha Particles	3.2		Tap Water	WELL	--	--	--	--	15	0.2
1602	1602TW001	Beta Particles and Photon Emitters	55.7		Tap Water	WELL	--	--	--	--	50	1.1
1602	1602TW003	Strontium-90	1.55	U	Tap Water	WELL	--	--	--	--	--	--
1606	1606TW001	Alpha Particles	6.8		Tap Water	WELL	--	--	--	--	15	0.5
1606	1606TW001	Beta Particles and Photon Emitters	54.9		Tap Water	WELL	--	--	--	--	50	1.1
1606	1606TW003	Strontium-90	1.52	U	Tap Water	WELL	--	--	--	--	--	--
1607	1607TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1607	1607TW001	Beta Particles and Photon Emitters	10.8		Tap Water	PUBLIC	--	--	--	--	50	0.2
1608	1608TW001	Alpha Particles	5.68		Tap Water	WELL	--	--	--	--	15	0.4
1608	1608TW001	Beta Particles and Photon Emitters	57.3		Tap Water	WELL	--	--	--	--	50	1.1
1613	1613TW001	Alpha Particles	2.7	U	Tap Water	WELL	--	--	--	--	15	--
1613	1613TW001	Beta Particles and Photon Emitters	62.2		Tap Water	WELL	--	--	--	--	50	1.2
1613	1613TW002	Strontium-90	1.99	U	Tap Water	WELL	0.644	--	--	--	8	--
1614	1614IW001	Strontium-90	1.07	U	Irrigation Well	WELL	0.644	--	--	--	8	--
1614	1614TW001	Alpha Particles	5.68		Tap Water	WELL	--	--	--	--	15	0.4

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1614	1614TW001	Beta Particles and Photon Emitters	55.14		Tap Water	WELL	--	--	--	--	50	1.1
1628	1628TW001	Alpha Particles	0.8	U	Tap Water	PUBLIC	--	--	--	--	15	--
1628	1628TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	--	50	0.1
1634	1634TW001	Alpha Particles	4.9		Tap Water	WELL	--	--	--	--	15	0.3
1634	1634TW001	Beta Particles and Photon Emitters	63		Tap Water	WELL	--	--	--	--	50	1.3
1638	1638TW001	Alpha Particles	7		Tap Water	WELL	--	--	--	--	15	0.5
1638	1638TW001	Beta Particles and Photon Emitters	54.1		Tap Water	WELL	--	--	--	--	50	1.1
1638	1638TW001-D	Alpha Particles	7.3		Tap Water	WELL	--	--	--	--	15	0.5
1638	1638TW001-D	Beta Particles and Photon Emitters	54.1		Tap Water	WELL	--	--	--	--	50	1.1
1638	1638TW002	Strontium-90	1.24	U	Tap Water	WELL	0.644	--	--	--	8	--
1638	1638TW002-D	Strontium-90	1.62	U	Tap Water	WELL	0.644	--	--	--	8	--
1731	1731TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1731	1731TW001	Beta Particles and Photon Emitters	4.3	U	Tap Water	PUBLIC	--	--	--	--	50	--
1735	1735TW001	Alpha Particles	5.4		Tap Water	WELL	--	--	--	--	15	0.4
1735	1735TW001	Beta Particles and Photon Emitters	49.2		Tap Water	WELL	--	--	--	--	50	1.0
1737	1737TW001	Alpha Particles	2.4		Tap Water	PUBLIC	--	--	--	--	15	0.2
1737	1737TW001	Beta Particles and Photon Emitters	16.8		Tap Water	PUBLIC	--	--	--	--	50	0.3
1737	1737TW002	Alpha Particles	2.36	U	Tap Water	PUBLIC	--	--	--	--	15	--
1737	1737TW002	Beta Particles and Photon Emitters	5		Tap Water	PUBLIC	--	--	--	--	50	0.1
1738	1738TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1738	1738TW001	Beta Particles and Photon Emitters	6.5	U	Tap Water	PUBLIC	--	--	--	--	50	--
1742	1742TW001	Alpha Particles	2.73	U	Tap Water	PUBLIC	--	--	--	--	15	--
1742	1742TW001	Beta Particles and Photon Emitters	2.56	U	Tap Water	PUBLIC	--	--	--	--	50	--
1747	1747TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1747	1747TW001	Beta Particles and Photon Emitters	9.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
1798	1798TW001	Alpha Particles	3.2		Tap Water	PUBLIC	--	--	--	--	15	0.2
1798	1798TW001	Beta Particles and Photon Emitters	43.8		Tap Water	PUBLIC	--	--	--	--	50	0.9
1815	1815TW001	Alpha Particles	3.2		Tap Water	PUBLIC	--	--	--	--	15	0.2
1815	1815TW001	Beta Particles and Photon Emitters	11.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
1824	1824TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1824	1824TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
1827	1827TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
1827	1827TW001	Beta Particles and Photon Emitters	10.3		Tap Water	PUBLIC	--	--	--	--	50	0.2
1831	1831TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
1831	1831TW001	Beta Particles and Photon Emitters	9.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
1833	1833TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1833	1833TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1835	1835TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1835	1835TW001	Beta Particles and Photon Emitters	8.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
1837	1837TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1837	1837TW001	Beta Particles and Photon Emitters	5.7		Tap Water	PUBLIC	--	--	--	--	50	0.1
1840	1840TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1840	1840TW001	Beta Particles and Photon Emitters	6.2	U	Tap Water	PUBLIC	--	--	--	--	50	--
1846	1846TW001	Alpha Particles	1.9		Tap Water	PUBLIC	--	--	--	--	15	0.1
1846	1846TW001	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
1847	1847TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1847	1847TW001	Beta Particles and Photon Emitters	7		Tap Water	PUBLIC	--	--	--	--	50	0.1
1848	1848TW001	Alpha Particles	2.2		Tap Water	PUBLIC	--	--	--	--	15	0.1
1848	1848TW001	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
1850	1850TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1850	1850TW001	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
1857	1857TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1857	1857TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1858	1858TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1858	1858TW001	Beta Particles and Photon Emitters	8.6		Tap Water	PUBLIC	--	--	--	--	50	0.2
1859	1859TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1859	1859TW001	Beta Particles and Photon Emitters	7		Tap Water	PUBLIC	--	--	--	--	50	0.1
1865	1865TW001	Alpha Particles	2	U	Tap Water	PUBLIC	--	--	--	--	15	--
1865	1865TW001	Beta Particles and Photon Emitters	6	U	Tap Water	PUBLIC	--	--	--	--	50	--
1874	1874TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1874	1874TW001	Beta Particles and Photon Emitters	24.6		Tap Water	PUBLIC	--	--	--	--	50	0.5
1874	1874TW002	Strontium-90	1.34	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1878	1878TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1878	1878TW001	Beta Particles and Photon Emitters	9.2		Tap Water	PUBLIC	--	--	--	--	50	0.2
1885	1885TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1885	1885TW001	Beta Particles and Photon Emitters	8.4		Tap Water	PUBLIC	--	--	--	--	50	0.2
1897	1897TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1897	1897TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	--	50	0.1
1899	1899TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1899	1899TW001	Beta Particles and Photon Emitters	6.8		Tap Water	PUBLIC	--	--	--	--	50	0.1
1904	1904TW001	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1904	1904TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
2018	2018TW001	Alpha Particles	1.6		Tap Water	PUBLIC	--	--	--	--	15	0.1
2018	2018TW001	Beta Particles and Photon Emitters	7.3		Tap Water	PUBLIC	--	--	--	--	50	0.1

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
2032	2032TW001	Alpha Particles	10.1		Tap Water	WELL	--	--	--	--	15	0.7
2032	2032TW001	Beta Particles and Photon Emitters	46		Tap Water	WELL	--	--	--	--	50	0.9
2032	2032TW001	Strontium-90	1.59	U	Tap Water	WELL	--	--	--	--	--	--
2074	2074TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
2074	2074TW001	Beta Particles and Photon Emitters	5.9		Tap Water	PUBLIC	--	--	--	--	50	0.1
2075	2075TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
2075	2075TW001	Beta Particles and Photon Emitters	5.9		Tap Water	PUBLIC	--	--	--	--	50	0.1
1614-PBL	1614TW003	Alpha Particles	1.1	U	Tap Water	PUBLIC	--	--	--	--	15	--
1614-PBL	1614TW003	Beta Particles and Photon Emitters	8.1		Tap Water	PUBLIC	--	--	--	--	50	0.2
1737-WM	1737WM001	Alpha Particles	2.41	U	Tap Water	PUBLIC	--	--	--	--	15	--
1737-WM	1737WM001	Beta Particles and Photon Emitters	7.2		Tap Water	PUBLIC	--	--	--	--	50	0.1
VILLA	VILLATW001	Alpha Particles	4.1		Tap Water	WELL	--	--	--	--	15	0.3
VILLA	VILLATW001	Beta Particles and Photon Emitters	52.4		Tap Water	WELL	--	--	--	--	50	1.0

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
STUDY AREA 09												
0200	0200TW001	Alpha Particles	1.99	U	Tap Water	PUBLIC	--	--	--	--	15	--
0200	0200TW001	Beta Particles and Photon Emitters	2.01	U	Tap Water	PUBLIC	--	--	--	--	50	--
0549	0549TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0549	0549TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
0551	0551TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
0551	0551TW001	Beta Particles and Photon Emitters	5.7	U	Tap Water	PUBLIC	--	--	--	--	50	--
0552	0552TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
0552	0552TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
1589	1589PW001	Alpha Particles	3.2		Private Well	PUBLIC	--	--	--	--	15	0.2
1589	1589PW001	Beta Particles and Photon Emitters	54.6		Private Well	PUBLIC	--	--	--	--	50	1.1
1589	1589PW002	Strontium-90	1.35	U	Private Well	PUBLIC	0.644	--	--	--	8	--
1589	1589TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1589	1589TW001	Beta Particles and Photon Emitters	4.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
2002	2002TW001	Alpha Particles	2.99	U	Tap Water	PUBLIC	--	--	--	--	15	--
2002	2002TW001	Beta Particles and Photon Emitters	2.43	U	Tap Water	PUBLIC	--	--	--	--	50	--
2003	2003TW001	Alpha Particles	8.4		Tap Water	PUBLIC	--	--	--	--	15	0.6
2003	2003TW001	Beta Particles and Photon Emitters	14.3		Tap Water	PUBLIC	--	--	--	--	50	0.3
2003	2003TW002	Alpha Particles	1.39	U	Tap Water	PUBLIC	--	--	--	--	15	--
2003	2003TW002	Beta Particles and Photon Emitters	2.75		Tap Water	PUBLIC	--	--	--	--	50	0.1
2003	2003TW002	Strontium-90	1.5	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
2040	2040TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
2040	2040TW001	Beta Particles and Photon Emitters	5.4	U	Tap Water	PUBLIC	--	--	--	--	50	--
2078	2078TW001	Alpha Particles	1.9	U	Tap Water	PUBLIC	--	--	--	--	15	--
2078	2078TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--
2102	2102TW001	Alpha Particles	2.91	U	Tap Water	PUBLIC	--	--	--	--	15	--
2102	2102TW001	Beta Particles and Photon Emitters	6.74		Tap Water	PUBLIC	--	--	--	--	50	0.1
2102	2102TW001-D	Alpha Particles	2.98	U	Tap Water	PUBLIC	--	--	--	--	15	--
2102	2102TW001-D	Beta Particles and Photon Emitters	8.36		Tap Water	PUBLIC	--	--	--	--	50	0.2
OUTSIDE AREA												
1194	1194TW001	Alpha Particles	3.8		Tap Water	PUBLIC	--	--	--	--	15	0.3
1194	1194TW001	Beta Particles and Photon Emitters	21.6		Tap Water	PUBLIC	--	--	--	--	50	0.4
1194	1194TW002	Strontium-90	1.34	U	Tap Water	PUBLIC	0.644	--	--	--	8	--
1856	1856TW001	Alpha Particles	1.4	U	Tap Water	PUBLIC	--	--	--	--	15	--
1856	1856TW001	Beta Particles and Photon Emitters	5.1	U	Tap Water	PUBLIC	--	--	--	--	50	--
1884	1884TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1884	1884TW001	Beta Particles and Photon Emitters	5.9	U	Tap Water	PUBLIC	--	--	--	--	50	--

Table G-3: Radionuclide Results for Tap Water and Irrigation Water Samples

Location	Sample Number	Chemical	Result (Pci/L)	Qualifier	Media	Private Well or Public Water Source?	30-Year Residential Tap Water Cancer-Based RSL (Pci/L)	30-Year Residential Tap Water Noncancer-Based RSL (Pci/L)	CEF	NCEF	USMCL (Pci/L)	USMCLEF
1906	1906TW001	Alpha Particles	1.6	U	Tap Water	PUBLIC	--	--	--	--	15	--
1906	1906TW001	Beta Particles and Photon Emitters	50		Tap Water	PUBLIC	--	--	--	--	50	1.0
2105	2105TW001	Alpha Particles	1.55	U	Tap Water	PUBLIC	--	--	--	--	15	--
2105	2105TW001	Beta Particles and Photon Emitters	2.45	U	Tap Water	PUBLIC	--	--	--	--	50	--

Notes:

-- = Chemical was not detected at this location.

Qualifiers:

Blank or no qualifier. The analyte was detected and the concentration is presented in the result column.

U = The analyte was not detected. The reporting limit is presented as the result.

J = The result is an estimated concentration.

Shaded and bold values are instances where the water concentration exceeds the USMCL

ATTACHMENT G-1

**EVOLUTION AND SUMMARY OF RADIOLOGICAL SCREENING
LEVELS USED FOR TAP WATER IN THE NAPLES ENVIRONMENTAL
TESTING SUPPORT ASSESSMENT**

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to allow for double-sided printing.**



Evolution and Summary of Radiological Screening Levels Used for Tap Water in the Naples Environmental Testing Support Assessment

BACKGROUND

The Navy/Marine Corps Public Health Center (NMCPHC) is conducting an Environmental Testing Support Assessment (ETSA) in the Campania region of Naples, Italy. This assessment was designed and intended to be a screening-level risk evaluation, which was part of a broader Public Health Evaluation (PHE). The objective was to evaluate potential health risks to United States (U.S.) Department of Defense (DoD) and civilian personnel living in this region. The ETSA was initiated in response to concerns about improper hazardous and municipal waste disposal practices that have been occurring in this region. These waste disposal practices have the potential to release contaminants to the environment, thus affecting the health of nearby residents and workers.

Most drinking water sources have very low levels of radioactive contaminants ("radionuclides"), most of which are naturally occurring, although contamination of drinking water sources from man-made nuclear materials can also occur. Most radioactive contaminants observed in drinking water are at levels that are low enough to not be considered a public health concern.

To protect public health, the U.S. Environmental Protection Agency (EPA) has established standards for public drinking water supplies for several types of radioactive contaminants, which include combined radium-226/228 (5 picocuries per liter [pCi/L]); beta/photon emitters (4 millirems per year [mrem/yr]); gross alpha activity, excluding radium-226 and uranium (15 pCi/L); and uranium (30 micrograms per liter [$\mu\text{g/L}$]). These standards, or Maximum Contaminant Levels (MCLs), were adopted for the ETSA.

The ETSA is being completed in stages. The ETSA began with a pilot study, was followed by a Phase I study, and was subsequently followed by a Phase II study (started prior to the completion of the Phase I study). During the Pilot and Phase I studies, tap water samples were only evaluated for gross alpha and gross beta levels. During the Phase II study, the analytical parameters were expanded to include radiological speciation (i.e., measurement of key anions contributing to the overall radioactivity) if results were found to exceed the established screening values.

GROSS ALPHA EVALUATION FOR ETSA PILOT STUDY AND PHASE I

The gross-alpha MCL is 15 pCi/L, excluding uranium, which has a specific MCL. Under certain circumstances, a 15 pCi/L concentration may be used for screening purposes, and that concentration was selected for the ETSA sampling. For evaluation of Safe Drinking Water Act compliance in the U.S., it is customary to evaluate gross alpha activity using the results of four quarterly samples collected from a public drinking water system and compare the MCL to the results of the sample analyses to determine the next course of action. However, as the ETSA is a screening-level assessment, only one sample was collected at each property or location. Each tap water sample was submitted to a laboratory for gross alpha analysis using methods consistent with those used in the U.S. for drinking water evaluations.



GROSS ALPHA AND RADIOLOGICAL SPECIATION EVALUATION FOR ETSA PHASE II

The ETSA gross-alpha screening criterion is 15 pCi/L. If that criterion is not exceeded, then no additional evaluation is conducted at that property. If this criterion is exceeded, then the uranium, radium-226, and radium-228 concentrations are measured and compared to their MCLs. If any of those analyte-specific measurements exceed the applicable MCL, a human health risk assessment is conducted in accordance with the ETSA Phase II plan (see Attachment 1).

GROSS BETA EVALUATION FOR ETSA PILOT STUDY AND PHASE I

The MCL for total beta/photon emitters is 4 mrem/yr effective dose equivalent (EDE). This MCL is a dose value rather than a concentration value. A dose value could not be measured directly, so in practice it was necessary for all of the beta activity in a sample to be quantified and the dose calculated using an EPA approved method. To simplify the process, EPA allows use of a screening value of 50 pCi/L (total beta activity minus potassium-40 [K-40] beta contribution). Attachment 2 is an EPA quick reference guide to the evaluation of radionuclides in drinking water. The guide shows the use of this screening value as a means to determine whether sampling frequency should be increased or decreased for a U.S. public water system.

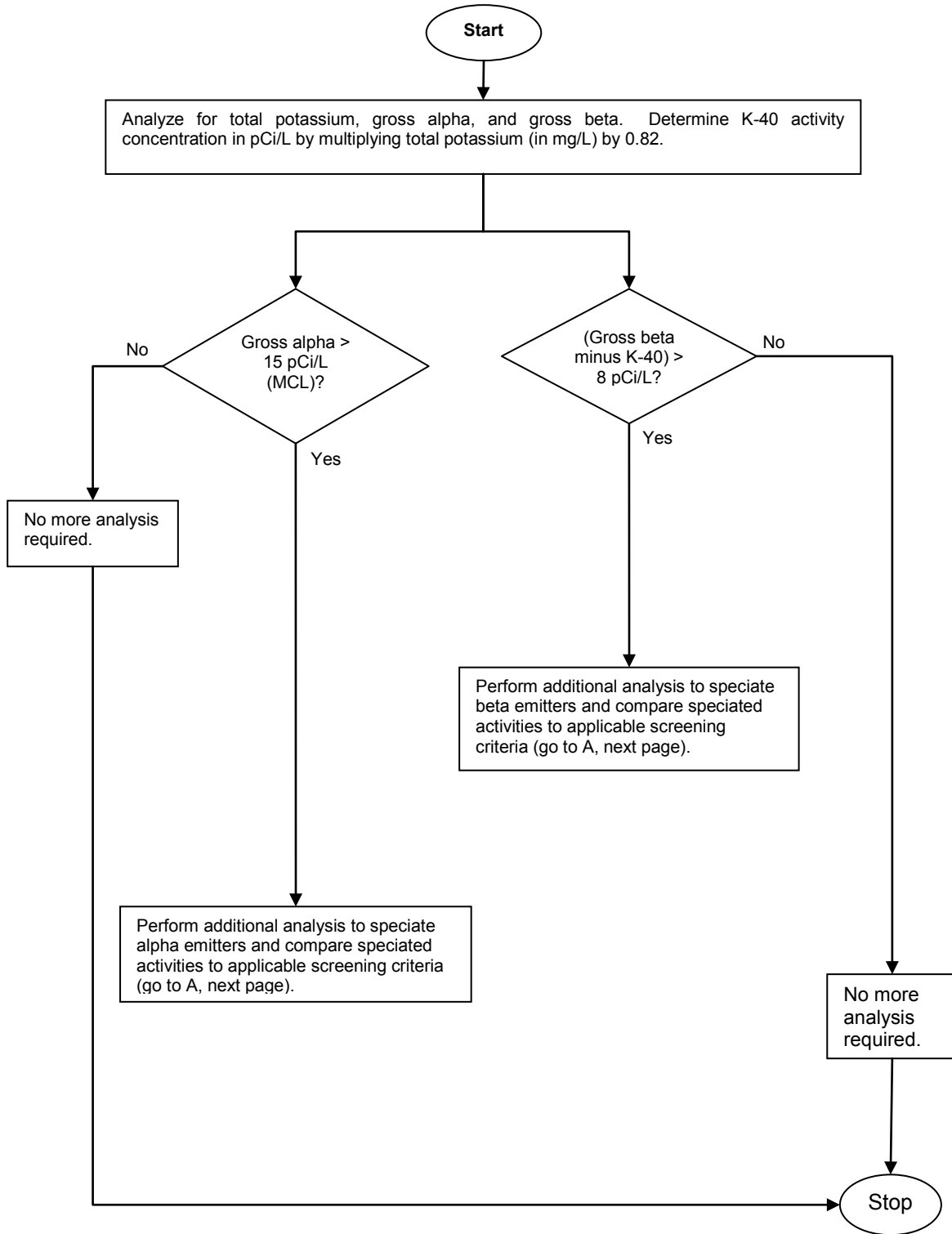
GROSS BETA AND RADIOLOGICAL SPECIATION EVALUATION FOR ETSA PHASE II

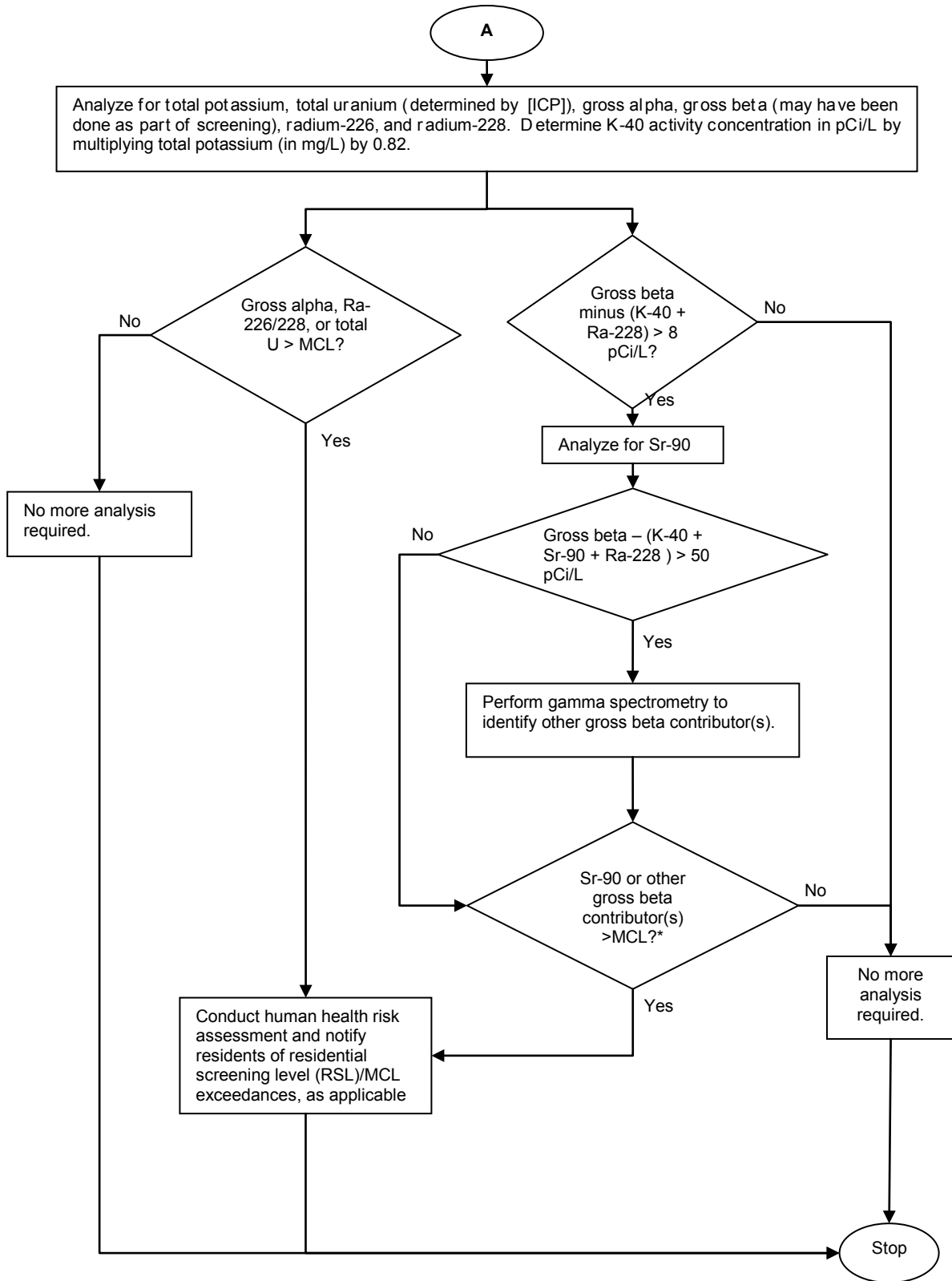
For the ETSA Phase II sampling, a screening value of 8 pCi/L (obtained after subtracting the beta contribution from K-40) was selected. K-40 is subtracted from the gross-beta before comparing against the screening criterion because it is a naturally occurring component of potassium, and is present in all water supplies and in most foods. Because it does not accumulate in the body, the body maintains K-40 in a state of equilibrium. The 8 pCi/L concentration is equivalent to the concentration of strontium-90 (Sr-90) that would result in a dose of 4 mrem/yr EDE, using the EPA approved methods and default parameters. Sr-90 was selected for determining the screening value because it is a radionuclide that could be present in drinking water supplies and yields the 4 mrem/yr dose limit at low concentration. Therefore, its use affords a conservative measure of protection for people exposed to the water.

If the gross beta measurement for a tap water sample collected at a property is less than or equal to 8 pCi/L after the contribution from K-40 is subtracted, no more investigation is conducted. If the 8 pCi/L is exceeded, the beta-activity contributions from radium-228, Sr-90, and other radionuclides are determined as necessary, and evaluated in accordance with the flowchart in Attachment 1. The investigation stops when one of the applicable criteria is satisfied. If the investigation has not stopped previously, the final test is whether the combined concentrations of beta-emitting radionuclides would result in a dose exceeding the 4 mrem/yr EDE MCL. If the calculated EDE is below the MCL, then the investigation stops, otherwise a human health risk assessment is conducted in accordance with the ETSA Phase II plan (see Attachment 1).



Attachment 1 – ETSA Tapwater Radionuclide Screening Process





*For comparison to 4 mrem/yr MCL, compute sum of fractions as described in U.S. Safe Drinking Water



Attachment 2 – U.S. EPA Radionuclides Rule: A Quick Reference Guide

United States
Environmental Protection
Agency

Office of Water
(4606)

EPA 816-F-01-003
June 2001



Radionuclides Rule: A Quick Reference Guide

Overview of the Rule

Title	Radionuclides Rule 66 FR 76708 December 7, 2000 Vol. 65, No. 236
Purpose	Reducing the exposure to radionuclides in drinking water will reduce the risk of cancer. This rule will also improve public health protection by reducing exposure to all radionuclides.
General Description	The rule retains the existing MCLs for combined radium-226 and radium-228, gross alpha particle radioactivity, and beta particle and photon activity. The rule regulates uranium for the first time.
Utilities Covered	Community water systems, all size categories.

Public Health Benefits

Implementation of the Radionuclides Rule will result in . . .	Reduced uranium exposure for 620,000 persons, protection from toxic kidney effects of uranium, and a reduced risk of cancer.
Estimated Impacts of the Radionuclides Rule include . . .	Annual compliance costs of \$81 million. Only 795 systems will have to install treatment.

Regulated Contaminants

Regulated Radionuclide	MCL	MCLG
Beta/photon emitters*	4 mrem/yr	0
Gross alpha particle	15 pCi/L	0
Combined radium-226/228	5 pCi/L	0
Uranium	30 µg/L	0

*A total of 168 individual beta particle and photon emitters may be used to calculate compliance with the MCL.

Critical Deadlines & Requirements

For Drinking Water Systems

June 2000 - December 8, 2003	When allowed by the State, data collected between these dates may be eligible for use as grandfathered data (excluding beta particle and photon emitters).
December 8, 2003	Systems begin initial monitoring under State-specified monitoring plan unless the State permits use of grandfathered data.
December 31, 2007	All systems must complete initial monitoring.

For States

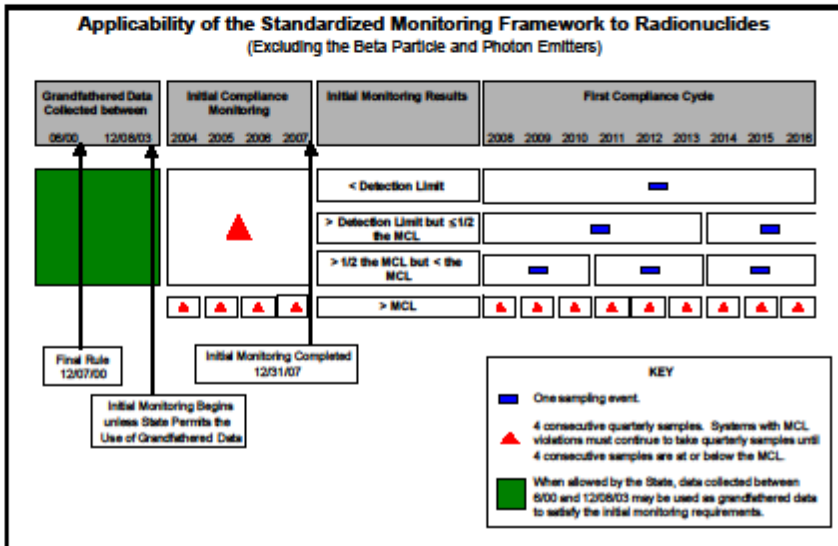
December 2000 - December 2003	States work with systems to establish monitoring schedules.
December 8, 2000	States should begin to update vulnerability assessments for beta photon and particle emitters and notify systems of monitoring requirements.
Spring 2001	EPA meets and works with States to explain new rules and requirements and to initiate adoption and implementation activities.
December 8, 2002	State submits primacy revision application to EPA. (EPA approves within 90 days.)



For additional information on the Radionuclides Rule

Call the Safe Drinking Water Hotline at 1-800-426-4791; visit the EPA Web site at www.epa.gov/safewater; or contact your State drinking water representative. EPA will provide radionuclide training over the next year.

Monitoring Requirements	
Gross Alpha, Combined Radium-226/228, and Uranium (1)	Beta Particle and Photon Radioactivity (1)
Initial Monitoring	
Four consecutive quarters of monitoring.	No monitoring required for most CWSs. Vulnerable CWSs (2) must sample for: <ul style="list-style-type: none"> Gross beta: quarterly samples. Tritium and Strontium-90: annual samples.
Reduced Monitoring	
If the average of the initial monitoring results for each contaminant is below the detection limit: One sample every 9 years.	If the running annual average of the gross beta particle activity minus the naturally occurring potassium-40 activity is less than or equal to 50 pCi/L: One sample every 3 years.
If the average of the initial monitoring results for each contaminant is greater than or equal to the detection limit, but less than or equal to one-half the MCL: One sample every 6 years.	
If the average of the initial monitoring results for each contaminant is greater than one-half the MCL, but less than or equal to the MCL: One sample every 3 years.	
Increased Monitoring	
A system with an entry point result above the MCL must return to quarterly sampling until 4 consecutive quarterly samples are below the MCL.	If gross beta particle activity minus the naturally occurring potassium-40 activity exceeds 50 pCi/L, the system must: <ul style="list-style-type: none"> Speciate as required by the State. Sample at the initial monitoring frequency.
(1) All samples must be collected at each entry point to the distribution system. (2) The rule also contains requirements for CWSs using waters contaminated by effluents from nuclear facilities.	
Grandfathering of Data	
When allowed by the State, data collected between June, 2000 and December 8, 2003 may be used to satisfy the initial monitoring requirements if samples have been collected from: <ul style="list-style-type: none"> Each entry point to the distribution system (EPTDS). The distribution system, provided the system has a single EPTDS. The distribution system, provided the State makes a written justification explaining why the sample is representative of all EPTDS. 	



Appendix H

Chemical Fact Sheets

Appendix H is comprised of 83 pages.



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TABLE OF CONTENTS

CHEMICAL FACT SHEET OVERVIEW.....	1
REFERENCES	2

ATTACHMENTS

ATTACHMENT H-1 – CHEMICAL FACT SHEETS

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CHEMICAL FACT SHEET OVERVIEW

This appendix presents chemical fact sheets answering the most frequently asked health questions for the constituents of potential concern identified in the Naples, Italy Public Health Evaluation Phase I & II Screening Risk Evaluation. Fact sheets are presented for the following constituents:

- 1,1,1,2-Tetrachloroethane
- 1,1,2,2-Tetrachloroethane
- 1,2-Dibromo-3-Chloropropane
- 1,2-Dibromoethane
- 1,2-Dichloroethane
- 1,2-Dichloropropane
- 1,3-Butadiene
- 1,4-Dichlorobenzene
- 4-Chloroaniline
- Acetaldehyde
- Acrolein
- Acrylonitrile
- Arsenic
- Benzene
- Bis(2-ethylhexyl)phthalate
- Bromodichloromethane
- Bromoform and Dibromochloromethane
- Carbon Tetrachloride
- Chloroform
- Cobalt
- Copper
- Dieldrin
- Ethylbenzene
- Fecal Coliform and Total Coliforms
- Fluoride
- Formaldehyde
- Hexachlorobutadiene
- Hexane
- Lead
- Methyl tert-Butyl Ether
- Naphthalene
- Nitrate (measured as NO₃-)
- Tetrachloroethene
- Thallium
- Total Carcinogenic PAHS (BaP TEQs)
- Total Dioxins/Furans (2,3,7,8-TCDD TEQs)
- Total Trihalomethanes (Refer to chemical fact sheets for Dibromochloromethane, chloroform, bromoform, and Bromodichloromethane.)
- Trichloroethene
- Uranium
- Vinyl Chloride

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<http://www.atsdr.cdc.gov/toxfaqs/index.asp>
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- United States Environmental Protection Agency (USEPA). Monitoring and Assessing Water Quality: Fecal Bacteria. <http://www.epa.gov/OWOW/monitoring/volunteer/stream/vms511.html>
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<http://www.epa.gov/safewater/disinfection/tcr/index.html>
- United States Environmental Protection Agency. Integrated Risk Information System
<http://www.epa.gov/ncea/iris/subst/0320.htm>
- United States National Library of Medicine. Hazardous Substances Data Bank (HSDB).
<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>

ATTACHMENT H-1

CHEMICAL FACT SHEETS

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This fact sheet was created from information presented in the National Library of Medicine Hazardous Substances Data Bank. This fact sheet answers the most frequently asked health questions (FAQs) about 1,1,1,2-tetrachloroethane. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

Highlights: 1,1,1,2-tetrachloroethane is a chemical that is a byproduct associated with manufacturing other chemicals. Breathing high levels can cause drowsiness, loss of appetite, nausea, and headache. Long term exposure to 1,1,1,2-tetrachloroethane can cause liver, kidney, and/or central nervous system damage.

What is 1,1,1,2-tetrachloroethane?

1,1,1,2-tetrachloroethane is a colorless, dense, volatile liquid. It has been used in the past as a solvent, and also during the manufacturing of pesticides, bleaches, paints, and varnishes. Today, it is produced as a byproduct during the manufacture of 1,1,1-trichloroethane, 1,1,2-trichloroethane, and 1,1,2,2-tetrachloroethane.

What happens to 1,1,1,2-tetrachloroethane when it enters the environment?

- 1,1,1,2-tetrachloroethane volatilizes easily from water and soil and is present as a vapor in the atmosphere.
- It is degraded in the atmosphere by different chemical reactions.
- The potential for 1,1,1,2-tetrachloroethane to build up in aquatic organisms is low.

How might I be exposed to 1,1,1,2-tetrachloroethane?

- The general public is not expected to be exposed to significant amounts of 1,1,1,2-tetrachloroethane. It is not commonly found in drinking water, soil, or food.
- You may be exposed to 1,1,1,2-tetrachloroethane if you live near a hazardous waste site that contains it or near an industrial building where the chemical is used.
- If spills or accidents occur at work, exposure will likely occur through breathing in vapors or through skin contact.

How can 1,1,1,2-tetrachloroethane affect my health?

- Being exposed to low levels of 1,1,1,2-tetrachloroethane in the air can cause irritation in the eyes, skin, and respiratory tract.
- Breathing in high concentrations of 1,1,1,2-tetrachloroethane can cause drowsiness, lack of appetite, nausea, and headache.
- Liver, kidney, and central nervous system damage has been observed in animals orally exposed to low doses for a long time.

How likely is 1,1,1,2-tetrachloroethane to cause cancer?

- It is not known whether 1,1,1,2-tetrachloroethane causes cancer in humans.
- In laboratory experiments, 1,1,1,2-tetrachloroethane caused an increase in liver tumors in female mice but not rats.
- The International Agency for Research on Cancer (IARC) has determined that 1,1,2,2-tetrachloroethane cannot be classified as to its ability to cause cancer in humans, while the United States Environmental Protection Agency (USEPA) has determined that it is a possible human carcinogen.

How can 1,1,1,2-tetrachloroethane affect children?

Exposure of children to large amounts of 1,1,1,2-tetrachloroethane is assumed cause the same effects observed in adults (i.e. drowsiness, loss of appetite, nausea, headache).

How can families reduce the risks of exposure to 1,1,1,2-tetrachloroethane?

Exposure to high amounts of 1,1,1,2-tetrachloroethane is unlikely because the chemical is not used in household products.

Is there a medical test to determine whether I've been exposed to 1,1,1,2-tetrachloroethane?

There are no medical tests to determine whether you have been exposed to 1,1,1,2-tetrachloroethane.

Has the federal government made recommendations to protect human health?

- The USEPA has not established a maximum contaminant level (MCL) for 1,1,1,2-tetrachloroethane.
- The Occupational Safety and Health Administration (OSHA) has not established a permissible exposure limit for 1,1,1,2-tetrachloroethane.

References

National Library of Medicine. Hazardous Substances Data Bank.

<http://toxnet.nlm.nih.gov/cgi-bin/sis/search/r?dbs+hsdb:@term+@rn+630-20-6>

International Agency for Research on Cancer. (1986). 1,1,1,2-tetrachloroethane.

<http://monographs.iarc.fr/ENG/Monographs/vol71/mono71-53.pdf>

Where Can I Get More Information? More information on the adverse effects of 1,1,1,2-tetrachloroethane can be obtained from your community or state health or environmental quality department.

This fact sheet answers the most frequently asked health questions (FAQs) about 1,1,2,2-tetrachloroethane. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: 1,1,2,2-Tetrachloroethane is a manufactured chemical that is no longer used much in the United States. Breathing high levels in a closed room can cause fatigue, vomiting, dizziness, and possibly unconsciousness. Breathing, drinking, or touching large amounts of 1,1,2,2-tetrachloroethane for a long period of time can cause liver damage, stomachaches, or dizziness. 1,1,2,2-Tetrachloroethane has been found in at least 329 of the 1,699 National Priority List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is 1,1,2,2-tetrachloroethane?

1,1,2,2-Tetrachloroethane is a manufactured, colorless, dense liquid that does not burn easily. It is volatile and has a sweet odor.

In the past, it was used in large amounts to produce other chemicals, as an industrial solvent to clean and degrease metals, and as an ingredient in paints and pesticides. Commercial production of 1,1,2,2-tetrachloroethane for these uses has stopped in the United States. It presently is used only as a chemical intermediate in the production of other chemicals.

What happens to 1,1,2,2-tetrachloroethane when it enters the environment?

- Most 1,1,2,2-tetrachloroethane released to the environment eventually moves to the air or ground water.
- It does not attach to soil particles when released to land.
- When released to surface water, much of it will evaporate to the air while the rest may break down in the water.
- Breakdown of the chemical in the environment is slow; it takes about 1 year for half of the chemical to disappear from groundwater and 2 months in air.
- 1,1,2,2-Tetrachloroethane does not build up significantly in the bodies of fish or other organisms.

How might I be exposed to 1,1,2,2-tetrachloroethane?

- The general public is not expected to be exposed to significant amounts of 1,1,2,2-tetrachloroethane. It is not commonly found in drinking water, soil, or food.
- Higher concentrations have been found occasionally in private well water that may have been used for drinking.
- You may be exposed to 1,1,2,2-tetrachloroethane if you live near a hazardous waste site that contains it or near an industrial building where the chemical is used.
- Since production of the chemical has stopped, most workers would not be exposed to it.
- If spills or accidents occur at work, exposure will likely be by breathing in vapors or through skin contact.

How can 1,1,2,2-tetrachloroethane affect my health?

Most of the 1,1,2,2-tetrachloroethane that you may ingest or inhale will enter the bloodstream.

Breathing very high concentrations of 1,1,2,2-tetrachloroethane can rapidly cause drowsiness, dizziness, nausea, and vomiting. Most people recover from these effects once they are in fresh air. Breathing high levels of 1,1,2,2-tetrachloroethane for a long time can cause liver damage.

ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>

Drinking very large amounts of 1,1,2,2-tetrachloroethane can cause shallow breathing, faint pulse, decreased blood pressure, and possibly unconsciousness.

Liver damage has been observed in animals orally exposed to lower doses for a long time.

How likely is 1,1,2,2-tetrachloroethane to cause cancer?

It is not known whether 1,1,2,2-tetrachloroethane causes cancer in humans. In a long-term study, 1,1,2,2-tetrachloroethane caused an increase in liver tumors in mice, but not in rats.

The International Agency for Research on Cancer (IARC) has determined that 1,1,2,2-tetrachloroethane cannot be classified as to its ability to cause cancer in humans, while the EPA has determined that it is a possible human carcinogen.

How can 1,1,2,2-tetrachloroethane affect children?

Exposure of children to large amounts of 1,1,2,2-tetrachloroethane will probably cause the same effects observed in adults (i.e., fatigue, vomiting, dizziness, liver damage, stomachache). It is not known whether children are more or less susceptible to the effects of 1,1,2,2-tetrachloroethane than adults.

Some effects have been observed in animals born to females exposed to 1,1,2,2-tetrachloroethane during pregnancy. This occurred at exposure levels that were also toxic to the mothers.

How can families reduce the risks of exposure to 1,1,2,2-tetrachloroethane?

Exposure to high amounts of 1,1,2,2-tetrachloroethane is unlikely because the chemical is no longer used in household products.

If you have old household products (i.e., cleaners, degreasers, and paints) at home that contain 1,1,2,2-tetrachloroethane, make sure they are stored out of the reach of children.

Is there a medical test to determine whether I have been exposed to 1,1,2,2-tetrachloroethane?

There are no medical tests to determine whether you have been exposed to 1,1,2,2-tetrachloroethane. Urine and blood tests are available, but are common to several other types of chemicals and would not specifically indicate exposure to 1,1,2,2-tetrachloroethane.

Has the federal government made recommendations to protect human health?

The EPA has determined that exposure to 1,1,2,2-tetrachloroethane in drinking water at a concentration of 0.04 mg/L for up to 10 days is not expected to cause any adverse effects in a child.

The EPA has determined that lifetime exposure to 0.0003 mg/L 1,1,2,2-tetrachloroethane in drinking water is not expected to cause any adverse effects.

The Occupational Safety and Health Administration (OSHA) has set a limit of 5 parts per million (ppm) of 1,1,2,2-tetrachloroethane in air to protect workers during an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2008. Toxicological Profile for 1,1,2,2-Tetrachloroethane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about 1,2-dibromo-3-chloropropane. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to 1,2-dibromo-3-chloropropane occurs mainly from drinking water or eating food that contains the chemical. At high levels, this chemical may cause damage to the male reproductive system. This chemical has been found in at least 10 of 1,314 National Priorities List sites identified by the Environmental Protection Agency.

What is 1,2-dibromo-3-chloropropane?

(Pronounced 1,2-dī'brō'mō-3-klôr ō prō'pān')

1,2-Dibromo-3-chloropropane is a manufactured chemical and is not found naturally in the environment. It is a colorless liquid with a sharp smell. It can be tasted in water at very low concentrations.

Some industries use it to make another chemical that is used to make materials that resist burning.

Large amounts of 1,2-dibromo-3-chloropropane were used in the past on certain farms to kill pests that harmed crops. Farmers in all states other than Hawaii stopped using this chemical in 1979. Hawaii stopped using it in 1985.

We do not know exactly how much of it is currently made or used by industry, but it is probably a small amount.

What happens to 1,2-dibromo-3-chloropropane when it enters the environment?

- Most of it that enters surface water evaporates into the air within several days or a week.
- It takes several months for it to break down in air.
- It doesn't stick to soil at the bottom of rivers, lakes, or ponds.

- In soil, some evaporates into the air, while small amounts may stay in the soil for several years.

How might I be exposed to 1,2-dibromo-3-chloropropane?

- Drinking water or eating food that contains the chemical.
- Breathing air or touching soil at or near agricultural areas where 1,2-dibromo-3-chloropropane was used in the past.
- Breathing air at hazardous waste sites where improper disposal methods were used.
- Working in an industry that uses 1,2-dibromo-3-chloropropane.

How can 1,2-dibromo-3-chloropropane affect my health?

The main effect from breathing high levels of 1,2-dibromo-3-chloropropane is damage to the male's ability to reproduce.

Studies on workers have shown that men may produce fewer sperm, produce sperm that results in more girl than boy babies, and eventually become unable to father children. It can also cause headaches, nausea, lightheadedness, and weakness in workers.

Animals breathing high levels of the chemical were not

ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>

able to reproduce and had damaged stomachs, livers, kidneys, brains, spleens, blood, and lungs. Breathing low to moderate levels also caused damage to the reproductive system.

The ability of people to reproduce was not affected by drinking water contaminated with low levels of 1,2-dibromo-3-chloropropane and there was no increase in the number of birth defects. Rats exposed to high levels did, however, have an increase in birth defects. It can also cause skin and eye damage from direct contact.

How likely is 1,2-dibromo-3-chloropropane to cause cancer?

The Department of Health and Human Services has determined that 1,2-dibromo-3-chloropropane may reasonably be anticipated to be a carcinogen.

Animal studies found cancer of the nose in animals exposed by breathing the chemical, cancer of the stomach and kidney in animals that ingested the chemical, and cancer of the stomach and skin in animals who had skin contact with the chemical.

We do not know if these same cancers would occur in people.

Is there a medical test to show whether I've been exposed to 1,2-dibromo-3-chloropropane?

Tests are available that measure the amount of 1,2-dibromo-3-chloropropane in exhaled air, blood, and samples of tissues from the body. These tests may require special equipment and they may not be available in your doctor's office.

Because exposure to this chemical lowers the number of sperm, we can count the number of sperm and blood levels of certain hormones in exposed men to determine whether harmful effects have occurred. However, these changes cannot tell the level or length of exposure to the chemical.

Has the federal government made recommendations to protect human health?

The Environmental Protection Agency (EPA) has set a limit of 0.2 parts of 1,2-dibromo-3-chloropropane per billion parts of drinking water (0.2 ppb). EPA requires that discharges or spills into the environment of 1 pound or more of 1,2-dibromo-3-chloropropane be reported. EPA banned the use of 1,2-dibromo-3-chloropropane as a pesticide in the United States in the early 1980s.

The Occupational Safety and Health Administration (OSHA) has set an occupational exposure limit of 1 part of 1,2-dibromo-3-chloropropane in one billion parts of air (1 ppb) for an 8-hour workday over a 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) currently recommends that workers breathe as little 1,2-dibromo-3-chloropropane as possible.

Glossary

Carcinogen: A substance that can cause cancer.

Ingesting: Taking food or drink into your body.

ppb: Parts per billion.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1992. Toxicological profile for 1,2-dibromo-3-chloropropane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about 1,2-dibromoethane. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to 1,2-dibromoethane can result from drinking groundwater or breathing air that is contaminated. This is most likely to occur in the workplace or from living near a hazardous waste site. 1,2-Dibromoethane can affect the brain, damage skin, damage sperm in males, and even cause death if exposure is very high. This chemical has been found in at least 27 of 1,416 National Priorities List sites identified by the Environmental Protection Agency.

What is 1,2-dibromoethane?

(Pronounced 1,2-dī'brō'mō ēth'ān')

1,2-Dibromoethane is a manufactured chemical. It also occurs naturally in small amounts in the ocean where it is formed, probably by algae and kelp. It is a colorless liquid with a mild, sweet odor. Other names for 1,2-dibromoethane are ethylene dibromide, EDB, and glycol bromide. Trade names include Bromofume and Dowfume.

1,2-Dibromoethane has been used as a pesticide in soil, and on citrus, vegetable, and grain crops. Most of these uses have been stopped by the Environmental Protection Agency (EPA) since 1984. Another major use was as an additive in leaded gasoline; however, since leaded gasoline is now banned, it is no longer used for this purpose. Uses today include treatment of logs for termites and beetles, control of moths in beehives, and as a preparation for dyes and waxes.

What happens to 1,2-dibromoethane when it enters the environment?

- It moves into the environment from manufacturing use and leaks at waste sites.
- When released, it quickly moves to air and will evaporate from surface water and soil to the air.
- It dissolves in water and will move through soil into the groundwater.

- Small amounts remain attached to soil particles.
- It breaks down slowly in air (over 4–5 months), more quickly in surface water (2 months), and hardly at all in groundwater.
- It is not expected to build up in plants or animals.

How might I be exposed to 1,2-dibromoethane?

- Drinking contaminated water, especially well water near farms or waste sites.
- Breathing contaminated workplace air.
- Touching it while bathing or swimming in contaminated water.
- Playing in contaminated soils at waste sites.

How can 1,2-dibromoethane affect my health?

Your exposure to 1,2-dibromoethane is generally much, much lower than levels that can harm you. We don't know the effects on people of breathing high levels, but animal studies with short-term exposures to high levels caused depression and collapse, indicating effects on the brain.

Redness and inflammation, including skin blisters and mouth and stomach ulcers, can occur if large amounts are

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swallowed. One accidental swallowing caused death in a woman. It is highly unlikely that there would be a risk of death to people from low-level exposure.

Although very little is known about the effects from breathing 1,2-dibromoethane over a long period of time, some male workers had reproductive effects including damage to their sperm. No other long-term effects are known in people.

In rats, death occurred from breathing high levels for a short time. Lower levels caused liver and kidney damage. When rats breathed air or ate food containing 1,2-dibromoethane for short or long periods of time, they were less fertile or had abnormal sperm.

Changes in the brain and behavior were also seen in young rats whose male parents had breathed 1,2-dibromoethane, and birth defects were observed in the young of animals that were exposed while pregnant. 1,2-Dibromoethane is not known to cause birth defects in people.

How likely is 1,2-dibromoethane to cause cancer?

The Department of Health and Human Services has determined that 1,2-dibromoethane may reasonably be anticipated to be a carcinogen.

There are no reports of cancer in workers or other people exposed to 1,2-dibromoethane for several years. However, rats and mice that breathed, swallowed, or touched it for long periods had cancer in many organs.

Is there a medical test to show whether I've been exposed to 1,2-dibromoethane?

There is no reliable medical test to determine whether you have been exposed to 1,2-dibromoethane. Experimental methods exist to measure 1,2-dibromoethane or the bromide

ion, a breakdown product of 1,2-dibromoethane, in blood. These tests cannot be done at your doctor's office, but your doctor may be able to send samples to a special laboratory.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 0.05 parts of 1,2-dibromoethane per billion parts of drinking water (0.05 ppb). EPA requires that spills into the environment of 1,000 pounds or more of 1,2-dibromoethane be reported.

The Occupational Health and Safety Administration (OSHA) has limited workers' exposure to an average of 20 parts of 1,2-dibromoethane per million parts of air (ppm) for an 8-hour workday over a 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) has limited workers' exposure to 1,2-dibromoethane in air to an average of 0.045 ppm for up to a 10-hour workday over a 40-hour workweek.

Glossary

Carcinogen: A substance that can cause cancer.

Long-term: Lasting one year or longer.

ppb: Parts per billion.

ppm: Parts per million.

Short-term: Lasting 14 days or less.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1992. Toxicological profile for 1,2-dibromoethane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

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This fact sheet answers the most frequently asked health questions (FAQs) about 1,2-Dichloroethane. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to 1,2-dichloroethane usually occurs by breathing contaminated air in workplaces that use 1,2-dichloroethane. Breathing or ingesting high levels of 1,2-dichloroethane can cause damage to the nervous system, liver, kidneys, and lungs and may cause cancer. This substance has been found in at least 570 of the 1,585 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is 1,2-dichloroethane?

1,2-Dichloroethane, also called ethylene dichloride, is a manufactured chemical that is not found naturally in the environment. It is a clear liquid and has a pleasant smell and sweet taste.

The most common use of 1,2-dichloroethane is in the production of vinyl chloride which is used to make a variety of plastic and vinyl products including polyvinyl chloride (PVC) pipes, furniture and automobile upholstery, wall coverings, housewares, and automobile parts. It is also used to as a solvent and is added to leaded gasoline to remove lead.

What happens to 1,2-dichloroethane when it enters the environment?

- Most of the 1,2-dichloroethane released to the environment is released to the air. In the air, 1,2-dichloroethane breaks down by reacting with other compounds formed by sunlight. It can stay in the air for more than 5 months before it is broken down.
- 1,2-Dichloroethane can also be released into rivers and lakes. It breaks down very slowly in water and most of it will evaporate to the air.

- 1,2-Dichloroethane released in soil will either evaporate into the air or travel down through the soil and enter underground water.

How might I be exposed to 1,2-dichloroethane?

- The general population may be exposed to 1,2-dichloroethane by breathing air or drinking water that contains 1,2-dichloroethane.
- People who work or live near a factory where 1,2-dichloroethane is used, may be exposed to higher than usual levels.
- People living near uncontrolled hazardous waste sites may also be exposed to higher than usual levels of 1,2-dichloroethane.

How can 1,2-dichloroethane affect my health?

Nervous system disorders, liver and kidney diseases, and lung effects have been reported in humans ingesting or inhaling large amounts of 1,2-dichloroethane.

In laboratory animals, breathing or ingesting large amounts of 1,2-dichloroethane have also caused nervous system disorders and liver, kidney, and lung effects. Animal studies also suggest that 1,2-dichloroethane may damage the

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immune system. Kidney disease has also been seen in animals ingesting low doses of 1,2-dichloroethane for a long time. Studies in animals indicate that 1,2-dichloroethane does not affect reproduction.

How likely is 1,2-dichloroethane to cause cancer?

Human studies examining whether 1,2-dichloroethane can cause cancer have been considered inadequate. In animals, increases in the occurrence of stomach, mammary gland, liver, lung, and endometrium cancers have been seen following inhalation, oral, and dermal exposure.

The Department of Health and Human Services (DHHS) has determined that 1,2-dichloroethane may reasonably be expected to cause cancer. The EPA has determined that 1,2-dichloroethane is a probable human carcinogen and the International Agency for Cancer Research (IARC) considers it to be a possible human carcinogen.

How can 1,2-dichloroethane affect children?

We do not know if exposure to 1,2-dichloroethane will result in birth defects or other developmental effects in people. Studies in animals suggest that 1,2-dichloroethane does not produce birth defects.

It is likely that health effects seen in children exposed to high levels of 1,2-dichloroethane will be similar to the effects seen in adults.

How can families reduce the risk of exposure to 1,2-dichloroethane?

The general population is not likely to be exposed to large amounts of 1,2-dichloroethane. In the past, it was used in small amounts in household products such as cleaning agents, pesticides, and wallpaper and carpet glue. Risk of

exposure from this source could be eliminated if these older products were immediately discarded.

Children should avoid playing in soils near uncontrolled hazardous waste sites where 1,2-dichloroethane may have been discarded.

Is there a medical test to show whether I've been exposed to 1,2-dichloroethane?

Tests are available to measure 1,2-dichloroethane in breath, blood, breast milk, and urine of exposed people. Because 1,2-dichloroethane leaves the body fairly quickly, these tests need to be done within a couple of days of exposure. These tests cannot be used to predict the nature or severity of toxic effects. These tests are not usually done in the doctor's office.

Has the federal government made recommendations to protect human health?

The EPA allows 0.005 milligrams of 1,2-dichloroethane per liter of drinking water (0.005 mg/L).

The Occupational Safety and Health Administration has set a limit of 50 parts of 1,2-dichloroethane per million parts of air (50 ppm) in workplace air for 8 hour shifts and 40 hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2001. Toxicological Profile for 1,2-Dichloroethane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about 1,2-dichloropropane. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: 1,2-Dichloropropane is primarily used to make other chlorinated chemicals. Exposure to high levels of 1,2-dichloropropane can damage the liver, kidneys, blood, and lungs, and affect the brain. It has been found at 26 of the 1,177 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is 1,2-dichloropropane?

(Pronounced 1,2-dī-klôr'ō-prō/pān)

1,2-Dichloropropane is a colorless, flammable liquid with a chloroform-like odor. It is moderately soluble in water and readily evaporates into air. It does not occur naturally in the environment.

1,2-Dichloropropane production in the United States has declined over the past 20 years. It was used in the past as a soil fumigant, chemical intermediate, and industrial solvent and was found in paint strippers, varnishes, and furniture finish removers. Most of these uses were discontinued. Today, almost all of the 1,2-dichloropropane is used as a chemical intermediate to make perchloroethylene and several other related chlorinated chemicals.

What happens to 1,2-dichloropropane when it enters the environment?

- 1,2-Dichloropropane released to air can spread to areas far from where it was released because it is not rapidly broken down by reactions with other chemicals and sunlight.
- Most of the 1,2-dichloropropane in water will evaporate to the air.

- When released to soil, it is not easily broken down by bacteria, but will easily evaporate to the air and filter into the groundwater.
- 1,2-Dichloropropane does not build up in the food chain.

How might I be exposed to 1,2-dichloropropane?

- Most people are not likely to be exposed to 1,2-dichloropropane because of its limited use.
- If you work where 1,2-dichloropropane is made or used, you could be exposed by breathing air that contains its vapors or by spilling or splashing it on your skin.
- People who live near a waste site containing 1,2-dichloropropane could be exposed by drinking contaminated groundwater, breathing vapors released to the air, or getting contaminated soil on their skin.

How can 1,2-dichloropropane affect my health?

People who intentionally or accidentally breathe high levels of 1,2-dichloropropane have experienced difficulty breathing, coughing, vomiting, nosebleed, fatigue, and damage to blood cells, liver, and kidneys. People who accidentally drank cleaning solutions containing 1,2-dichloropropane experienced headaches, dizziness, nausea, liver and kidney damage, anemia, coma, and death.

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Animal studies indicate that breathing low levels of 1,2-dichloropropane over short- or long-term periods causes damage to the liver, kidney, and respiratory system. Breathing high levels causes death. Similar effects have been reported when animals were given 1,2-dichloropropane by mouth. Some studies indicate that ingesting 1,2-dichloropropane may cause reproductive effects. One study reported a delay in bone formation of the skull in fetal rats following exposure of the mother rats to 1,2-dichloropropane.

How likely is 1,2-dichloropropane to cause cancer?

It is not known whether 1,2-dichloropropane causes cancer in people. The carcinogenicity of 1,2-dichloropropane has been evaluated in animal studies with rats and mice. Liver tumors have been observed in mice, and mammary gland tumors have been found in rats. The International Agency for Research on Cancer (IARC) has determined that 1,2-dichloropropane is unclassifiable as to human carcinogenicity.

Is there a medical test to show whether I've been exposed to 1,2-dichloropropane?

Urine and blood tests can be used to find out if you have been exposed to 1,2-dichloropropane. Levels measured in the urine can be used to predict the levels in the air. These tests cannot predict whether you will suffer harmful effects. Because special equipment is needed, these tests are not usually done in the doctor's office.

Has the federal government made recommendations to protect human health?

The EPA has set a Maximum Contaminant Level (MCL) of 0.005 parts per million (0.005 ppm) for 1,2-dichloropropane in drinking water. The EPA recommends that the level of 1,2-

dichloropropane in lakes and streams should be limited to 0.52 parts per billion (0.52 ppb) to prevent possible human health effects from drinking contaminated water or eating contaminated fish. Any release to the environment greater than 1,000 pounds of 1,2-dichloropropane must be reported to the EPA.

The Occupational Safety and Health Administration (OSHA) has set a workplace air concentration limit of 75 ppm over an 8-hour workday, 40-hour workweek.

The federal recommendations have been updated as of July 1999.

Glossary

Anemia: A decreased ability of the blood to transport oxygen.

Carcinogenicity: Ability to cause cancer.

CAS: Chemical Abstracts Service.

Evaporate: To change into a vapor or a gas.

Long-term: Lasting one year or longer.

National Priorities List: A list of the nation's worst hazardous waste sites.

ppb: Parts per billion.

ppm: Parts per million.

Short-term: Lasting 14 days or less.

Tumor: An abnormal mass of tissue.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1989. Toxicological profile for 1,2-dichloropropane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about 1,3-butadiene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to 1,3-butadiene occurs mainly from breathing contaminated air. Effects on the nervous system and irritations of the eyes, nose, and throat have been seen in people who breathed contaminated air. This chemical has been found in at least 7 of 1,416 National Priorities List sites identified by the Environmental Protection Agency.

What is 1,3-butadiene?

(Pronounced 1,3-byōō'tə-dī'ēn')

1,3-Butadiene is a chemical made from the processing of petroleum. It is the 36th highest volume chemical produced in the United States. It is a colorless gas with a mild gasoline-like odor.

About 75% of the manufactured 1,3-butadiene is used to make synthetic rubber. Synthetic rubber is widely used for tires on cars and trucks.

1,3-Butadiene is also used to make plastics including acrylics. Small amounts are found in gasoline.

What happens to 1,3-butadiene when it enters the environment?

- It quickly evaporates to the air as a gas from leaks during production, use, storage, transport, or disposal.
- It breaks down quickly in air by sunlight; in sunny weather, half of it breaks down in about 2 hours.
- When not sunny, it takes a few days for about half of it to break down in the air.
- It evaporates very quickly from water and soil.
- Since it evaporates so easily, it is not expected to be found in water or soil, but adequate tests are not available to measure the amounts.

- 1,3-Butadiene may be broken down by microorganisms in the soil.
- It is not expected to accumulate in fish.

How might I be exposed to 1,3-butadiene?

- Breathing urban and suburban air, but these levels are generally very low except in polluted cities or near chemical, plastic, and rubber facilities that use it.
- Breathing contaminated workplace air where it is manufactured or used.
- Breathing contaminated air from car and truck exhaust, waste incineration, or wood fires.
- Breathing cigarette smoke.
- Drinking contaminated water near production or waste sites.
- Ingesting foods contained in plastic or rubber food containers, but levels are generally very low or not present at all.
- Skin contact with gasoline, but levels are low.

How can 1,3-butadiene affect my health?

Most of the information on the health effects of 1,3-butadiene comes from studies where the exposure was from breathing contaminated air.

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Breathing very high levels of 1,3-butadiene for a short time can cause central nervous system damage, blurred vision, nausea, fatigue, headache, decreased blood pressure and pulse rate, and unconsciousness. There are no recorded cases of accidental exposures at high levels that caused death in humans, but this could occur.

Breathing lower levels may cause irritation of the eyes, nose, and throat.

Studies on workers who had longer exposures with lower levels have shown an increase in heart and lung damage, but these workers were also exposed to other chemicals. We don't know for sure which chemical (or chemicals) caused the effects. We also do not know what levels in the air will cause these effects in people when breathed over many years.

Animal studies show that breathing 1,3-butadiene during pregnancy can increase the number of birth defects. Other effects seen in animals that breathed low levels of 1,3-butadiene for one year include kidney and liver disease, and damaged lungs. Some of the animals died.

There is no information on the effects of eating or drinking 1,3-butadiene. Skin contact with liquid 1,3-butadiene can cause irritation and frostbite.

How likely is 1,3-butadiene to cause cancer?

The Department of Health and Human Services has determined that 1,3-butadiene may reasonably be anticipated to be a carcinogen. This is based on animal studies that found increases in a variety of tumor types from exposure to 1,3-butadiene.

Studies on workers are inconclusive because the workers were exposed to other chemicals in addition to 1,3-butadiene.

Is there a medical test to show whether I've been exposed to 1,3-butadiene?

There is currently no reliable medical test to determine whether you have been exposed to 1,3-butadiene. However, scientists are working on methods to measure it in the blood.

Has the federal government made recommendations to protect human health?

The Environmental Protection Agency (EPA) requires that discharges or spills into the environment of 1 pound or more of 1,3-butadiene be reported.

The Occupational Safety and Health Administration (OSHA) has set an occupational exposure limit of 1,000 parts of 1,3-butadiene per million parts of air (1,000 ppm).

The National Institute for Occupational Safety and Health (NIOSH) recommends that 1,3-butadiene be kept to the lowest feasible concentration because of its potential to cause cancer.

Glossary

Carcinogen: A substance that can cause cancer.

Ingesting: Taking food or drink into your body.

ppm: Parts per million.

Tumor: An abnormal mass of tissue.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1992. Toxicological profile for 1,3-butadiene. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

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This fact sheet answers the most frequently asked health questions (FAQs) about dichlorobenzenes. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because these substances may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to dichlorobenzenes mostly occurs from breathing indoor air or workplace air. Exposure to high levels of 1,2- or 1,4-dichlorobenzene may be very irritating to your eyes and nose and cause difficult breathing, and an upset stomach. Extremely high exposures to 1,4-dichlorobenzene can result in dizziness, headaches, and liver problems. 1,2-, 1,3-, and 1,4-Dichlorobenzenes have been identified in at least 281, 175, and 330, respectively, of the 1,662 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are dichlorobenzenes?

There are three dichlorobenzene isomers- 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene. Dichlorobenzenes do not occur naturally. 1,2-Dichlorobenzene is a colorless to pale yellow liquid used to make herbicides. 1,3-Dichlorobenzene is a colorless liquid used to make herbicides, insecticides, medicine, and dyes. 1,4-Dichlorobenzene, the most important of the three chemicals, is a colorless to white solid with a strong, pungent odor. When exposed to air, it slowly changes from a solid to a vapor. Most people can smell 1,4-dichlorobenzene in the air at very low levels.

What happens to dichlorobenzenes when they enter the environment?

- 1,4-Dichlorobenzene enters the environment when it is used in mothballs and in toilet-deodorizer blocks. Very little enters the environment from hazardous waste sites.
- Some 1,2- and 1,3-dichlorobenzenes are released into the environment when used to make herbicides and when people use products that contain these chemicals.
- Dichlorobenzenes do not dissolve easily in water, the small amounts that enter water quickly evaporate into the air.
- Sometimes, dichlorobenzenes bind to soil and sediment. Dichlorobenzenes in soil usually are not easily broken down by

soil organisms. Evidence suggests that plants and fish absorb dichlorobenzenes.

How might I be exposed to dichlorobenzenes?

- You may be exposed to 1,4-dichlorobenzene by breathing vapors from products used in the home or in buildings, such as air fresheners, mothballs, and toilet-deodorizer blocks. 1,2-dichlorobenzene and 1,3-dichlorobenzene are not found frequently in the air of homes and buildings because these chemicals are not used in household products.
- You may be exposed to very low levels of dichlorobenzenes in drinking water. You are not likely to be exposed to dichlorobenzenes in soil.
- You may also be exposed to low levels of dichlorobenzenes in beef, pork, chicken, eggs, baked goods, soft drinks, butter, peanut butter, fruits, vegetables, and fish.

How can dichlorobenzenes affect my health?

Very little is known about the health effects of 1,3-dichlorobenzene, especially in humans, but they are likely to be similar to those of 1,2- and 1,4-dichlorobenzene.

Inhaling the vapor or dusts of 1,2-dichlorobenzene and 1,4-dichlorobenzene at very high concentrations could be very irritating to your eyes and nose and cause burning and tearing

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of the eyes, coughing, difficult breathing, and an upset stomach. Dizziness, headaches, and liver problems have also been observed in people exposed to very high levels of 1,4-dichlorobenzene. There is limited evidence that inhaling 1,4-dichlorobenzene may decrease lung function.

People who have eaten 1,4-dichlorobenzene products regularly for long periods (months to years) developed skin blotches and anemia. 1,4-Dichlorobenzene might cause a burning feeling in your skin if you hold mothballs or toilet-deodorizer blocks against your skin for a long time.

Breathing or eating any of the dichlorobenzenes caused harmful effects in the liver of laboratory animals. Animal studies also found that 1,2- and 1,4-dichlorobenzene caused effects in the kidneys and blood, and that 1,3-dichlorobenzene caused thyroid and pituitary effects.

How likely are dichlorobenzenes to cause cancer?

The Department of Health and Human Services (DHHS) has determined that 1,4-dichlorobenzene may reasonably be anticipated to be a carcinogen. There is no direct evidence that 1,4-dichlorobenzene can cause cancer in humans. However, animals given very high levels in water developed liver tumors. 1,2-Dichlorobenzene was not carcinogenic in laboratory animals and 1,3-dichlorobenzene has not been tested for its potential to cause cancer. Both the International Agency for Research on Cancer (IARC) and the EPA concluded that 1,2- and 1,3-dichlorobenzene are not classifiable as to human carcinogenicity.

How can dichlorobenzenes affect children?

Children who are exposed to dichlorobenzenes are likely to exhibit the same effects as adults, although this is not known for certain. Children can also be exposed to dichlorobenzenes prenatally, because all three isomers have been detected in placenta samples, as well as through breast feeding. There is no reliable evidence suggesting that dichlorobenzenes cause birth defects, although animal data raise concern for effects of 1,4-dichlorobenzene on postnatal development of the nervous system.

How can families reduce the risk of exposure to dichlorobenzenes?

Exposure of children to 1,4-dichlorobenzene can be minimized by discouraging them from playing with, swallowing, or having skin contact with products containing 1,4-dichlorobenzene. These items should be stored out of reach of young children and kept in their original containers to prevent accidental poisonings. Keep your Poison Control Center's number by the phone.

Is there a medical test to show whether I've been exposed to dichlorobenzenes?

Several tests can be used to show if you have been exposed to dichlorobenzenes. The most commonly used tests measure their dichlorophenol breakdown products in urine and blood. The presence of the dichlorophenol breakdown products in the urine indicates a person has been exposed to dichlorobenzenes within the previous day or two. Another test measures the levels of dichlorobenzenes in your blood, but this is used less often. These tests require special equipment that is not routinely available in a doctor's office, but they can be performed in a special laboratory. Neither of these tests can be used to show how high the level of dichlorobenzene exposure was or to predict whether harmful health effects will follow.

Has the federal government made recommendations to protect human health?

EPA regulates the levels of dichlorobenzenes that are allowable in drinking water. The highest level of 1,4-dichlorobenzene allowed in drinking water is 0.075 parts 1,4-dichlorobenzene per 1 million parts of water (0.075 ppm).

The Occupational Safety and Health Administration (OSHA) has set a limit for 1,4-dichlorobenzene of 75 parts 1,4-dichlorobenzene per 1 million parts of air (75 ppm) in the workplace.

Reference

Agency for Toxic Substances and Disease Registry (ATSDR). 2006. Toxicological Profile for Dichlorobenzenes (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet was created from information presented in the National Library of Medicine Hazardous Substances Data Bank. This fact sheet answers the most frequently asked health questions (FAQs) about 4-chloroaniline. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

Highlights: 4-chloroaniline is a chemical that is used to make a number of products, including agricultural chemicals, dyes and pigments, cosmetics, and pharmaceutical products. It is rapidly absorbed by all routes of exposure (inhalation, dermal contact, etc.) and induces methemoglobinemia, a disorder that reduces the ability of the blood to transport oxygen throughout the body. Symptoms of methemoglobinemia include bluish skin, headache, dizziness, weakness, lethargy, loss of coordination, shortness of breath, coma, and death. 4-chloroaniline is believed to cause cancer in animals and is possibly carcinogenic to humans.

What is 4-chloroaniline?

4-chloroaniline is a white or pale yellow solid that has a slightly sweetish odor. It is used as an intermediate in the production of a number of products, including agricultural chemicals, dyes and pigments, cosmetics, and pharmaceutical products.

What happens to 4-chloroaniline when it enters the environment?

- 4-Chloroaniline's production and use in the manufacture of products may result in its release to the environment through waste streams.
- It is also a widespread soil contaminant resulting from the use of phenylurea herbicide which degrades into 4-chloroaniline.
- If released to air, 4-chloroaniline will exist solely as a vapor in the atmosphere.
- If released to soil, 4-chloroaniline is expected to not be able to pass through soil well (low mobility) depending on soil properties.
- Volatilization from moist soil surfaces is expected but is not expected to volatilize from dry soil surfaces.

How might I be exposed to 4-chloroaniline?

- You may be exposed to 4-chloroaniline if you live near a hazardous waste site that contains it or near an industrial building where the chemical is used.
- Monitoring data indicate that the general population may be exposed to 4-chloroaniline via ingestion of food and drinking water.
- 4-Chloroaniline present in chlorhexidine, which is used in disinfection of soft contact lenses;

therefore wearers of soft contact lenses may be exposed to 4-chloroaniline.

- Occupational exposure to 4-chloroaniline may occur through inhalation and dermal contact with this compound at workplaces where 4-chloroaniline is produced or used.

How can 4-chloroaniline affect my health?

- Aniline is a skin and eye irritant and a mild dermal sensitizer.
- It is rapidly absorbed by all routes of exposure (inhalation, dermal contact, etc.) and induces methemoglobinemia, a disorder that reduces the ability of the blood to transport oxygen throughout the body. Symptoms of methemoglobinemia include bluish skin, headache, dizziness, weakness, lethargy, loss of coordination, shortness of breath, coma, and death.
- Data on occupational exposure of humans to 4-chloroaniline are mostly from a few older reports of severe intoxications after accidental exposure during production. Symptoms include increased methemoglobin and sulfhemoglobin levels, bluish skin, the development of anemia, and changes due to anoxia, a condition where bodily tissues are deprived of oxygen to such a degree that permanent damage results.

How likely is 4-chloroaniline to cause cancer?

- There is sufficient evidence in experimental animals for the carcinogenicity of 4-chloroaniline.
- The International Agency for Research on Cancer (IARC) has determined that 4-chloroaniline is possibly carcinogenic to humans while the United States Environmental Protection Agency (USEPA) has not evaluated this substance to determine if it is a possible human carcinogen.

How can 4-chloroaniline affect children?

Exposure of children to large amounts of 4-chloroaniline is assumed to have the same effects as those observed in adults (i.e. methemoglobinemia resulting in bluish skin, headache, dizziness, weakness, lethargy, loss of coordination, shortness of breath, coma, and death).

How can families reduce the risks of exposure to 4-chloroaniline?

Exposure to high amounts of 4-chloroaniline is unlikely because the chemical is not used in household products.

Is there a medical test to determine whether I've been exposed to 4-chloroaniline?

There are medical tests that evaluate urine to determine whether you have been exposed to 4-chloroaniline.

Has the federal government made recommendations to protect human health?

- The USEPA has not established a maximum contaminant level (MCL) for 4-chloroaniline.
- The Occupational Safety and Health Administration (OSHA) has not established a permissible exposure limit for 4-chloroaniline.

References

National Library of Medicine. Hazardous Substances Data Bank. <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>

United States Environmental Protection Agency. Integrated Risk Information System <http://www.epa.gov/ncea/iris/subst/0320.htm>

Where Can I Get More Information? More information on the adverse effects 4-chloroaniline can be obtained from your community or state health or environmental quality department.

This fact sheet was created from information presented in the United States Environmental Protection Agency (USEPA) Health Assessment Document for Acetaldehyde (USEPA, 1987). This fact sheet answers the most frequently asked health questions (FAQs) about acetaldehyde. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

Highlights: Acetaldehyde is prevalent in the environment as a natural product of plant respiration and from human activities such as wood burning, burning of tobacco, coffee roasting, and coal refining and waste processing. Acetaldehyde can also enter the environment during accidental spills during its manufacture and use. Acetaldehyde can cause irritation of the skin, eyes, nose, and throat. High levels of exposure can cause fluid accumulation in the lungs and may cause some forms of cancer.

What is acetaldehyde?

Acetaldehyde, also known as acetic aldehyde, ethanal, ethyl aldehyde, and methyl formaldehyde is a colorless liquid that is highly reactive and oxidizes in air. Acetaldehyde has a pungent odor, but at diluted concentrations the odor is fruity and pleasant. It is mainly used as an intermediate in the synthesis of other chemicals, but other uses include production of perfumes, polyester resins, dyes, and as a food preservative and flavoring agent.

Acetaldehyde is prevalent in the environment as a natural product of plant respiration and from human activities such as wood burning, burning of tobacco, coffee roasting, coal refining, and waste processing.

What happens to acetaldehyde when it enters the environment?

- Acetaldehyde dissolves easily in water and can easily leach into soil.
- In soil, sewage, and natural water systems acetaldehyde is readily degraded and metabolized by microorganisms.
- Acetaldehyde does not build up in plants or animals because it is readily metabolized.

How might I be exposed to acetaldehyde?

- Breathing ambient air.
- Exposure may occur in individuals occupationally exposed to acetaldehyde during its manufacture and use.
- Ingesting food which uses acetaldehyde as a preservative or additive.

- Cigarettes and other tobacco products, and wood fire places are sources of acetaldehyde exposure.
- Acetaldehyde is formed in the body from the breakdown of ethanol, which occurs after the consumption of alcoholic beverages.

How can acetaldehyde affect my health?

- Inhaling low levels of acetaldehyde can cause irritation of the eyes, skin, and respiratory tract.
- At higher exposure levels redness of the skin (erythema), fluid accumulation in the lungs (pulmonary edema), and premature cell death (necrosis) may also occur.
- Symptoms of long term, high level exposure to acetaldehyde resemble those of alcoholism.

How likely is acetaldehyde to cause cancer?

Acetaldehyde is considered a probable human carcinogen by the USEPA (United States Environmental Protection Agency). This means that acetaldehyde has been shown to produce cancer in laboratory animals, and that it may therefore be able to produce cancer in humans.

How can acetaldehyde affect children?

- The most common route of exposure is by breathing acetaldehyde, which is likely to cause nose and eye irritation (burning, itchy, tearing, and sore throat) in children as well as in adults.
- There is not sufficient data to evaluate the reproductive or developmental effects of acetaldehyde in humans. In animals, it has been shown to cross the placenta to the fetus.

How can families reduce the risks of exposure to acetaldehyde?

Acetaldehyde is usually found in the air, and levels are usually higher indoors than outdoors. Opening windows and using fans to bring fresh air indoors are the easiest ways to lower levels in the house. Not smoking and not using unvented heaters indoors can lower the acetaldehyde levels.

Is there a medical test to determine whether I've been exposed to acetaldehyde?

Acetaldehyde can be measured in the blood and breath to determine whether or not exposure has occurred.

Has the federal government made recommendations to protect human health?

- The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit for acetaldehyde of 360 mg/m³ for an 8-hour workday, 40-hour workweek.
- According to the Joint Expert Committee on Food Additives (JECFA) of the Food and Agriculture Organization of the United Nations/World Health Organization and the European Commission's Scientific Committee on Food, acetaldehyde does not have a set acceptable daily intake (ADI) because there are no safety concerns at current levels of intake when used as a flavoring agent.

References

United States Environmental Protection Agency (USEPA). 1987. Health Assessment Document for Acetaldehyde. EPA/600/8-86-015A. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Research Triangle Park, NC.

Where Can I Get More Information? More information on the adverse effects of acetaldehyde can be obtained from your community or state health or environmental quality department.

This fact sheet answers the most frequently asked health questions (FAQs) about acrolein. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to acrolein occurs mostly from breathing it in air. Cigarette smoke and automobile exhaust contain acrolein. Acrolein causes burning of the nose and throat and can damage the lungs. Acrolein has been found in at least 31 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is acrolein?

Acrolein is a colorless or yellow liquid with a disagreeable odor. It dissolves in water very easily and quickly changes to a vapor when heated. It also burns easily. Small amounts of acrolein can be formed and can enter the air when trees, tobacco, other plants, gasoline, and oil are burned.

Acrolein is used as a pesticide to control algae, weeds, bacteria, and mollusks. It is also used to make other chemicals.

What happens to acrolein when it enters the environment?

- Acrolein may be found in soil, water, or air.
- It breaks down fairly rapidly in the air (about half will disappear within 1 day) by reacting with other chemicals and sunlight.
- Acrolein evaporates rapidly from soil and water.

How might I be exposed to acrolein?

- Smoking tobacco or breathing air containing tobacco smoke or automobile exhaust.
- Working in or living near industries where acrolein is manufactured or used to make other chemicals.
- Inhaling vapors from overheated cooking oil or grease.

How can acrolein affect my health?

There is very little information about how exposure to acrolein affects people's health. The information we have indicates that breathing large amounts damages the lungs and could cause death. Breathing lower amounts may cause eye watering and burning of the nose and throat and a decreased breathing rate.

Animal studies show that breathing acrolein causes irritation to the nasal cavity, lowered breathing rate, and damage to the lining of the lungs.

We do not know if eating food or drinking water containing acrolein affects your health. However, animals that swallowed acrolein had stomach irritation, vomiting, stomach ulcers, and bleeding.

How likely is acrolein to cause cancer?

The Department of Health and Human Services (DHHS) has not classified acrolein as to its carcinogenicity. The International Agency for Research on Cancer (IARC) has determined that acrolein is not classifiable as to carcinogenicity in humans. The EPA has stated that the potential carcinogenicity of acrolein cannot be determined based on an inadequate database.

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How can acrolein affect children?

In general, children are not likely to be affected by acrolein more than adults. However, children who are sensitive to irritants in the air (such as children with asthma) may be more sensitive to lung irritation from acrolein.

In animal studies, ingestion of very large amounts of acrolein during pregnancy caused reduced birth weights and skeletal deformities in newborns. However, the levels causing these effects were often fatal to the mother.

How can families reduce the risks of exposure to acrolein?

You can reduce your family's exposure to acrolein by reducing their exposure to tobacco smoke, smoke from burning wood products or cooking oils and grease, and exhaust from diesel or gasoline vehicles.

Is there a medical test to determine whether I've been exposed to acrolein?

Methods have been developed to detect acrolein or breakdown products of acrolein in biological or environmental samples; however, there are no specific medical tests available in a doctor's office to determine if you have been exposed to acrolein.

Has the federal government made recommendations to protect human health?

The Food and Drug Administration (FDA) has determined that the amount of acrolein used to prepare modified food starch must not be more than 0.6%.

The Occupational Safety and Health Administration (OSHA) has set limits of 0.1 parts of acrolein per million parts of workplace air (0.01 ppm) for 8 hour shifts and 40 hour work weeks.

The EPA has restricted the use of all pesticides containing acrolein.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Acrolein (Draft for Public Comment). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about acrylonitrile. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to acrylonitrile occurs mostly from breathing it in the air. Acrylonitrile primarily affects the nervous system and lungs. If it is spilled on the skin, the skin will turn red and blisters may form. This chemical has been found in at least 3 of the 1,177 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is acrylonitrile?

(Pronounced ə-krīl/ō nī-trīl)

Acrylonitrile is a colorless, liquid, man-made chemical with a sharp, onion- or garlic-like odor. It can be dissolved in water and evaporates quickly.

Acrylonitrile is used to make other chemicals such as plastics, synthetic rubber, and acrylic fibers. A mixture of acrylonitrile and carbon tetrachloride was used as a pesticide in the past; however, all pesticide uses have stopped.

What happens to acrylonitrile when it enters the environment?

- Acrylonitrile may be found in the soil, water, or air near industrial sites where it is made, or at hazardous waste sites where it has been disposed of.
- Because acrylonitrile evaporates easily, most of it is released to the air from facilities where it is produced and used.
- In air, acrylonitrile breaks down quickly (about half will disappear within 5 to 50 hours) by reacting with other chemicals and sunlight.
- Acrylonitrile can enter groundwater by filtering through the soil, but it is not commonly found in groundwater.

- It is broken down by bacteria in surface water.
- When it is released to soil, some of it will be broken down by bacteria, but most of it will evaporate to the air or filter to groundwater.
- Acrylonitrile does not build up in the food chain.

How might I be exposed to acrylonitrile?

- Unless you live near a factory where acrylonitrile is made or near a hazardous waste site that contains acrylonitrile, you are unlikely to be exposed to it.
- Breathing contaminated air near hazardous waste sites that contain acrylonitrile.
- Working in, or living near, industries where it is manufactured or used.
- Swallowing food and water that contains small amounts of acrylonitrile.

How can acrylonitrile affect my health?

Breathing high concentrations of acrylonitrile will cause nose and throat irritation, tightness in the chest, difficulty breathing, nausea, dizziness, weakness, headache, impaired judgment, and convulsions. These symptoms usually disappear when exposure is stopped. If spilled on the skin, acrylonitrile will burn the skin and produce redness and blisters.

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Animal studies show effects from breathing acrylonitrile. These effects include irritation to the nasal cavity and lungs, changes in the breathing rate, fluid accumulation in the lungs, weakness, and paralysis. Decreased fertility and birth defects have been observed in some laboratory animals exposed to high concentrations of acrylonitrile in air or drinking water.

There is evidence that children are much more sensitive to acrylonitrile than adults. In a few cases, children have died following exposure to acrylonitrile vapors that caused only minor nose and throat irritation in adults.

How likely is acrylonitrile to cause cancer?

The Department of Health and Human Services (DHHS) has determined that acrylonitrile may reasonably be anticipated to cause cancer in people. Studies of people are inconclusive, while animal studies have shown cancers of the brain and mammary glands.

Is there a medical test to show whether I've been exposed to acrylonitrile?

There is a test that can detect acrylonitrile in blood. Other tests can be used to measure the breakdown products (metabolites) of acrylonitrile in urine. One of the metabolites (cyanide) could come from other chemicals you might have been exposed to, so it is not a definite indicator of acrylonitrile exposure. The results of these tests could also be affected by cigarette smoking. Special equipment is needed for these tests, and they are not routinely available in a doctor's office.

Has the federal government made recommendations to protect human health?

The EPA recommends that levels in lakes and streams should be limited to 0.058 parts of acrylonitrile per billion parts of water (0.058 ppb) to prevent possible health effects

from drinking water or eating fish contaminated with acrylonitrile. Any release to the environment greater than 100 pounds of acrylonitrile must be reported to the EPA.

The Occupational Safety and Health Administration (OSHA) has set a limit of 2 ppm over an 8-hour workday, 40-hour workweek.

The National Institute of Occupational Safety and Health (NIOSH) recommends that average workplace air should not exceed 1 part per million (1 ppm) acrylonitrile averaged over a 10-hour period.

The federal recommendations have been updated as of July 1999.

Glossary

CAS: Chemical Abstracts Service.

Evaporate: To change into a vapor or a gas.

National Priorities List: A list of the nation's worst hazardous waste sites.

Pesticide: A substance that kills pests.

ppb: Parts per billion.

ppm: Parts per million.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1990. Toxicological profile for acrylonitrile. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about arsenic. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to higher than average levels of arsenic occur mostly in the workplace, near hazardous waste sites, or in areas with high natural levels. At high levels, inorganic arsenic can cause death. Exposure to lower levels for a long time can cause a discoloration of the skin and the appearance of small corns or warts. Arsenic has been found in at least 1,149 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is arsenic?

Arsenic is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds.

Inorganic arsenic compounds are mainly used to preserve wood. Copper chromated arsenate (CCA) is used to make "pressure-treated" lumber. CCA is no longer used in the U.S. for residential uses; it is still used in industrial applications. Organic arsenic compounds are used as pesticides, primarily on cotton fields and orchards.

What happens to arsenic when it enters the environment?

- Arsenic occurs naturally in soil and minerals and may enter the air, water, and land from wind-blown dust and may get into water from runoff and leaching.
- Arsenic cannot be destroyed in the environment. It can only change its form.
- Rain and snow remove arsenic dust particles from the air.
- Many common arsenic compounds can dissolve in water. Most of the arsenic in water will ultimately end up in soil or sediment.
- Fish and shellfish can accumulate arsenic; most of this arsenic is in an organic form called arsenobetaine that is much less harmful.

How might I be exposed to arsenic?

- Ingesting small amounts present in your food and water or breathing air containing arsenic.
- Breathing sawdust or burning smoke from wood treated with arsenic.
- Living in areas with unusually high natural levels of arsenic in rock.
- Working in a job that involves arsenic production or use, such as copper or lead smelting, wood treating, or pesticide application.

How can arsenic affect my health?

Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs.

Ingesting very high levels of arsenic can result in death. Exposure to lower levels can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Ingesting or breathing low levels of inorganic arsenic for a long time can cause a darkening of the skin and the appearance of small "corns" or "warts" on the palms, soles, and torso.

Skin contact with inorganic arsenic may cause redness and swelling.

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Almost nothing is known regarding health effects of organic arsenic compounds in humans. Studies in animals show that some simple organic arsenic compounds are less toxic than inorganic forms. Ingestion of methyl and dimethyl compounds can cause diarrhea and damage to the kidneys

How likely is arsenic to cause cancer?

Several studies have shown that ingestion of inorganic arsenic can increase the risk of skin cancer and cancer in the liver, bladder, and lungs. Inhalation of inorganic arsenic can cause increased risk of lung cancer. The Department of Health and Human Services (DHHS) and the EPA have determined that inorganic arsenic is a known human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic arsenic is carcinogenic to humans.

How can arsenic affect children?

There is some evidence that long-term exposure to arsenic in children may result in lower IQ scores. There is also some evidence that exposure to arsenic in the womb and early childhood may increase mortality in young adults.

There is some evidence that inhaled or ingested arsenic can injure pregnant women or their unborn babies, although the studies are not definitive. Studies in animals show that large doses of arsenic that cause illness in pregnant females, can also cause low birth weight, fetal malformations, and even fetal death. Arsenic can cross the placenta and has been found in fetal tissues. Arsenic is found at low levels in breast milk.

How can families reduce the risks of exposure to arsenic?

If you use arsenic-treated wood in home projects, you should wear dust masks, gloves, and protective clothing to decrease exposure to sawdust.

- If you live in an area with high levels of arsenic in water or soil, you should use cleaner sources of water and limit contact with soil.
- If you work in a job that may expose you to arsenic, be aware that you may carry arsenic home on your clothing, skin, hair, or tools. Be sure to shower and change clothes before going home.

Is there a medical test to determine whether I've been exposed to arsenic?

There are tests available to measure arsenic in your blood, urine, hair, and fingernails. The urine test is the most reliable test for arsenic exposure within the last few days. Tests on hair and fingernails can measure exposure to high levels of arsenic over the past 6-12 months. These tests can determine if you have been exposed to above-average levels of arsenic. They cannot predict whether the arsenic levels in your body will affect your health.

Has the federal government made recommendations to protect human health?

The EPA has set limits on the amount of arsenic that industrial sources can release to the environment and has restricted or cancelled many of the uses of arsenic in pesticides. EPA has set a limit of 0.01 parts per million (ppm) for arsenic in drinking water.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit (PEL) of 10 micrograms of arsenic per cubic meter of workplace air ($10 \mu\text{g}/\text{m}^3$) for 8 hour shifts and 40 hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Arsenic (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about benzene. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Benzene is a widely used chemical formed from both natural processes and human activities. Breathing benzene can cause drowsiness, dizziness, and unconsciousness; long-term benzene exposure causes effects on the bone marrow and can cause anemia and leukemia. Benzene has been found in at least 1,000 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is benzene?

Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities.

Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume. Some industries use benzene to make other chemicals which are used to make plastics, resins, and nylon and other synthetic fibers. Benzene is also used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include emissions from volcanoes and forest fires. Benzene is also a natural part of crude oil, gasoline, and cigarette smoke.

What happens to benzene when it enters the environment?

- Industrial processes are the main source of benzene in the environment.
- Benzene can pass into the air from water and soil.
- It reacts with other chemicals in the air and breaks down within a few days.
- Benzene in the air can attach to rain or snow and be carried back down to the ground.

- It breaks down more slowly in water and soil, and can pass through the soil into underground water.
- Benzene does not build up in plants or animals.

How might I be exposed to benzene?

- Outdoor air contains low levels of benzene from tobacco smoke, automobile service stations, exhaust from motor vehicles, and industrial emissions.
- Vapors (or gases) from products that contain benzene, such as glues, paints, furniture wax, and detergents, can also be a source of exposure.
- Air around hazardous waste sites or gas stations will contain higher levels of benzene.
- Working in industries that make or use benzene.

How can benzene affect my health?

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death.

The major effect of benzene from long-term exposure is on the blood. Benzene causes harmful effects on the bone

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marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection.

Some women who breathed high levels of benzene for many months had irregular menstrual periods and a decrease in the size of their ovaries, but we do not know for certain that benzene caused the effects. It is not known whether benzene will affect fertility in men.

How likely is benzene to cause cancer?

Long-term exposure to high levels of benzene in the air can cause leukemia, particularly acute myelogenous leukemia, often referred to as AML. This is a cancer of the blood-forming organs. The Department of Health and Human Services (DHHS) has determined that benzene is a known carcinogen. The International Agency for Research on Cancer (IARC) and the EPA have determined that benzene is carcinogenic to humans.

How can benzene affect children?

Children can be affected by benzene exposure in the same ways as adults. It is not known if children are more susceptible to benzene poisoning than adults.

Benzene can pass from the mother's blood to a fetus. Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.

How can families reduce the risks of exposure to benzene?

Benzene exposure can be reduced by limiting contact with gasoline and cigarette smoke. Families are encouraged not to

smoke in their house, in enclosed environments, or near their children.

Is there a medical test to determine whether I've been exposed to benzene?

Several tests can show if you have been exposed to benzene. There is a test for measuring benzene in the breath; this test must be done shortly after exposure. Benzene can also be measured in the blood; however, since benzene disappears rapidly from the blood, this test is only useful for recent exposures.

In the body, benzene is converted to products called metabolites. Certain metabolites can be measured in the urine. The metabolite S-phenylmercapturic acid in urine is a sensitive indicator of benzene exposure. However, this test must be done shortly after exposure and is not a reliable indicator of how much benzene you have been exposed to, since the metabolites may be present in urine from other sources.

Has the federal government made recommendations to protect human health?

The EPA has set the maximum permissible level of benzene in drinking water at 5 parts benzene per billion parts of water (5 ppb).

The Occupational Safety and Health Administration (OSHA) has set limits of 1 part benzene per million parts of workplace air (1 ppm) for 8 hour shifts and 40 hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Benzene (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about di(2-ethylhexyl) phthalate (DEHP). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Di(2-ethylhexyl) phthalate (DEHP) is found in many plastics. Exposure to DEHP is generally very low. Increased exposures may come from intravenous fluids delivered through plastic tubing, and from ingesting contaminated foods or water. DEHP is not toxic at the low levels usually present in the environment. In animals, high levels of DEHP damaged the liver and kidney and affected the ability to reproduce. DEHP has been found in at least 733 of the 1,613 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is di(2-ethylhexyl) phthalate?

Di(2-ethylhexyl) phthalate (DEHP) is a manufactured chemical that is commonly added to plastics to make them flexible. DEHP is a colorless liquid with almost no odor.

DEHP is present in plastic products such as wall coverings, tablecloths, floor tiles, furniture upholstery, shower curtains, garden hoses, swimming pool liners, rainwear, baby pants, dolls, some toys, shoes, automobile upholstery and tops, packaging film and sheets, sheathing for wire and cable, medical tubing, and blood storage bags.

What happens to DEHP when it enters the environment?

- DEHP is everywhere in the environment because of its use in plastics, but it does not evaporate easily or dissolve in water easily.
- DEHP can be released in small amounts to indoor air from plastic materials, coatings, and flooring.
- It dissolves faster in water if gas, oil, or paint removers are present.
- It attaches strongly to soil particles.
- DEHP in soil or water can be broken down by microorganisms into harmless compounds.

- DEHP does not break down easily when it is deep in the soil or at the bottom of lakes or rivers.
- It is in plants, fish, and other animals, but animals high on the food chain are able to break down DEHP, so tissue levels are usually low.

How might I be exposed to DEHP?

DEHP is usually present at very low levels in:

- Medical products packaged in plastic such as blood products.
- Some foods packaged in plastics, especially fatty foods like milk products, fish or seafood, and oils.
- Well water near waste sites.
- Workplace air or indoor air where DEHP is released, but usually not at levels of concern.
- Fluids from plastic intravenous tubing if used extensively as for kidney dialysis.

How can DEHP affect my health?

At the levels found in the environment, DEHP is not expected to cause harmful health effects in humans. Most of what we know about the health effects of DEHP comes from studies of rats and mice given high amounts of DEHP.

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Harmful effects in animals generally occurred only with high amounts of DEHP or with prolonged exposures. Moreover, absorption and breakdown of DEHP in humans is different than in rats or mice, so the effects seen in rats and mice may not occur in humans.

Rats that breathed DEHP in the air showed no serious harmful effects. Their lifespan and ability to reproduce were not affected.

Brief oral exposure to very high levels of DEHP damaged sperm in mice. Although the effect reversed when exposure ceased, sexual maturity was delayed in the animals.

High amounts of DEHP damaged the liver of rats and mice. Whether or not DEHP contributes to human kidney damage is unclear.

Skin contact with products containing DEHP will probably cause no harmful effects because it cannot be taken up easily through the skin.

How likely is DEHP to cause cancer?

The Department of Health and Human Services (DHHS) has determined that DEHP may reasonably be anticipated to be a human carcinogen. The EPA has determined that DEHP is a probable human carcinogen. These determinations were based entirely on liver cancer in rats and mice. The International Agency for Research on Cancer (IARC) has stated that DEHP cannot be classified as to its carcinogenicity to humans.

How can DEHP affect children?

Children can be exposed to DEHP in the same manner as adults. In addition, small children can be exposed by sucking on or skin contact with plastic toys and pacifiers that contain DEHP, but there is no conclusive evidence of adverse health effects after such exposures. Nonetheless, because of concern for children's health, many toy

manufacturers have discontinued use of DEHP in their products. In pregnant rats and mice exposed to high amounts of DEHP, researchers observed birth defects and fetal deaths.

How can families reduce the risk of exposure to DEHP?

- It is almost impossible to completely avoid contact with some DEHP because it is commonly found in plastics.
- Prevent babies and small children from chewing on plastic objects not designed for that purpose.

Is there a medical test to show whether I've been exposed to DEHP?

There is a test available that measures a breakdown product of DEHP called mono(2-ethylhexyl) phthalate (MEHP) in your urine or blood. This test can only detect recent exposure because DEHP is rapidly broken down and eliminated from your body. This test is not routinely available at the doctor's office because it requires special equipment.

Has the federal government made recommendations to protect human health?

The EPA limits the amount of DEHP that may be present in drinking water to 6 parts of DEHP per billion parts of water (6 ppb).

The Occupational Safety and Health Administration (OSHA) sets a maximum average of 5 milligrams of DEHP per cubic meter of air (5 mg/m³) in the workplace during an 8-hour shift. The short-term (15-minute) exposure limit is 10 mg/m³.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2002. Toxicological Profile for Di(2-ethylhexyl) phthalate (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about bromodichloromethane. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Most bromodichloromethane is formed as a by-product when chlorine is added to water-supply systems. Bromodichloromethane is not known to cause adverse health effects in people, but animal studies show that high concentrations can damage the liver and kidneys and affect the brain. Bromodichloromethane has been found at 5 of the 1,518 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is bromodichloromethane?

(Pronounced brō'mō di-klōr'ō mēth'ān')

Bromodichloromethane is a colorless, nonflammable liquid. Small amounts are formed naturally by algae in the oceans. Some of it will dissolve in water, but it readily evaporates into air.

Only small quantities of bromodichloromethane are produced in the United States. The small quantities that are produced are used in laboratories or to make other chemicals. However, most bromodichloromethane is formed as a by-product when chlorine is added to drinking water to kill bacteria.

What happens to bromodichloromethane when it enters the environment?

- Bromodichloromethane released to air is slowly broken down by reactions with other chemicals and sunlight or it can be removed by rain.
- In water, it will evaporate to the air and/or be broken down slowly by bacteria.

- When released to soil, most will evaporate to the air but some of it will be broken down by bacteria.
- Some bromodichloromethane may filter into the groundwater.
- Bromodichloromethane does not build up in the food chain.

How might I be exposed to bromodichloromethane?

- The most likely way people are exposed to bromodichloromethane is by drinking chlorinated water.
- You may breathe vapors released from chlorinated water in a swimming pool or in the home (cooking, washing dishes, bathing, etc.).
- Some bromodichloromethane may enter your body directly through your skin when bathing or swimming.
- People who live near a waste site containing bromodichloromethane could be exposed by drinking contaminated groundwater or breathing vapors released to the air.
- People who work at or live near a laboratory or factory that makes or uses this chemical could be exposed by breathing bromodichloromethane in the air.

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How can bromodichloromethane affect my health?

No studies are available regarding health effects in people exposed to bromodichloromethane.

Animal studies indicate that the liver, kidney, and central nervous system are affected by exposure to bromodichloromethane. The effects of high doses on the central nervous system include sleepiness and incoordination. Longer exposure to lower doses causes damage to the liver and kidneys. There is some evidence from animal studies that bromodichloromethane may cause birth defects at doses high enough to make the mother sick. It is not known if lower doses would cause birth defects.

How likely is bromodichloromethane to cause cancer?

There is evidence that eating or drinking bromodichloromethane causes liver, kidney, and intestinal cancer in rats and mice. The Department of Health and Human Services (DHHS) has determined that bromodichloromethane is reasonably anticipated to be a human carcinogen.

Is there a medical test to show whether I've been exposed to bromodichloromethane?

Methods are available to measure low levels of bromodichloromethane in human blood, breath, urine, and fat, but not enough information is available to use such tests to predict if any health effects might occur. Because special equipment is needed, these tests are not usually done in the doctor's office.

Has the federal government made recommendations to protect human health?

The EPA has set a Maximum Contaminant Level (MCL) of 0.1 parts per million (ppm) for the combination of bromodichloromethane and a group of similar compounds (called trihalomethanes) that occur in chlorinated water. The EPA recommends that levels of halomethanes in lakes and streams should be limited to 0.19 ppm to prevent possible health effects from drinking water or eating fish contaminated with this group of chemicals.

Any release to the environment greater than 5,000 pounds of bromodichloromethane must be reported to the EPA.

The federal recommendations have been updated as of July 1999.

Glossary

Carcinogen: A substance that can cause cancer.

CAS: Chemical Abstracts Service.

Evaporate: To change into a vapor or a gas.

National Priorities List: A list of the nation's worst hazardous waste sites.

ppm: Parts per million.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1989. Toxicological profile for bromodichloromethane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

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This fact sheet answers the most frequently asked health questions (FAQs) about bromoform and dibromochloromethane. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because these substances may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Bromoform and dibromochloromethane are formed as by-products when chlorine is added to water supply systems. High levels of bromoform or dibromochloromethane can damage the liver and kidneys and affect the brain. Bromoform has been found in at least 140 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA). Dibromochloromethane has been found in at least 174 NPL sites.

What are bromoform and dibromochloromethane?

Bromoform and dibromochloromethane are colorless to yellow, heavy, nonflammable, liquids with a sweet odor. Small amounts are formed naturally by plants in the ocean. They are somewhat soluble in water and readily evaporate into the air. Most of the bromoform and dibromochloromethane that enters the environment is formed as byproducts when chlorine is added to drinking water to kill bacteria.

Only small quantities of bromoform and dibromochloromethane currently are produced in the United States. These chemicals were used in the past as solvents and flame retardants, or to make other chemicals, but now they are used mainly as laboratory reagents.

What happens to bromoform and dibromochloromethane when they enter the environment?

- When released to air, bromoform and dibromochloromethane are slowly broken down by reactions with other chemicals and sunlight or can be removed by rain.
- In water, these chemicals will evaporate to the air and/or be broken down slowly by bacteria.
- When released to soil, most will evaporate to the air, some will be broken down by bacteria, and some may filter into the groundwater.
- Bromoform and dibromomethane do not build up in the food chain.

How might I be exposed to bromoform and dibromochloromethane?

- The most likely way people are exposed to bromoform and dibromochloromethane is by drinking chlorinated water.
- You may breathe vapors released from chlorinated water in a swimming pool or during showering and bathing.
- Very small amounts of bromoform and dibromochloromethane may enter your body directly through your skin while bathing or swimming.
- People that live near a waste site containing bromoform or dibromochloromethane could be exposed by drinking contaminated groundwater or breathing vapors released to the air.
- Exposure could occur by breathing bromoform and dibromochloromethane in the air in or near a laboratory or factory that makes or uses these chemicals; however, this is unlikely for most people.

How can bromoform and dibromochloromethane affect my health?

Eating or breathing a large amount of bromoform slows down the normal brain activities and causes sleepiness; this tends to go away within a day. Exposure to very high amounts may cause unconsciousness and even death. No studies are available about health effects in people exposed to dibromochloromethane.

Animals exposed to high amounts of bromoform or dibromochloromethane developed liver and kidney injuries. Exposure to low levels of bromoform or

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dibromochloromethane do not appear to seriously affect the brain, liver, or kidneys. We do not know if bromoform or dibromochloromethane affect fertility in humans, but studies in animals suggest that the risk of doing so is low.

How likely are bromoform and dibromochloromethane to cause cancer?

There is no conclusive evidence that bromoform or dibromochloromethane cause cancer in humans because no cancer studies of humans exposed exclusively to these chemicals are available. Studies in animals indicate that long-term intake of either bromoform or dibromochloromethane can cause liver and kidney cancer.

The International Agency for Research on Cancer (IARC) concluded that bromoform and dibromochloromethane are not classifiable as to human carcinogenicity. The EPA classified bromoform as a probable human carcinogen and dibromochloromethane as a possible human carcinogen.

How can bromoform and dibromochloromethane affect children?

The only information regarding effects of bromoform on the health of children is that from the early 1900s when this chemical was used as a sedative to treat children with whooping cough. In some cases of overdosing with extremely high doses, children appeared drowsy, then lifeless, just before dying. We do not know whether children are more susceptible to the effects of bromoform and dibromochloromethane than adults.

How can families reduce the risks of exposure to bromoform and dibromochloromethane?

- Families can reduce their exposure to bromoform and dibromochloromethane from tap water by installing commercially available filter systems at home.
- While bromoform is no longer used as a medicine, keeping children away from, or supervising children with, chemicals brought into the home, will reduce the potential for accidental exposures.

- Families can reduce their exposure by taking shorter baths or showers in water in which these chemicals are present and opening bathroom windows or using ceiling ventilation fans whenever possible.

Is there a medical test to determine whether I've been exposed to bromoform and dibromochloromethane?

Tests are available to measure levels of these chemicals and their breakdown products in samples of your blood, breath, or fat. These tests are not routinely available in a doctor's office because they require special equipment. Because bromoform and dibromochloromethane are eliminated from the body fairly quickly, these tests are only effective in detecting recent exposures (within 1 or 2 days at the most).

Has the federal government made recommendations to protect human health?

The EPA recommends that drinking water contain no more than 0.7 parts per million (0.7 ppm) of bromoform and 0.7 ppm of dibromochloromethane.

The Occupational Safety and Health Administration (OSHA) set a limit of 0.5 ppm for the level of bromoform in workplace air during an 8-hour workday, 40-hour work week. Because dibromochloromethane has such a limited use, OSHA has not set limits of exposure for workplace air.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Bromoform and Dibromochloromethane (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about carbon tetrachloride. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Carbon tetrachloride does not occur naturally. Exposure to this substance results mostly from breathing air, drinking water, or coming in contact with soil that is contaminated with it. Exposure to very high amounts of carbon tetrachloride can damage the liver, kidneys, and nervous system. Carbon tetrachloride can cause cancer in animals. Carbon tetrachloride has been found in at least 425 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is carbon tetrachloride?

Carbon tetrachloride is a manufactured chemical that does not occur naturally. It is a clear liquid with a sweet smell that can be detected at low levels. It is also called carbon chloride, methane tetrachloride, perchloromethane, tetrachloroethane, or benziform.

Carbon tetrachloride is most often found in the air as a colorless gas. It is not flammable and does not dissolve in water very easily. It was used in the production of refrigeration fluid and propellants for aerosol cans, as a pesticide, as a cleaning fluid and degreasing agent, in fire extinguishers, and in spot removers. Because of its harmful effects, these uses are now banned and it is only used in some industrial applications.

What happens to carbon tetrachloride when it enters the environment?

- It moves very quickly into the air upon release, so most of it is in the air.
- It evaporates quickly surface water.
- Only a small amount sticks to soil particles; the rest evaporates or moves into the groundwater.
- It is very stable in air (lifetime 30-100 years).
- It can be broken down or transformed in soil and water within several days.
- When it does break down, it forms chemicals that can destroy ozone in the upper atmosphere.
- It does not build up in animals. We do not know if it build up in plants.

How might I be exposed to carbon tetrachloride?

- Breathing contaminated air near manufacturing plants or waste sites.
- Breathing workplace air when it is used.
- Drinking contaminated water near manufacturing plants and waste sites.
- Breathing contaminated air and skin contact with water while showering or cooking with contaminated water.
- Swimming or bathing in contaminated water.
- Contact with or eating contaminated soil (pica child) at waste sites.

How can carbon tetrachloride affect my health?

High exposure to carbon tetrachloride can cause liver, kidney, and central nervous system damage. These effects can occur after ingestion or breathing carbon tetrachloride, and possibly from exposure to the skin. The liver is especially sensitive to carbon tetrachloride because it enlarges and cells are damaged or destroyed. Kidneys also are damaged, causing a build up of wastes in the blood. If exposure is low and brief, the liver and kidneys can repair the damaged cells and function normally again. Effects of carbon tetrachloride are more severe in persons who drink large amounts of alcohol.

If exposure is very high, the nervous system, including the brain, is affected. People may feel intoxicated and experience headaches, dizziness, sleepiness, and nausea and vomiting. These effects may subside if exposure is stopped, but in severe cases, coma and even death may occur.

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There have been no studies of the effects of carbon tetrachloride on reproduction in humans, but studies in rats showed that long-term inhalation may cause decreased fertility.

How likely is carbon tetrachloride to cause cancer?

Studies in humans have not been able to determine whether or not carbon tetrachloride can cause cancer because usually there has been exposure to other chemicals at the same time. Swallowing or breathing carbon tetrachloride for years caused liver tumors in animals. Mice that breathed carbon tetrachloride also developed tumors of the adrenal gland. The Department of Health and Human Services (DHHS) has determined that carbon tetrachloride may reasonably be anticipated to be a carcinogen. The International Agency for Research on Cancer (IARC) has determined that carbon tetrachloride is possibly carcinogenic to humans, whereas the EPA determined that carbon tetrachloride is a probable human carcinogen.

How can carbon tetrachloride affect children?

The health effects of carbon tetrachloride have not been studied in children, but they are likely to be similar to those seen in adults exposed to the chemical. We do not know whether children differ from adults in their susceptibility to carbon tetrachloride.

A few survey-type studies suggest that maternal drinking water exposure to carbon tetrachloride might possibly be related to certain birth defects. Studies in animals showed that carbon tetrachloride can cause early fetal deaths, but did not cause birth defects. A study with human breast milk in a test tube suggested that it would be possible for carbon tetrachloride to pass from the maternal circulation to breast milk, but there is no direct demonstration of this occurring.

How can families reduce the risks of exposure to carbon tetrachloride?

- Discard any product that contains carbon tetrachloride that you may have at home and may have used in the past.
- Household chemicals should be stored out of the reach of children in their original containers.

Sometimes older children sniff household chemical products to get high. Talk to your children about the dangers of sniffing chemicals.

Is there a medical test to determine whether I've been exposed to carbon tetrachloride?

Several sensitive and specific tests are available to measure carbon tetrachloride in exposed persons. The most convenient way is simply to measure carbon tetrachloride in the exhaled air. Carbon tetrachloride also can be measured in blood, fat, or other tissues. These tests are not usually done in the doctor's office because they require special equipment. Although these tests can show that a person has been exposed to carbon tetrachloride, the results cannot be used to reliably predict whether any adverse health effect might result. Because carbon tetrachloride leaves the body fairly quickly, these methods are best suited to detecting exposures that have occurred within the last several days.

Has the federal government made recommendations to protect human health?

The EPA has set a limit for carbon tetrachloride in drinking water of 5 parts of carbon tetrachloride per billion parts of water (5 ppb). The EPA has also set limits on how much carbon tetrachloride can be released from an industrial plant into waste water and is preparing to set limits on how much carbon tetrachloride can escape from an industrial plant into outside air.

The Occupational Safety and Health Administration (OSHA) set a limit of 10 ppm for carbon tetrachloride in workplace air for an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Carbon Tetrachloride (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

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This fact sheet answers the most frequently asked health questions (FAQs) about chloroform. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to chloroform can occur when breathing contaminated air or when drinking or touching the substance or water containing it. Breathing chloroform can cause dizziness, fatigue, and headaches. Breathing chloroform or ingesting chloroform over long periods of time may damage your liver and kidneys. It can cause sores if large amounts touch your skin. This substance has been found in at least 717 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is chloroform?

(Pronounced klôr'ə-fôrm')

Chloroform is a colorless liquid with a pleasant, nonirritating odor and a slightly sweet taste. It will burn only when it reaches very high temperatures.

In the past, chloroform was used as an inhaled anesthetic during surgery, but it isn't used that way today. Today, chloroform is used to make other chemicals and can also be formed in small amounts when chlorine is added to water.

Other names for chloroform are trichloromethane and methyl trichloride.

What happens to chloroform when it enters the environment?

- Chloroform evaporates easily into the air.
- Most of the chloroform in air breaks down eventually, but it is a slow process.
- The breakdown products in air include phosgene and hydrogen chloride, which are both toxic.
- It doesn't stick to soil very well and can travel through soil to groundwater.

- Chloroform dissolves easily in water and some of it may break down to other chemicals.
- Chloroform lasts a long time in groundwater.
- Chloroform doesn't appear to build up in great amounts in plants and animals.

How might I be exposed to chloroform?

- Drinking water or beverages made using water containing chloroform.
- Breathing indoor or outdoor air containing it, especially in the workplace.
- Eating food that contains it.
- Skin contact with chloroform or water that contains it, such as in swimming pools.

How can chloroform affect my health?

Breathing about 900 parts of chloroform per million parts air (900 ppm) for a short time can cause dizziness, fatigue, and headache. Breathing air, eating food, or drinking water containing high levels of chloroform for long periods of time may damage your liver and kidneys. Large amounts of chloroform can cause sores when chloroform touches your skin.

ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>

It isn't known whether chloroform causes reproductive effects or birth defects in people.

Animal studies have shown that miscarriages occurred in rats and mice that breathed air containing 30 to 300 ppm chloroform during pregnancy and also in rats that ate chloroform during pregnancy. Offspring of rats and mice that breathed chloroform during pregnancy had birth defects. Abnormal sperm were found in mice that breathed air containing 400 ppm chloroform for a few days.

How likely is chloroform to cause cancer?

The Department of Health and Human Services (DHHS) has determined that chloroform may reasonably be anticipated to be a carcinogen.

Rats and mice that ate food or drank water with chloroform developed cancer of the liver and kidneys.

Is there a medical test to show whether I've been exposed to chloroform?

Although the amounts of chloroform in the air that you exhale and in blood, urine, and body tissues can be measured, there is no reliable test to determine how much chloroform you have been exposed to or whether you will experience any harmful effects.

The measurement of chloroform in body fluids and tissues may help to determine if you have come into contact with large amounts of chloroform, but these tests are useful for only a short time after you are exposed. Chloroform in your body might also indicate that you have come into contact with other chemicals.

Has the federal government made recommendations to protect human health?

The EPA drinking water limit for total trihalomethanes, a class of chemicals that includes chloroform, is 100 micrograms per liter of water (100 µg/L).

The EPA requires that spills or accidental releases of 10 pounds or more of chloroform into the environment be reported to the EPA.

The Occupational Safety and Health Administration (OSHA) has set the maximum allowable concentration of chloroform in workroom air during an 8-hour workday in a 40-hour workweek at 50 ppm.

Glossary

Carcinogenicity: A substance with the ability to cause cancer.

CAS: Chemical Abstracts Service.

Ingesting: Taking food or drink into your body.

Microgram (µg): One millionth of a gram.

Miscarriage: Pregnancy loss.

ppm: Parts per million.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Chloroform (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about cobalt. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: The general population is exposed to low levels of cobalt in air, water, and food. Cobalt has both beneficial and harmful effects on health. At low levels, it is part of vitamin B12, which is essential for good health. At high levels, it may harm the lungs and heart. This chemical has been found in at least 426 of the 1,636 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is cobalt?

Cobalt is a naturally occurring element found in rocks, soil, water, plants, and animals. Cobalt is used to produce alloys used in the manufacture of aircraft engines, magnets, grinding and cutting tools, artificial hip and knee joints. Cobalt compounds are also used to color glass, ceramics and paints, and used as a drier for porcelain enamel and paints.

Radioactive cobalt is used for commercial and medical purposes. ⁶⁰Co (read as cobalt sixty) is used for sterilizing medical equipment and consumer products, radiation therapy for treating cancer patients, manufacturing plastics, and irradiating food. ⁵⁷Co is used in medical and scientific research. It takes about 5.27 years for half of ⁶⁰Co to give off its radiation and about 272 days for ⁵⁷Co; this is called the half-life.

What happens to cobalt when it enters the environment?

- Cobalt enters the environment from natural sources and the burning of coal or oil or the production of cobalt alloys.
- In the air, cobalt will be associated with particles that settle to the ground within a few days.
- Cobalt released into water or soil will stick to particles. Some cobalt compounds may dissolve.
- Cobalt cannot be destroyed. It can change form or attach to or separate from particles. Radioactive decay is a way of

decreasing the amount of radioactive cobalt in the environment.

How might I be exposed to cobalt?

- You can be exposed to low levels of cobalt by breathing air, eating food, or drinking water. Food and drinking water are the largest sources of exposure to cobalt for the general population.
- Working in industries that make or use cutting or grinding tools; mine, smelt, refine, or process cobalt metal or ores; or that produce cobalt alloys or use cobalt.
- The general population is rarely exposed to radioactive cobalt unless a person is undergoing radiation therapy. However, workers at nuclear facilities, irradiation facilities, or nuclear waste storage sites may be exposed to radiation from these sources.

How can cobalt affect my health?

Cobalt can benefit or harm human health. Cobalt is beneficial for humans because it is part of vitamin B12.

Exposure to high levels of cobalt can result in lung and heart effects and dermatitis. Liver and kidney effects have also been observed in animals exposed to high levels of cobalt.

Exposure to large amounts of radiation from radioactive cobalt can damage cells in your body from the radiation.

ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>

You might also experience acute radiation syndrome that includes nausea, vomiting, diarrhea, bleeding, coma, and even death. This would be a rare event.

How likely is cobalt to cause cancer?

Nonradioactive cobalt has not been found to cause cancer in humans or animals following exposure in food or water. Cancer has been shown, however, in animals that breathed cobalt or when cobalt was placed directly into the muscle or under the skin. Based on the laboratory animal data, the International Agency for Research on Cancer (IARC) has determined that cobalt and cobalt compounds are possibly carcinogenic to humans.

Exposure to high levels of cobalt radiation can cause changes in the genetic materials within cells and may result in the development of some types of cancer.

How can cobalt affect children?

We do not know whether children differ from adults in their susceptibility to cobalt. However, it is likely that health effects in children would be similar those in adults. Studies in animals suggest that children may absorb more cobalt than adults from foods and liquids containing cobalt.

We do not know if exposure to cobalt will result in birth defects or other developmental effects in people. Birth defects have been observed in animals exposed to nonradioactive cobalt. Exposure to cobalt radiation can also result in developmental effects.

How can families reduce the risk of exposure to cobalt?

Children should avoid playing in soils near hazardous waste sites where cobalt may be present.

Is there a medical test to show whether I've been exposed to cobalt?

Cobalt levels can be tested in the urine and blood within a couple of days of exposure. Your doctor can take samples,

but must send them to a laboratory to be tested. The amount of cobalt in your blood or urine can be used to estimate how much cobalt you were exposed to. However, these tests cannot predict whether you will experience any health effects.

Two types of tests are available for radioactive cobalt. One is to see if you have been exposed to a large dose of radiation, and the other is to see if radioactive cobalt is in your body. The first looks for changes in blood cell counts or in your chromosomes that occur at 3 to 5 times the annual occupational dose limit. It cannot tell if the radiation came from cobalt. The second type of test involves examining your blood, feces, saliva, urine, and even your entire body. It is to see if cobalt is being excreted from or remains inside your body. Either the doctor's office collects and sends the samples to a special lab for testing, or you must go to the lab for testing.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) has set a limit of 0.1 milligrams of nonradioactive cobalt per cubic meter of workplace air (0.1 mg/m³) for an 8-hour workday and 40-hour work week.

The Nuclear Regulatory Commission limits radioactive cobalt in workplace air to 1x10⁻⁵ microcurie per milliliter (μCi/mL) for ⁵⁷Co and 7x10⁻⁸ μCi/mL for ⁶⁰Co. EPA has set an average annual drinking water limit of 1000 picocurie per liter (pCi/L) for ⁵⁷Co or 100 pCi/L for ⁶⁰Co so the public radiation dose will not exceed 4 millirem.

Reference

Agency for Toxic Substances and Disease Registry (ATSDR). 2004. Toxicological Profile for Cobalt Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about copper. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Copper is a metal that occurs naturally in the environment, and also in plants and animals. Low levels of copper are essential for maintaining good health. High levels can cause harmful effects such as irritation of the nose, mouth and eyes, vomiting, diarrhea, stomach cramps, nausea, and even death. Copper has been found in at least 906 of the 1,647 National Priority Sites identified by the Environmental Protection Agency (EPA).

What is copper?

Copper is a metal that occurs naturally throughout the environment, in rocks, soil, water, and air. Copper is an essential element in plants and animals (including humans), which means it is necessary for us to live. Therefore, plants and animals must absorb some copper from eating, drinking, and breathing.

Copper is used to make many different kinds of products like wire, plumbing pipes, and sheet metal. U.S. pennies made before 1982 are made of copper, while those made after 1982 are only coated with copper. Copper is also combined with other metals to make brass and bronze pipes and faucets.

Copper compounds are commonly used in agriculture to treat plant diseases like mildew, for water treatment and, as preservatives for wood, leather, and fabrics.

What happens to copper when it enters the environment?

- Copper is released into the environment by mining, farming, and manufacturing operations and through waste water releases into rivers and lakes. Copper is also released from natural sources, like volcanoes, windblown dusts, decaying vegetation, and forest fires.
- Copper released into the environment usually attaches to particles made of organic matter, clay, soil, or sand.
- Copper does not break down in the environment. Copper

compounds can break down and release free copper into the air, water, and foods.

How might I be exposed to copper?

- You may be exposed to copper from breathing air, drinking water, eating foods, or having skin contact with copper, particulates attached to copper, or copper-containing compounds.
- Drinking water may have high levels of copper if your house has copper pipes and acidic water.
- Lakes and rivers that have been treated with copper compounds to control algae, or that receive cooling water from power plants, can have high levels of copper. Soils can also contain high levels of copper, especially if they are near copper smelting plants.
- You may be exposed to copper by ingesting copper-containing fungicides, or if you live near a copper mine or where copper is processed into bronze or brass.
- You may be exposed to copper if you work in copper mines or if you grind metals containing copper.

How can copper affect my health?

Everyone must absorb small amounts of copper every day because copper is essential for good health. High levels of copper can be harmful. Breathing high levels of copper can cause irritation of your nose and throat. Ingesting high levels of copper can cause nausea, vomiting, and diarrhea. Very-high doses of copper can cause damage to your liver and kidneys, and can even cause death.

ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>

How likely is copper to cause cancer?

We do not know whether copper can cause cancer in humans. The EPA has determined that copper is not classifiable as to human carcinogenicity.

How can copper affect children?

Exposure to high levels of copper will result in the same type of effects in children and adults. We do not know if these effects would occur at the same dose level in children and adults. Studies in animals suggest that the young children may have more severe effects than adults, but we don't know if this would also be true in humans. There is a very small percentage of infants and children who are unusually sensitive to copper.

We do not know if copper can cause birth defects or other developmental effects in humans. Studies in animals suggest that high levels of copper may cause a decrease in fetal growth.

How can families reduce the risk of exposure to copper?

The most likely place to be exposed to copper is through drinking water, especially if your water is corrosive and you have copper pipes in your house. The best way to lower the level of copper in your drinking water is to let the water run for at least 15 seconds first thing in the morning before drinking or using it. This reduces the levels of copper in tap water dramatically.

If you work with copper, wear the necessary protective clothing and equipment, and always follow safety procedures. Shower and change your clothes before going home each day.

Is there a medical test to show whether I've been exposed to copper?

Copper is found throughout the body; in hair, nails, blood, urine, and other tissues. High levels of copper in these samples can show that you have been exposed to higher-than-normal levels of copper. These tests cannot tell whether you will experience harmful effects. Tests to measure copper levels in the body are not usually available at a doctor's office because they require special equipment, but the doctor can send samples to a specialty laboratory.

Has the federal government made recommendations to protect human health?

The EPA requires that levels of copper in drinking water be less than 1.3 mg of copper per one liter of drinking water (1.3 mg/L).

The U.S. Department of Agriculture has set the recommended daily allowance for copper at 900 micrograms of copper per day ($\mu\text{g/day}$) for people older than eight years old.

The Occupational Safety and Health Administration (OSHA) requires that levels of copper in the air in workplaces not exceed 0.1 mg of copper fumes per cubic meter of air (0.1 mg/m^3) and 1.0 mg/m^3 for copper dusts.

Reference

Agency for Toxic Substances and Disease Registry (ATSDR). 2004. Toxicological Profile for Copper. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about aldrin and dieldrin. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to aldrin and dieldrin happens mostly from eating contaminated foods, such as root crops, fish, or seafood. Aldrin and dieldrin build up in the body after years of exposure and can affect the nervous system. Aldrin has been found in at least 207 of the 1,613 National Priorities List sites identified by the Environmental Protection Agency (EPA). Dieldrin has been found in at least 287 of the 1,613 sites.

What are aldrin and dieldrin?

Aldrin and dieldrin are insecticides with similar chemical structures. They are discussed together in this fact sheet because aldrin quickly breaks down to dieldrin in the body and in the environment. Pure aldrin and dieldrin are white powders with a mild chemical odor. The less pure commercial powders have a tan color. Neither substance occurs naturally in the environment.

From the 1950s until 1970, aldrin and dieldrin were widely used pesticides for crops like corn and cotton. Because of concerns about damage to the environment and potentially to human health, EPA banned all uses of aldrin and dieldrin in 1974, except to control termites. In 1987, EPA banned all uses.

What happens to aldrin and dieldrin when they enter the environment?

- Sunlight and bacteria change aldrin to dieldrin so that we mostly find dieldrin in the environment.
- They bind tightly to soil and slowly evaporate to the air.
- Dieldrin in soil and water breaks down very slowly.
- Plants take in and store aldrin and dieldrin from the soil.
- Aldrin rapidly changes to dieldrin in plants and animals.
- Dieldrin is stored in the fat and leaves the body very slowly.

How might I be exposed to aldrin or dieldrin?

- Dieldrin is everywhere in the environment, but at very low levels.

- Eating food like fish or shellfish from lakes or streams contaminated with either chemical, or contaminated root crops, dairy products, or meats.
- Air, surface water, or soil near waste sites may contain higher levels.
- Living in homes that were once treated with aldrin or dieldrin to control termites.

How can aldrin and dieldrin affect my health?

People who have intentionally or accidentally ingested large amounts of aldrin or dieldrin have suffered convulsions and some died. Health effects may also occur after a longer period of exposure to smaller amounts because these chemicals build up in the body.

Some workers exposed to moderate levels in the air for a long time had headaches, dizziness, irritability, vomiting, and uncontrolled muscle movements. Workers removed from the source of exposure rapidly recovered from most of these effects.

Animals exposed to high amounts of aldrin or dieldrin also had nervous system effects. In animals, oral exposure to lower levels for a long period also affected the liver and decreased their ability to fight infections. We do not know whether aldrin or dieldrin affect the ability of people to fight disease.

Studies in animals have given conflicting results about whether aldrin and dieldrin affect reproduction in male animals and whether these chemicals may damage the sperm.

ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>

We do not know whether aldrin or dieldrin affect reproduction in humans.

How likely are aldrin and dieldrin to cause cancer?

There is no conclusive evidence that aldrin or dieldrin cause cancer in humans. Aldrin and dieldrin have been shown to cause liver cancer in mice. The International Agency for Research on Cancer (IARC) has determined that aldrin and dieldrin are not classifiable as to human carcinogenicity. The EPA has determined that aldrin and dieldrin are probable human carcinogens.

How can aldrin and dieldrin affect children?

Children can be exposed to aldrin and dieldrin in the same way as adults. There are no known unique exposure pathways for children. Children who swallowed amounts of aldrin or dieldrin much larger than those found in the environment suffered convulsions and some died, as occurred in adults. However, we do not know whether children are more susceptible than adults to the effects of aldrin or dieldrin.

We do not know whether aldrin or dieldrin cause birth defects in humans. Pregnant animals that ingested aldrin or dieldrin had some babies with low birth weight and some with alterations in the skeleton. Dieldrin has been found in human breast milk, therefore, it can be passed to suckling infants.

How can families reduce the risk of exposure to aldrin and dieldrin?

- Since aldrin and dieldrin are no longer produced or used, exposure to these compounds will occur only from past usage.
- Because aldrin and dieldrin were applied to the basement of some homes for termite protection, before buying a home families should investigate what, if any, pesticides have been used within the home.

Is there a medical test to show whether I've been exposed to aldrin and dieldrin?

There are laboratory tests that can measure aldrin and dieldrin in your blood, urine, and body tissues. Because aldrin changes to dieldrin fairly quickly in the body, the test has to be done shortly after you are exposed to aldrin. Since dieldrin can stay in the body for months, measurements of dieldrin can be made much longer after exposure to either aldrin or dieldrin. The tests cannot tell you whether harmful health effects will occur. These tests are not routinely available at the doctor's office because they require special equipment.

Has the federal government made recommendations to protect human health?

The EPA limits the amount of aldrin and dieldrin that may be present in drinking water to 0.001 and 0.002 milligrams per liter (mg/L) of water, respectively, for protection against health effects other than cancer. The EPA has determined that a concentration of aldrin and dieldrin of 0.0002 mg/L in drinking water limits the lifetime risk of developing cancer from exposure to each compound to 1 in 10,000.

The Occupational Safety and Health Administration (OSHA) sets a maximum average of 0.25 milligrams of aldrin and dieldrin per cubic meter of air (0.25 mg/m³) in the workplace during an 8-hour shift, 40 hour week. The National Institute for Occupational Safety and Health (NIOSH) also recommends a limit of 0.25 mg/m³ for both compounds for up to a 10-hour work day, 40-hour week.

The Food and Drug Administration (FDA) regulates the residues of aldrin and dieldrin in raw foods. The allowable range is from 0 to 0.1 ppm, depending on the type of food product.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2002. Toxicological Profile for Aldrin/Dieldrin (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about ethylbenzene. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Ethylbenzene is a colorless liquid found in a number of products including gasoline and paints. Breathing very high levels can cause dizziness and throat and eye irritation. Breathing lower levels has resulted in hearing effects and kidney damage in animals. Ethylbenzene has been found in at least 829 of 1,689 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is ethylbenzene?

Ethylbenzene is a colorless, flammable liquid that smells like gasoline.

It is naturally found in coal tar and petroleum and is also found in manufactured products such as inks, pesticides, and paints.

Ethylbenzene is used primarily to make another chemical, styrene. Other uses include as a solvent, in fuels, and to make other chemicals.

What happens to ethylbenzene when it enters the environment?

- Ethylbenzene moves easily into the air from water and soil.
- It takes about 3 days for ethylbenzene to be broken down in air into other chemicals.
- In surface water, ethylbenzene breaks down by reacting with other chemicals found naturally in water.
- Ethylbenzene can move through soil into groundwater
- In soil, it is broken down by bacteria.

How might I be exposed to ethylbenzene?

- If you live in a city or near many factories or heavily traveled highways, you may be exposed to ethylbenzene in air.
- Releases of ethylbenzene into the air occur from burning oil, gas, and coal and from industries using ethylbenzene.

- Ethylbenzene is not often found in drinking water. Higher levels may be found in residential drinking water wells near landfills, waste sites, or leaking underground fuel storage tanks.
- Working in an industry where ethylbenzene is used or made.
- Using products containing it, such as gasoline, carpet glues, varnishes, and paints.

How can ethylbenzene affect my health?

Exposure to high levels of ethylbenzene in air for short periods can cause eye and throat irritation. Exposure to higher levels can result in dizziness.

Irreversible damage to the inner ear and hearing has been observed in animals exposed to relatively low concentrations of ethylbenzene for several days to weeks.

Exposure to relatively low concentrations of ethylbenzene in air for several months to years causes kidney damage in animals.

How likely is ethylbenzene to cause cancer?

The International Agency for Research on Cancer (IARC) has determined that ethylbenzene is a possible human carcinogen.

ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>

How can ethylbenzene affect children?

There are no studies evaluating the effects of ethylbenzene exposure on children or immature animals. It is likely that children would have the same health effects as adults. We do not know whether children would be more sensitive than adults to the effects of ethylbenzene.

We do not know if ethylbenzene will cause birth defects in humans. Minor birth defects and low birth weight have occurred in newborn animals whose mothers were exposed to ethylbenzene in air during pregnancy.

How can families reduce the risks of exposure to ethylbenzene?

- Use adequate ventilation to reduce exposure to ethylbenzene vapors from consumer products such as gasoline, pesticides, varnishes and paints, and newly installed carpeting.
- Sometimes older children sniff household chemicals, including ethylbenzene, in an attempt to get high. Talk with your children about the dangers of sniffing chemicals.
- Household chemicals should be stored out of reach of children to prevent accidental poisoning. Always store household chemicals in their original containers; never store them in containers that children would find attractive to eat or drink from, such as old soda bottles. Gasoline should be stored in a gasoline can with a locked cap.

Is there a medical test to determine whether I've been exposed to ethylbenzene?

Ethylbenzene is found in the blood, urine, breath, and some body tissues of exposed people. The most common way to test for ethylbenzene is in the urine. This test measures substances formed by the breakdown of ethylbenzene. Because these substances leave the body very quickly, this test needs to be done within a few hours after exposure occurs.

These tests can show you were exposed to ethylbenzene, but cannot predict the kind of health effects that might occur.

Has the federal government made recommendations to protect human health?

The EPA has determined that exposure to ethylbenzene in drinking water at concentrations of 30 ppm for 1 day or 3 ppm for 10 days is not expected to cause any adverse effects in a child.

The EPA has determined that lifetime exposure to 0.7 ppm ethylbenzene is not expected to cause any adverse effects.

The Occupational Health and Safety Administration (OSHA) has limited workers' exposure to an average of 100 ppm for an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Ethylbenzene (Draft for Public Comment). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet was created from information obtained from the United States Environmental Protection Agency (USEPA) Total Coliform Rule, found at <http://www.epa.gov/safewater/disinfection/tcr/index.html>. This fact sheet answers the most frequently asked health questions (FAQs) about coliforms and fecal coliforms. It is important you understand this information because these substances may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

Highlights: Total coliforms and fecal coliforms are groups of bacteria used as indicators of possible sewage contamination because they are commonly found in human and animal feces. Although they are generally not harmful themselves, they indicate the possible presence of pathogenic (disease-causing) bacteria, viruses, and protozoans that also live in human and animal digestive systems. Therefore, their presence in well water suggests that pathogenic microorganisms might also be present and that drinking well water might be a health risk. Sources of fecal contamination to well water includes septic systems, domestic and wild animal manure, and storm runoff.

What are total coliforms/fecal coliforms?

Total coliforms and fecal coliforms are a group of closely related bacteria that are usually free-living in the environment, but that are also present in water contaminated with human and animal feces. In general, coliform counts give an overall indication of the sanitary condition of a water supply. Fecal coliforms are bacteria found in feces, and are a subgroup of coliforms. Fecal coliforms normally reside in the intestinal tract of warm-blooded animals. The fecal coliform group includes both pathogen (disease-causing) and nonpathogenic bacteria. The presence of fecal coliforms in drinking water indicates that disease-causing organisms may be present.

Coliform contamination can occur when increased run-off enters the drinking water source (for example, following heavy rains). It can also happen due to a break in the water distribution system (pipes), or failure of a water treatment process.

What happens to coliforms/fecal coliforms when they enter the environment?

- Coliforms are free-living bacteria that are normally found in the environment.
- Coliforms are short-lived in the environment, outside of a warm-blooded host.

How might I be exposed to total coliforms/fecal coliforms?

- Ingesting coliforms in drinking water
- Ingesting fecal contaminated foodstuffs

How can coliforms/fecal coliforms affect my health?

Most coliform bacteria do not cause illness. However, their presence in a water system is a public health concern because of the potential for disease-causing strains of bacteria, viruses, and protozoa to also be present. Symptoms from water-borne illness may include diarrhea, cramps, nausea, headaches, jaundice, or fatigue. Symptoms may appear as early as a few hours to several days after infection and may last more than two weeks.

How can coliforms/fecal coliforms affect children?

Children experience the same health effect as adults following exposure. However, they may experience more severe symptoms due to immature immune systems and due to their increased susceptibility to dehydration.

How can families reduce the risks of exposure to coliforms/fecal coliforms?

- Drinking water should be periodically tested for total coliforms/fecal coliforms.
- If your drinking water has elevated levels of total coliforms or fecal coliforms you should use cleaner sources of water.

Is there a medical test to determine whether I've been exposed to coliforms/fecal coliforms?

Coliforms and fecal coliforms are typically present in the digestive system, however a stool sample may reveal an elevated level of a pathogenic strain, or the presence of a less common strain that may be associated with illness.

Has the federal government made recommendations to protect human health?

The USEPA has set and enforceable standard called a maximum contaminant level (MCL) for coliforms and fecal coliforms of zero colony-forming units (CFUs) per 100 milliliters water. The USEPA believes that any detection of coliforms or fecal coliforms in drinking water could potentially be associated with human illness.

References

United States Environmental Protection Agency (USEPA). Total Coliform Rule, July 2007. <http://www.epa.gov/safewater/disinfection/tcr/index.html>
United States Environmental Protection Agency (USEPA). Monitoring and Assessing Water Quality: Fecal Bacteria. <http://www.epa.gov/OWOW/monitoring/volunteer/stream/vms511.html>

Where Can I Get More Information? More information on the adverse effects of fecal coliforms/total coliforms can be obtained from your community or state health or environmental quality department.

This fact sheet was created from information presented in the National Library of Medicine Hazardous Substances Data Bank. This fact sheet answers the most frequently asked health questions (FAQs) about fluoride. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

Highlights: Fluorides are naturally occurring compounds. Low levels of fluorides can help prevent dental cavities. At high levels, fluorides can result in tooth and bone damage.

What is fluoride?

Fluoride is a naturally occurring element. Fluorides are often added to drinking water supplies and to a variety of dental products, including toothpaste and mouth rinses, to prevent dental cavities.

What happens to fluoride when it enters the environment?

- When fluoride is released to the air from volcanoes and industry, it is carried by wind and rain to nearby water, soil, and food sources.
- Fluorides in water and soil will form strong bonds with sediment or soil particles.
- Fluorides will accumulate in plants and animals. In animals, the fluoride accumulates primarily in the bones or shell rather than in soft tissues.

How might I be exposed to fluoride?

- The general population can be exposed to fluorides in contaminated air, food, drinking water, and soil.
- People living in communities with fluoridated water or high levels of naturally-occurring fluoride may be exposed to higher levels.
- People who work or live near industries where fluoride-containing substances are used may be exposed to higher levels.

How can fluoride affect my health?

- Small amounts of fluoride help prevent tooth cavities, but high levels can harm your health.
- In adults, exposure to high levels of fluoride can result in denser bones. However, if exposure is high enough, these bones may be more fragile and brittle and there may be a greater risk of breaking the bone.

How likely is fluoride to cause cancer?

- Most studies of people living in areas with fluoridated water or naturally high levels of fluoride in drinking water did not find an association between fluoride and cancer risks.
- Two animal cancer studies were inconclusive.
- The International Agency for Research on Cancer (IARC) has determined that the carcinogenicity of fluoride to humans is not classifiable.

How can fluoride affect children?

- When used appropriately, fluoride is both safe and effective in preventing and controlling cavities.
- Drinking or eating excessive fluoride during the time teeth are being formed (before 8 years of age) can cause visible changes in teeth. This condition is called dental fluorosis.
- At very high concentrations of fluoride, the teeth can become more fragile and sometimes can break.
- No studies have addressed whether low levels of fluoride will cause birth defects in humans. Birth defects have not been found in most studies of animals.

How can families reduce the risks of exposure to fluoride?

- ❑ In the home, children may be exposed to high levels of fluorides if they swallow dental products containing fluoridated toothpaste, gels, or rinses.
- ❑ Parents should supervise teeth brushing and place, at most, a small pea-size dab of toothpaste on the brush and teach children not to swallow dental products.
- ❑ People who live in areas with high levels of naturally-occurring fluoride in the water should use alternative sources of drinking water, such as bottled water.

Is there a medical test to determine whether I've been exposed to fluoride?

- ❑ Tests are available to measure fluoride levels in urine; these tests can determine if you have been exposed to higher-than normal levels of fluorides. The urine test must be performed soon after exposure because fluoride that is not stored in bones leaves the body within a few days. The test cannot be performed in the doctor's office, but can be done at most laboratories that test for chemical exposure.
- ❑ The urine fluoride test cannot be used to predict the nature or severity of toxic effects. Bone sampling can be done in special cases to measure long-term exposure to fluorides.

Has the federal government made recommendations to protect human health?

- ❑ The United States Environmental Protection Agency (EPA) has set a maximum amount of fluoride allowable in drinking water of 4.0 milligrams per liter of water (4.0 mg/L).
- ❑ For the prevention of dental decay, the United States Public Health Service (PHS) has, since 1962, recommended that public water supplies contain between 0.7 and 1.2 milligrams of fluoride per liter of drinking water.
- ❑ The United States Occupational Safety and Health Administration (OSHA) has set limits of 2.5 mg/m³ for fluoride in workroom air to protect workers during an 8-hour shift over a 40-hour work week.

References

ATSDR ToxFAQ™.

<http://www.atsdr.cdc.gov/tfacts11.html#bookmark01>

National Library of Medicine. Hazardous Substances Data Bank. <http://toxnet.nlm.nih.gov/>

Where Can I Get More Information? More information on the adverse effects fluoride can be obtained from your community or state health or environmental quality department.

This fact sheet answers the most frequently asked health questions (FAQs) about formaldehyde. For more information, call the ATSDR Information Center at 1-800-CDC-INFO. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Everyone is exposed to small amounts of formaldehyde in air and some foods and products. Formaldehyde can cause irritation of the skin, eyes, nose, and throat. High levels of exposure may cause some types of cancers. This substance has been found in at least 26 of the 1,467 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is formaldehyde?

(Pronounced fôr-mäl/də-hid')

At room temperature, formaldehyde is a colorless, flammable gas that has a distinct, pungent smell. It is also known as methanal, methylene oxide, oxymethylene, methylaldehyde, and oxomethane. Formaldehyde is naturally produced in small amounts in our bodies.

It is used in the production of fertilizer, paper, plywood, and urea-formaldehyde resins. It is also used as a preservative in some foods and in many products used around the house, such as antiseptics, medicines, and cosmetics.

What happens to formaldehyde when it enters the environment?

- Formaldehyde dissolves easily but does not last a long time in water.
- Most formaldehyde in the air breaks down during the day.
- The breakdown products of formaldehyde are formic acid and carbon monoxide.
- Formaldehyde does not build up in plants and animals.

How might I be exposed to formaldehyde?

- Smog is a major source of formaldehyde exposure.
- Cigarettes and other tobacco products, gas cookers, and open fireplaces are sources of formaldehyde exposure.
- It is used in many industries and in hospitals and laboratories.
- Formaldehyde is given off as a gas from the manufactured wood products used in new mobile homes.
- The amount of formaldehyde in foods is very small.
- Household sources, such as fiberglass, carpets, permanent press fabrics, paper products, and some household cleaners.

How can formaldehyde affect my health?

Low levels of formaldehyde can cause irritation of the eyes, nose, throat, and skin. It is possible that people with asthma may be more sensitive to the effects of inhaled formaldehyde.

Drinking large amounts of formaldehyde can cause severe pain, vomiting, coma, and possible death.

ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>

How likely is formaldehyde to cause cancer?

Some studies of people exposed to formaldehyde in workplace air found more cases of cancer of the nose and throat than expected, but other studies did not confirm this finding.

In animal studies, rats exposed to high levels of formaldehyde in air developed nose cancer. The Department of Health and Human Services (DHHS) has determined that formaldehyde may reasonably be anticipated to be a carcinogen.

How can formaldehyde affect children?

The most common route of exposure is by breathing it, which is likely to cause nose and eye irritation (burning, itchy, tearing, and sore throat) in children as well as in adults.

Animal studies suggest that formaldehyde will not cause birth defects in humans. It is not likely to be transferred to a child in breast milk.

How can families reduce the risk of exposure to formaldehyde?

Formaldehyde is usually found in the air, and levels are usually higher indoors than outdoors. Opening windows and using fans to bring fresh air indoors are the easiest ways to lower levels in the house. Not smoking and not using unvented heaters indoors can lower the formaldehyde levels.

Removing formaldehyde sources in the home can reduce exposure. Formaldehyde is given off from a number of products used in the home. Providing fresh air, sealing unfinished manufactured wood surfaces, and washing new permanent press clothing before wearing can help lower exposure.

Is there a medical test to show whether I've been exposed to formaldehyde?

Laboratory tests can measure formaldehyde in blood, urine, and breath. These tests do not tell you how much formaldehyde you have been exposed to or if harmful effects will occur. The tests are not routinely available at your doctor's office.

What recommendations has the federal government made to protect human health?

The EPA recommends that an adult should not drink water containing more than 1 milligram of formaldehyde per liter of water (1 mg/L) for a lifetime exposure, and a child should not drink water containing more than 10 mg/L for 1 day or 5 mg/L for 10 days.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit for formaldehyde of 0.75 parts per million (ppm) for an 8-hour workday, 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) recommends an exposure limit of 0.016 ppm.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Toxicological profile for formaldehyde. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Services.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-CDC-INFO, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about hexachlorobutadiene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Most exposure to hexachlorobutadiene comes from breathing it in workplace air. People living near hazardous waste sites may be exposed to it by breathing air or by drinking contaminated water. Animal studies suggest that hexachlorobutadiene can damage the kidneys and liver and may cause kidney tumors. This chemical has been found in at least 47 of 1,416 National Priorities List sites identified by the Environmental Protection Agency.

What is hexachlorobutadiene?

(Pronounced hĕk'sə klŏr' ō byŏŏ'tə-dī'ēn')

Hexachlorobutadiene is a colorless liquid with a turpentine-like odor. It is also called perchlorobutadiene. Hexachlorobutadiene is not found naturally in the environment. It is formed when other chemicals are made.

Most hexachlorobutadiene used commercially in the United States is imported from Germany. It is mainly used to make rubber compounds. It is also used as a solvent, and to make lubricants, in gyroscopes, as a heat transfer liquid, and as a hydraulic fluid.

What happens to hexachlorobutadiene when it enters the environment?

- Hexachlorobutadiene is released to the environment mainly from its disposal following industrial uses.
- In air, half of it may be broken down to other chemicals within 60 days.
- In water, half of it may be broken down to other chemicals within about 30 days.
- Hexachlorobutadiene appears to readily break down in soil.
- Hexachlorobutadiene can accumulate in fish and shellfish.

How might I be exposed to hexachlorobutadiene?

- Working in industries that make or use hexachlorobutadiene.
- Breathing air around hazardous waste sites where it has been disposed of.
- Drinking water contaminated with hexachlorobutadiene.
- Eating fish or other foods contaminated with it.

How can hexachlorobutadiene affect my health?

There are no studies that have looked at the effects of hexachlorobutadiene in people. All of our information has come from studies in animals.

Studies in mice have shown irritation of the nose when large amounts were breathed over a short time. The only other effect noted in animals from breathing hexachlorobutadiene was a reduction in the body weights of fetuses when their mothers breathed high levels of the chemical.

There are no studies which looked at animals breathing low levels of hexachlorobutadiene over a long time.

Rats and mice that drank low levels of hexachlorobutadiene over both short and long periods had kidney and

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liver damage. No effects on reproduction or on the developing fetuses were seen when rats and mice drank hexachlorobutadiene.

Studies in rabbits found kidney and liver damage from contact with the chemical on the skin for a short time.

How likely is hexachlorobutadiene to cause cancer?

The Environmental Protection Agency (EPA) has determined that hexachlorobutadiene is a possible human carcinogen.

An animal study found kidney tumors in rats exposed to low levels of hexachlorobutadiene. It is not known whether it may also cause cancer in people.

Is there a medical test to show whether I've been exposed to hexachlorobutadiene?

Tests are available that measure levels of hexachlorobutadiene and its breakdown products in urine or fat. However, these tests must be performed within several days after exposure because hexachlorobutadiene leaves the body fairly quickly.

These tests are not usually performed in most doctors' offices because special equipment is needed to conduct them. In addition, these tests cannot determine if adverse health effects will occur from the exposure to hexachlorobutadiene.

Has the federal government made recommendations to protect human health?

EPA has recommended guidelines for exposure to hexachlorobutadiene in drinking water. EPA recommends

that exposures in children should not exceed 0.3 milligrams per liter (mg/L) for 10-day periods or more than 0.1 mg/L for longer periods (7 years). Adults should not be exposed to more than 0.4 mg/L for longer periods (7 years).

EPA requires that discharges or accidental spills into the environment of 1 pound or more of hexachlorobutadiene be reported.

The National Institute for Occupational Safety and Health (NIOSH) has recommended an occupational exposure limit of 0.02 parts hexachlorobutadiene per million parts in air (0.02 ppm) for an 8-hour workday over a 40-hour work-week.

The American Conference of Governmental Industrial Hygienists (ACGIH) has established the same guidelines as NIOSH for the workplace.

These agencies advise avoiding eye and skin contact because this may be a route of significant exposure.

Glossary

Carcinogen: A substance that can cause cancer.

Long time: Lasting one year or longer.

ppm: Parts per million.

Short time: Lasting 14 days or less.

Solvent: A substance that dissolves another substance.

Tumor: An abnormal mass of tissue.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1992. Toxicological profile for hexachlorobutadiene. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about *n*-hexane. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: *n*-Hexane is mixed with solvents for a number of uses. Inhaling *n*-hexane causes nerve damage and paralysis of the arms and legs. Some people abuse products containing *n*-hexane by inhaling it to get "high." This substance has been found in at least 60 of the 1,467 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is *n*-hexane?

(Pronounced ěn hěk' sĀn)

n-Hexane is a chemical made from crude oil. Pure *n*-hexane is a colorless liquid with a slightly disagreeable odor. It is highly flammable, and its vapors can be explosive.

Pure *n*-hexane is used in laboratories. Most of the *n*-hexane used in industry is mixed with similar chemicals called solvents. The major use for solvents containing *n*-hexane is to extract vegetable oils from crops such as soybeans.

These solvents are also used as cleaning agents in the printing, textile, furniture, and shoemaking industries. Certain kinds of special glues used in the roofing and shoe and leather industries also contain *n*-hexane. Several consumer products contain *n*-hexane, such as gasoline, quick-drying glues used in various hobbies, and rubber cement.

What happens to *n*-hexane when it enters the environment?

- n*-Hexane enters the environment during its manufacture and use.

- It evaporates very easily into the air where it is broken down in a few days.
- It dissolves only slightly in water.
- Most of *n*-hexane spilled in water will float on the surface where it evaporates into the air.
- If *n*-hexane is spilled on the ground, most of it will evaporate before it can soak into the soil.
- n*-Hexane is not concentrated by plants, fish, or animals.

How might I be exposed to *n*-hexane?

- You are most likely to be exposed to *n*-hexane by breathing in air contaminated with it.
- You may be exposed if you use products containing it at work.
- Since it is in gasoline, nearly everyone is exposed to very small amounts of *n*-hexane in the air.
- Exposure can occur at home if you use products containing *n*-hexane without proper ventilation.

How can *n*-hexane affect my health?

The only people known to have been affected by exposure to *n*-hexane used it at work. Breathing large amounts caused numbness in the feet and hands, followed by muscle

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weakness in the feet and lower legs. Continued exposure led to paralysis of the arms and legs. If removed from the exposure, the workers recovered in 6 months to a year.

In laboratory studies, animals exposed to high levels of *n*-hexane in air had signs of nerve damage. Some animals also had lung damage. In other studies, rats exposed to very high levels of *n*-hexane had damage to sperm-forming cells.

How likely is *n*-hexane to cause cancer?

There is no evidence that *n*-hexane causes cancer in people or animals.

The Department of Health and Human Services (DHHS), International Agency for Research on Cancer (IARC) and the EPA have not classified *n*-hexane for carcinogenicity.

How can *n*-hexane affect children?

Since most exposure occurs at work, children aren't likely to be exposed to levels of *n*-hexane that cause problems. We don't know if the effects seen in children would be different than those seen in adults.

Sometimes older children inhale or "sniff" household chemicals in an attempt to get "high." This has caused paralysis of the arms and legs of teenagers in the U.S. and Europe.

How can families reduce the risk of exposure to *n*-hexane?

- Teach your children and teenagers the dangers of inhaling products that contain *n*-hexane.
- Keep products containing *n*-hexane (quick-drying glues and cements) out of the reach of children.

- Maintain proper ventilation when using these products.
- Never store household chemicals in containers, such as old soda bottles, that children might find attractive.

Is there a medical test to show whether I've been exposed to *n*-hexane?

If you have been exposed to harmful amounts of *n*-hexane, the amount of one of its breakdown products will probably be increased in your urine. Your doctor can send a sample to a specialized laboratory. This test can only detect *n*-hexane exposure that occurred within 2 to 3 days of testing.

Has the federal government made recommendations to protect human health?

The EPA requires that spills or accidental releases of 5,000 pounds or more of *n*-hexane be reported to the EPA.

The National Institute of Occupational Safety and Health (NIOSH) recommends exposure to no more than 50 parts per million (ppm) in workplace air. The Occupational Health and Safety Administration (OSHA) has set a permissible exposure limit of 500 ppm for *n*-hexane in workplace air.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Toxicological profile for *n*-hexane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about lead. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to lead can happen from breathing workplace air or dust, eating contaminated foods, or drinking contaminated water. Children can be exposed from eating lead-based paint chips or playing in contaminated soil. Lead can damage the nervous system, kidneys, and reproductive system. Lead has been found in at least 1,272 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is lead?

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing.

Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays. Because of health concerns, lead from paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years. The use of lead as an additive to gasoline was banned in 1996 in the United States.

What happens to lead when it enters the environment?

- Lead itself does not break down, but lead compounds are changed by sunlight, air, and water.
- When lead is released to the air, it may travel long distances before settling to the ground.
- Once lead falls onto soil, it usually sticks to soil particles.
- Movement of lead from soil into groundwater will depend on the type of lead compound and the characteristics of the soil.

How might I be exposed to lead?

- Eating food or drinking water that contains lead. Water pipes in some older homes may contain lead solder. Lead can leach out into the water.

- Spending time in areas where lead-based paints have been used and are deteriorating. Deteriorating lead paint can contribute to lead dust.

- Working in a job where lead is used or engaging in certain hobbies in which lead is used, such as making stained glass.

- Using health-care products or folk remedies that contain lead.

How can lead affect my health?

The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production.

How likely is lead to cause cancer?

We have no conclusive proof that lead causes cancer in humans. Kidney tumors have developed in rats and mice that had been given large doses of some kind of lead compounds. The Department of Health and Human Services

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(DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens and the EPA has determined that lead is a probable human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic lead is probably carcinogenic to humans and that there is insufficient information to determine whether organic lead compounds will cause cancer in humans.

How can lead affect children?

Small children can be exposed by eating lead-based paint chips, chewing on objects painted with lead-based paint, or swallowing house dust or soil that contains lead.

Children are more vulnerable to lead poisoning than adults. A child who swallows large amounts of lead may develop blood anemia, severe stomachache, muscle weakness, and brain damage. If a child swallows smaller amounts of lead, much less severe effects on blood and brain function may occur. Even at much lower levels of exposure, lead can affect a child's mental and physical growth.

Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common if the mother or baby was exposed to high levels of lead. Some of these effects may persist beyond childhood.

How can families reduce the risks of exposure to lead?

- Avoid exposure to sources of lead.
- Do not allow children to chew on mouth surfaces that may have been painted with lead-based paint.
- If you have a water lead problem, run or flush water that has been standing overnight before drinking or cooking with it.
- Some types of paints and pigments that are used as make-up or hair coloring contain lead. Keep these kinds of products away from children
- If your home contains lead-based paint or you live in an area contaminated with lead, wash children's hands and faces

often to remove lead dusts and soil, and regularly clean the house of dust and tracked in soil.

Is there a medical test to determine whether I've been exposed to lead?

A blood test is available to measure the amount of lead in your blood and to estimate the amount of your recent exposure to lead. Blood tests are commonly used to screen children for lead poisoning. Lead in teeth or bones can be measured by X-ray techniques, but these methods are not widely available. Exposure to lead also can be evaluated by measuring erythrocyte protoporphyrin (EP) in blood samples. EP is a part of red blood cells known to increase when the amount of lead in the blood is high. However, the EP level is not sensitive enough to identify children with elevated blood lead levels below about 25 micrograms per deciliter ($\mu\text{g}/\text{dL}$). These tests usually require special analytical equipment that is not available in a doctor's office. However, your doctor can draw blood samples and send them to appropriate laboratories for analysis.

Has the federal government made recommendations to protect human health?

The Centers for Disease Control and Prevention (CDC) recommends that states test children at ages 1 and 2 years. Children should be tested at ages 3–6 years if they have never been tested for lead, if they receive services from public assistance programs for the poor such as Medicaid or the Supplemental Food Program for Women, Infants, and Children, if they live in a building or frequently visit a house built before 1950; if they visit a home (house or apartment) built before 1978 that has been recently remodeled; and/or if they have a brother, sister, or playmate who has had lead poisoning. CDC considers a blood lead level of 10 $\mu\text{g}/\text{dL}$ to be a level of concern for children.

EPA limits lead in drinking water to 15 μg per liter.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for lead (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about methyl *tert*-butyl ether (MTBE). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Methyl *tert*-butyl ether (MTBE) is a flammable liquid which is used as an additive in unleaded gasoline. Drinking or breathing MTBE may cause nausea, nose and throat irritation, and nervous system effects. MTBE has been found in at least 11 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is methyl *tert*-butyl ether?

(Pronounced məth'əl tūr'shē-ēr'ē byōōt'l ē'thər)

Methyl *tert*-butyl ether (MTBE) is a flammable liquid with a distinctive, disagreeable odor. It is made from blending chemicals such as isobutylene and methanol, and has been used since the 1980s as an additive for unleaded gasolines to achieve more efficient burning.

MTBE is also used to dissolve gallstones. Patients treated in this way have MTBE delivered directly to their gall bladders through special tubes that are surgically inserted.

What happens to MTBE when it enters the environment?

- MTBE quickly evaporates from open containers and surface water, so it is commonly found as a vapor in the air.
- Small amounts of MTBE may dissolve in water and get into underground water.
- It remains in underground water for a long time.

- MTBE may stick to particles in water, which will cause it to eventually settle to the bottom sediment.
- MTBE may be broken down quickly in the air by sunlight.
- MTBE does not build up significantly in plants and animals.

How might I be exposed to MTBE?

- Touching the skin or breathing contaminated air while pumping gasoline.
- Breathing exhaust fumes while driving a car.
- Breathing air near highways or in cities.
- Drinking, swimming, or showering in water that has been contaminated with MTBE.
- Receiving MTBE treatment for gallstones.

How can MTBE affect my health?

Breathing small amounts of MTBE for short periods may cause nose and throat irritation. Some people exposed to MTBE while pumping gasoline, driving their cars, or working

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in gas stations have reported having headaches, nausea, dizziness, and mental confusion. However, the actual levels of exposure in these cases are unknown. In addition, these symptoms may have been caused by exposure to other chemicals.

There are no data on the effects in people of drinking MTBE. Studies with rats and mice suggest that drinking MTBE may cause gastrointestinal irritation, liver and kidney damage, and nervous system effects.

How likely is MTBE to cause cancer?

There is no evidence that MTBE causes cancer in humans. One study with rats found that breathing high levels of MTBE for long periods may cause kidney cancer. Another study with mice found that breathing high levels of MTBE for long periods may cause liver cancer.

The Department of Health and Human Services (DHHS), the International Agency for Research on Cancer (IARC), and the EPA have not classified MTBE as to its carcinogenicity.

Is there a medical test to show whether I've been exposed to MTBE?

MTBE and its breakdown product, butyl alcohol, can be detected in your breath, blood, or urine for up to 1 or 2 days after exposure. These tests aren't available at most doctors' offices, but can be done at special laboratories that have the right equipment. There is no other test specific to determining MTBE exposure.

Has the federal government made recommendations to protect human health?

The EPA has issued guidelines recommending that, to protect children, drinking water levels of MTBE not exceed 4 milligrams per liter of water (4 mg/L) for an exposure of 1-10 days, and 3 mg/L for longer-term exposures.

The American Conference of Governmental Industrial Hygienists (ACGIH) has recommended an exposure limit of 40 parts of MTBE per million parts of air (40 ppm) for an 8-hour workday, 40-hour workweek.

Glossary

Carcinogenicity: Ability to cause cancer.

CAS: Chemical Abstracts Service.

Evaporate: To change into a vapor or gas.

Milligram (mg): One thousandth of a gram.

ppm: Parts per million.

Sediment: Mud and debris that have settled to the bottom of a body of water.

References

This ToxFAQs information is taken from the 1996 Toxicological Profile for Methyl *tert*-Butyl Ether produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because these substances may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene happens mostly from breathing air contaminated from the burning of wood, tobacco, or fossil fuels, industrial discharges, or moth repellents. Exposure to large amounts of naphthalene may damage or destroy some of your red blood cells. Naphthalene has caused cancer in animals. Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene have been found in at least 687, 36, and 412, respectively, of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What are naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene?

Naphthalene is a white solid that evaporates easily. Fuels such as petroleum and coal contain naphthalene. It is also called white tar, and tar camphor, and has been used in mothballs and moth flakes. Burning tobacco or wood produces naphthalene. It has a strong, but not unpleasant smell. The major commercial use of naphthalene is in the manufacture of polyvinyl chloride (PVC) plastics. Its major consumer use is in moth repellents and toilet deodorant blocks.

1-Methylnaphthalene and 2-methylnaphthalene are naphthalene-related compounds. 1-Methylnaphthalene is a clear liquid and 2-methylnaphthalene is a solid; both can be smelled in air and in water at very low concentrations.

1-Methylnaphthalene and 2-methylnaphthalene are used to make other chemicals such as dyes and resins. 2-Methylnaphthalene is also used to make vitamin K.

What happens to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene when they enter the environment?

- Naphthalene enters the environment from industrial and domestic sources, and from accidental spills.
- Naphthalene can dissolve in water to a limited degree and may be present in drinking water from wells close to hazardous waste sites and landfills.
- Naphthalene can become weakly attached to soil or pass through soil into underground water.
- In air, moisture and sunlight break it down within 1 day. In water, bacteria break it down or it evaporates into the air.
- Naphthalene does not accumulate in the flesh of animals or fish that you might eat.

1-Methylnaphthalene and 2-methylnaphthalene are expected to act like naphthalene in air, water, or soil because they have similar chemical and physical properties.

How might I be exposed to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene?

- Breathing low levels in outdoor air.
- Breathing air contaminated from industrial discharges or smoke from burning wood, tobacco, or fossil fuels.
- Using or making moth repellents, coal tar products, dyes or inks could expose you to these chemicals in the air.
- Drinking water from contaminated wells.
- Touching fabrics that are treated with moth repellents containing naphthalene.
- Exposure to naphthalene, 1-methylnaphthalene and 2-methylnaphthalene from eating foods or drinking beverages is unlikely.

How can naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene affect my health?

Exposure to large amounts of naphthalene may damage or destroy some of your red blood cells. This could cause you to have too few red blood cells until your body replaces the destroyed cells. This condition is called hemolytic anemia. Some symptoms of hemolytic anemia are fatigue, lack of appetite, restlessness, and pale skin. Exposure to large amounts of naphthalene may also cause nausea, vomiting, diarrhea, blood in the urine, and a yellow color to the skin. Animals sometimes develop cloudiness in their eyes after swallowing high amounts of naphthalene. It is not clear whether this also develops in people. Rats and mice that breathed naphthalene vapors daily for a lifetime developed irritation and inflammation of their nose and lungs. It is unclear if naphthalene

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causes reproductive effects in animals; most evidence says it does not.

There are no studies of humans exposed to 1-methylnaphthalene or 2-methylnaphthalene.

Mice fed food containing 1-methylnaphthalene and 2-methylnaphthalene for most of their lives had part of their lungs filled with an abnormal material.

How likely are naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene to cause cancer?

There is no direct evidence in humans that naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene cause cancer.

However, cancer from naphthalene exposure has been seen in animal studies. Some female mice that breathed naphthalene vapors daily for a lifetime developed lung tumors. Some male and female rats exposed to naphthalene in a similar manner also developed nose tumors.

Based on the results from animal studies, the Department of Health and Human Services (DHHS) concluded that naphthalene is reasonably anticipated to be a human carcinogen. The International Agency for Research on Cancer (IARC) concluded that naphthalene is possibly carcinogenic to humans. The EPA determined that naphthalene is a possible human carcinogen (Group C) and that the data are inadequate to assess the human carcinogenic potential of 2-methylnaphthalene.

How can naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene affect children?

Hospitals have reported many cases of hemolytic anemia in children, including newborns and infants, who either ate naphthalene mothballs or deodorants cakes or who were in close contact with clothing or blankets stored in naphthalene mothballs. Naphthalene can move from a pregnant woman's blood to the unborn baby's blood. Naphthalene has been detected in some samples of breast milk from the general U.S. population, but not at levels that are expected to be of concern.

There is no information on whether naphthalene has affected development in humans. No developmental abnormalities were observed in the offspring from rats, mice, and rabbits fed naphthalene during pregnancy.

We do not have any information on possible health effects of 1-methylnaphthalene or 2-methylnaphthalene on children.

How can families reduce the risks of exposure to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene?

Families can reduce the risks of exposure to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene by avoiding smoking tobacco, generating smoke during cooking, or using

fireplaces or heating appliances in their homes.

If families use naphthalene-containing moth repellents, the material should be enclosed in containers that prevent vapors from escaping, and kept out of the reach from children.

Blankets and clothing stored with naphthalene moth repellents should be aired outdoors to remove naphthalene odors and washed before they are used.

Families should inform themselves of the contents of air deodorizers that are used in their homes and refrain from using deodorizers with naphthalene.

Is there a medical test to determine whether I've been exposed to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene?

Tests are available that measure levels of these chemicals and their breakdown products in samples of urine, feces, blood, maternal milk, or body fat. These tests are not routinely available in a doctor's office because they require special equipment, but samples can be sent to special testing laboratories. These tests cannot determine exactly how much naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene you were exposed to or predict whether harmful effects will occur. If the samples are collected within a day or two of exposure, then the tests can show if you were exposed to a large or small amount of naphthalene, 1-methylnaphthalene, or 2-methylnaphthalene.

Has the federal government made recommendations to protect human health?

The EPA recommends that children not drink water with over 0.5 parts per million (0.5 ppm) naphthalene for more than 10 days or over 0.4 ppm for any longer than 7 years. Adults should not drink water with more than 1 ppm for more than 7 years. For water consumed over a lifetime (70 years), the EPA suggests that it contain no more than 0.1 ppm naphthalene.

The Occupational Safety and Health Administration (OSHA) set a limit of 10 ppm for the level of naphthalene in workplace air during an 8-hour workday, 40-hour workweek. The National Institute for Occupational Safety and Health (NIOSH) considers more than 500 ppm of naphthalene in air to be immediately dangerous to life or health. This is the exposure level of a chemical that is likely to impair a worker's ability to leave a contaminate area and therefore, results in permanent health problems or death.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet was created from information presented in the Agency for Toxic Substances and Disease Registry (ATSDR) Case Studies in Environmental Medicine Course (ATSDR, 2007). This fact sheet answers the most frequently asked health questions (FAQs) about nitrate and nitrite. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

Highlights: The widespread use of nitrate fertilizers has increased the risk of well water contamination in rural areas. Shallow, rural domestic wells are those most likely to be contaminated with nitrates, especially in agricultural areas where nitrogen based fertilizers are in use. Other nitrate sources in well water include seepage from septic sewer systems, or other contaminants. The conversion of nitrates to nitrites in the body significantly enhances nitrates' toxicity. Infants younger than four months are at particular risk of nitrate toxicity from contaminated well water. Parents that use water to make formula for infants should be especially careful.

What are nitrates and nitrites?

Nitrate (NO_3^-) and nitrite (NO_2^-) are naturally occurring inorganic ions that are part of the nitrogen cycle. Microbial action in soil or water decomposes wastes containing organic nitrogen into ammonia, which is then oxidized to nitrite and nitrate.

Because nitrite is easily oxidized to nitrate, nitrate is the compound predominantly found in groundwater and surface water.

Contamination with nitrogen-containing fertilizers (e.g. potassium nitrate and ammonium nitrate), or animal or human organic wastes, can raise the concentration of nitrate in water.

What happens to nitrate/nitrite when it enters the environment?

- Nitrate-containing compounds in the soil are generally soluble and readily migrate with groundwater.
- Microbial action in soil or water decomposes wastes containing organic nitrogen into ammonia, which is then oxidized to nitrite and nitrate.

How might I be exposed to nitrate/nitrite?

- Ingesting nitrate and nitrite in well water used for drinking water
- Infants ingesting formula made with water containing nitrate or nitrite.

- Ingesting contaminated foodstuffs
- Ingesting prepared baby foods and sausage preserved with nitrates and nitrites.
- Ingesting certain medications and breathing volatile nitrite inhalants.

How can nitrate/nitrite affect my health?

Ingesting high levels of nitrate/nitrite can cause methemoglobinemia. Methemoglobinemia is a disorder characterized by the presence of a higher than normal level of methemoglobin in the blood. Methemoglobin is a form of hemoglobin that does not bind oxygen. When its concentration is elevated in red blood cells, anemia and tissue hypoxia can occur.

How likely is nitrate/nitrite to cause cancer?

Nitrate and nitrite have not undergone an evaluation of carcinogenic potential by the U.S. Environmental Protection Agency (USEPA).

How can nitrate/nitrite affect children?

As with adults, ingesting high levels of nitrate/nitrite can cause methemoglobinemia. Infants under the age of four months are at higher risk due to their reduced ability to convert methemoglobin back to hemoglobin. In addition, the high pH of the infant gastrointestinal system favors the growth of bacteria that reduce nitrate to nitrite, which is responsible for creation of methemoglobin.

How can families reduce the risks of exposure to nitrate/nitrite?

- Well water should be periodically tested for nitrate/nitrite.
- If your drinking water has elevated levels of nitrate/nitrate you should use cleaner sources of water.
- If your drinking water has elevated levels of nitrate/nitrate you should not use it to make baby formula.

Is there a medical test to determine whether I've been exposed to nitrate/nitrite?

The most useful diagnostic tests measure the methemoglobin concentration in blood, which is an indicator of nitrate/nitrite toxicity. Tests include both a visual observation of blood, which is chocolate-brown in appearance when there is a high

concentration of methemoglobin, and measurement of the oxygen carrying capacity of blood, which is reduced when a high level of methemoglobin is present.

Has the federal government made recommendations to protect human health?

The USEPA has set an enforceable standard called a maximum contaminant level (MCL) for nitrates at 10 parts per million (ppm), and for nitrites at 1 ppm. The USEPA believes that exposure below this level is not expected to cause health problems.

The Joint Expert Committee on Food Additives (JECFA) of the Food and Agriculture Organization of the United Nations/World Health Organization and the European Commission's Scientific Committee on Food have set an acceptable daily intake (ADI) for nitrate of 0 – 3.7 mg nitrate ion/kg body weight.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Case Studies in Environmental Medicine: Nitrate/Nitrite Toxicity. Course WB 1107, September 24, 2007. U.S. Department of Public Health and Human Services, Public Health Service.

Where Can I Get More Information? More information on the adverse effects of nitrate/nitrite

can be found from CDC- INFO:

800-CDC-INFO

800-232-4636

TTY 888-232-6348

24 Hours/Day

E-mail: cdcinfo@cdc.gov

You can also contact your community or state health or environmental quality department if you have any questions or concerns.

This fact sheet answers the most frequently asked health questions (FAQs) about tetrachloroethylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Tetrachloroethylene is a manufactured chemical used for dry cleaning and metal degreasing. Exposure to very high concentrations of tetrachloroethylene can cause dizziness, headaches, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death. Tetrachloroethylene has been found in at least 771 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is tetrachloroethylene?

(Pronounced tět'rə-klôr' 0-ěth'ə-lēn')

Tetrachloroethylene is a manufactured chemical that is widely used for dry cleaning of fabrics and for metal-degreasing. It is also used to make other chemicals and is used in some consumer products.

Other names for tetrachloroethylene include perchloroethylene, PCE, and tetrachloroethene. It is a nonflammable liquid at room temperature. It evaporates easily into the air and has a sharp, sweet odor. Most people can smell tetrachloroethylene when it is present in the air at a level of 1 part tetrachloroethylene per million parts of air (1 ppm) or more, although some can smell it at even lower levels.

What happens to tetrachloroethylene when it enters the environment?

- Much of the tetrachloroethylene that gets into water or soil evaporates into the air.
- Microorganisms can break down some of the tetrachloroethylene in soil or underground water.
- In the air, it is broken down by sunlight into other chemicals or brought back to the soil and water by rain.
- It does not appear to collect in fish or other animals that live in water.

How might I be exposed to tetrachloroethylene?

- When you bring clothes from the dry cleaners, they will release small amounts of tetrachloroethylene into the air.
- When you drink water containing tetrachloroethylene, you are exposed to it.

How can tetrachloroethylene affect my health?

High concentrations of tetrachloroethylene (particularly in closed, poorly ventilated areas) can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death.

Irritation may result from repeated or extended skin contact with it. These symptoms occur almost entirely in work (or hobby) environments when people have been accidentally exposed to high concentrations or have intentionally used tetrachloroethylene to get a "high."

In industry, most workers are exposed to levels lower than those causing obvious nervous system effects. The health effects of breathing in air or drinking water with low levels of tetrachloroethylene are not known.

Results from some studies suggest that women who work in dry cleaning industries where exposures to tetrachloroethyl-

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ene can be quite high may have more menstrual problems and spontaneous abortions than women who are not exposed. However, it is not known if tetrachloroethylene was responsible for these problems because other possible causes were not considered.

Results of animal studies, conducted with amounts much higher than those that most people are exposed to, show that tetrachloroethylene can cause liver and kidney damage. Exposure to very high levels of tetrachloroethylene can be toxic to the unborn pups of pregnant rats and mice. Changes in behavior were observed in the offspring of rats that breathed high levels of the chemical while they were pregnant.

How likely is tetrachloroethylene to cause cancer?

The Department of Health and Human Services (DHHS) has determined that tetrachloroethylene may reasonably be anticipated to be a carcinogen. Tetrachloroethylene has been shown to cause liver tumors in mice and kidney tumors in male rats.

Is there a medical test to show whether I've been exposed to tetrachloroethylene?

One way of testing for tetrachloroethylene exposure is to measure the amount of the chemical in the breath, much the same way breath-alcohol measurements are used to determine the amount of alcohol in the blood.

Because it is stored in the body's fat and slowly released into the bloodstream, tetrachloroethylene can be detected in the breath for weeks following a heavy exposure.

Tetrachloroethylene and trichloroacetic acid (TCA), a breakdown product of tetrachloroethylene, can be detected in the blood. These tests are relatively simple to perform. These tests aren't available at most doctors' offices, but can be per-

formed at special laboratories that have the right equipment.

Because exposure to other chemicals can produce the same breakdown products in the urine and blood, the tests for breakdown products cannot determine if you have been exposed to tetrachloroethylene or the other chemicals.

Has the federal government made recommendations to protect human health?

The EPA maximum contaminant level for the amount of tetrachloroethylene that can be in drinking water is 0.005 milligrams tetrachloroethylene per liter of water (0.005 mg/L).

The Occupational Safety and Health Administration (OSHA) has set a limit of 100 ppm for an 8-hour workday over a 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) recommends that tetrachloroethylene be handled as a potential carcinogen and recommends that levels in workplace air should be as low as possible.

Glossary

Carcinogen: A substance with the ability to cause cancer.

CAS: Chemical Abstracts Service.

Milligram (mg): One thousandth of a gram.

Nonflammable: Will not burn.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Tetrachloroethylene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about thallium. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to thallium occurs mainly from eating food. Exposure to higher levels of thallium may occur in the workplace. Breathing high levels of thallium may result in effects on the nervous system, while ingesting high levels of it results in vomiting, diarrhea, temporary hair loss, and other effects. This chemical has been found in at least 210 of 1,416 National Priorities List sites identified by the Environmental Protection Agency.

What is thallium?

(Pronounced thăll/ĕ-əm)

Pure thallium is a bluish-white metal that is found in trace amounts in the earth's crust. In the past, thallium was obtained as a by-product from smelting other metals; however, it has not been produced in the United States since 1984.

Currently, all the thallium is obtained from imports and from thallium reserves.

In its pure form, thallium is odorless and tasteless. It can also be found combined with other substances such as bromine, chlorine, fluorine, and iodine. When it's combined, it appears colorless-to-white or yellow.

Thallium is used mostly in manufacturing electronic devices, switches, and closures, primarily for the semiconductor industry. It also has limited use in the manufacture of special glass and for certain medical procedures.

What happens to thallium when it enters the environment?

- Thallium enters the environment primarily from coal-burning and smelting, in which it is a trace contaminant of the raw materials.
- It stays in the air, water, and soil for a long time and is not broken down.

- Some thallium compounds are removed from the atmosphere in rain and snow.
- It's absorbed by plants and enters the food chain.
- It builds up in fish and shellfish.

How might I be exposed to thallium?

- Eating food contaminated with thallium may be a major source of exposure for most people.
- Breathing workplace air in industries that use thallium
- Smoking cigarettes.
- Living near hazardous waste sites containing thallium (may result in higher than normal exposures).
- Touching or, for children, eating soil contaminated with thallium.
- Breathing low levels in air and water.

How can thallium affect my health?

Exposure to high levels of thallium can result in harmful health effects. A study on workers exposed on the job over several years reported nervous system effects, such as numbness of fingers and toes, from breathing thallium.

Studies in people who ingested large amounts of thallium over a short time have reported vomiting, diarrhea, temporary hair loss, and effects on the nervous system, lungs, heart, liver,

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and kidneys. It has caused death. It is not known what the effects are from ingesting low levels of thallium over a long time.

Birth defects were not reported in the children of mothers exposed to low levels from eating vegetables and fruits contaminated with thallium. Studies in rats, however, exposed to high levels of thallium, showed adverse developmental effects.

It is not known if breathing or ingesting thallium affects human reproduction. Studies showed that rats that ingested thallium for several weeks had some adverse reproductive effects. Animal data suggest that the male reproductive system may be susceptible to damage by low levels of thallium.

There is no information available on the health effects of skin contact with thallium in people or animals.

How likely is thallium to cause cancer?

The Department of Health and Human Services, the International Agency for Research on Cancer, and the Environmental Protection Agency (EPA) have not classified thallium as to its human carcinogenicity.

No studies are available in people or animals on the carcinogenic effects of breathing, ingesting, or touching thallium.

Is there a medical test to show whether I've been exposed to thallium?

There are medical tests available to measure levels of thallium in urine and hair. In addition, thallium can also be measured in blood; however, this is not a good indicator of exposure since thallium only stays in blood a very short time.

These tests require special equipment that is not usually available in most doctor's offices. In addition, these tests cannot determine if adverse health effects will occur from the exposure to thallium.

Has the federal government made recommendations to protect human health?

The EPA requires that discharges or accidental spills into the environment of 1,000 pounds or more of thallium be reported.

The Occupational Safety and Health Administration (OSHA) has set an exposure limit of 0.1 milligrams per cubic meter (0.1 mg/m³) for thallium in workplace air. The American Conference of Governmental Industrial Hygienists (ACGIH) has established the same guidelines as OSHA for the workplace.

The National Institute for Occupational Safety and Health (NIOSH) has recommended that 15 mg/m³ of thallium be considered immediately dangerous to life and health. This is the exposure level of a chemical that is likely to cause permanent health problems or death.

Glossary

Carcinogenicity: Ability to cause cancer.

Ingesting: Taking food or drink into your body.

Milligram (mg): One thousandth of a gram.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1992. Toxicological profile for thallium. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about polycyclic aromatic hydrocarbons (PAHs). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to polycyclic aromatic hydrocarbons usually occurs by breathing air contaminated by wild fires or coal tar, or by eating foods that have been grilled. PAHs have been found in at least 600 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are polycyclic aromatic hydrocarbons?

(Pronounced pŏl'ī-sī'klīk ār'ə-măt'īk hī'drə-kar'bənz)

Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.

Some PAHs are manufactured. These pure PAHs usually exist as colorless, white, or pale yellow-green solids. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides.

What happens to PAHs when they enter the environment?

- PAHs enter the air mostly as releases from volcanoes, forest fires, burning coal, and automobile exhaust.
- PAHs can occur in air attached to dust particles.
- Some PAH particles can readily evaporate into the air from soil or surface waters.
- PAHs can break down by reacting with sunlight and other chemicals in the air, over a period of days to weeks.

- PAHs enter water through discharges from industrial and wastewater treatment plants.
- Most PAHs do not dissolve easily in water. They stick to solid particles and settle to the bottoms of lakes or rivers.
- Microorganisms can break down PAHs in soil or water after a period of weeks to months.
- In soils, PAHs are most likely to stick tightly to particles; certain PAHs move through soil to contaminate underground water.
- PAH contents of plants and animals may be much higher than PAH contents of soil or water in which they live.

How might I be exposed to PAHs?

- Breathing air containing PAHs in the workplace of coking, coal-tar, and asphalt production plants; smoke-houses; and municipal trash incineration facilities.
- Breathing air containing PAHs from cigarette smoke, wood smoke, vehicle exhausts, asphalt roads, or agricultural burn smoke.
- Coming in contact with air, water, or soil near hazardous waste sites.
- Eating grilled or charred meats; contaminated cereals, flour, bread, vegetables, fruits, meats; and processed or pickled foods.
- Drinking contaminated water or cow's milk.

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- ❑ Nursing infants of mothers living near hazardous waste sites may be exposed to PAHs through their mother's milk.

How can PAHs affect my health?

Mice that were fed high levels of one PAH during pregnancy had difficulty reproducing and so did their offspring. These offspring also had higher rates of birth defects and lower body weights. It is not known whether these effects occur in people.

Animal studies have also shown that PAHs can cause harmful effects on the skin, body fluids, and ability to fight disease after both short- and long-term exposure. But these effects have not been seen in people.

How likely are PAHs to cause cancer?

The Department of Health and Human Services (DHHS) has determined that some PAHs may reasonably be expected to be carcinogens.

Some people who have breathed or touched mixtures of PAHs and other chemicals for long periods of time have developed cancer. Some PAHs have caused cancer in laboratory animals when they breathed air containing them (lung cancer), ingested them in food (stomach cancer), or had them applied to their skin (skin cancer).

Is there a medical test to show whether I've been exposed to PAHs?

In the body, PAHs are changed into chemicals that can attach to substances within the body. There are special tests that can detect PAHs attached to these substances in body tissues or blood. However, these tests cannot tell whether any

health effects will occur or find out the extent or source of your exposure to the PAHs. The tests aren't usually available in your doctor's office because special equipment is needed to conduct them.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) has set a limit of 0.2 milligrams of PAHs per cubic meter of air (0.2 mg/m^3). The OSHA Permissible Exposure Limit (PEL) for mineral oil mist that contains PAHs is 5 mg/m^3 averaged over an 8-hour exposure period.

The National Institute for Occupational Safety and Health (NIOSH) recommends that the average workplace air levels for coal tar products not exceed 0.1 mg/m^3 for a 10-hour workday, within a 40-hour workweek. There are other limits for workplace exposure for things that contain PAHs, such as coal, coal tar, and mineral oil.

Glossary

Carcinogen: A substance that can cause cancer.

Ingest: Take food or drink into your body.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for polycyclic aromatic hydrocarbons. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about chlorinated dibenzo-p-dioxins (CDDs). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to chlorinated dibenzo-p-dioxins (CDDs) (75 chemicals) occurs mainly from eating food that contains the chemicals. One chemical in this group, 2,3,7,8-tetrachlorodibenzo-p-dioxin or 2,3,7,8-TCDD, has been shown to be very toxic in animal studies. It causes effects on the skin and may cause cancer in people. This chemical has been found in at least 91 of 1,467 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are CDDs?

CDDs are a family of 75 chemically related compounds commonly known as chlorinated dioxins. One of these compounds is called 2,3,7,8-TCDD. It is one of the most toxic of the CDDs and is the one most studied.

In the pure form, CDDs are crystals or colorless solids. CDDs enter the environment as mixtures containing a number of individual components. 2,3,7,8-TCDD is odorless and the odors of the other CDDs are not known.

CDDs are not intentionally manufactured by industry except for research purposes. They (mainly 2,3,7,8-TCDD) may be formed during the chlorine bleaching process at pulp and paper mills. CDDs are also formed during chlorination by waste and drinking water treatment plants. They can occur as contaminants in the manufacture of certain organic chemicals. CDDs are released into the air in emissions from municipal solid waste and industrial incinerators.

What happens to CDDs when they enter the environment?

- When released into the air, some CDDs may be transported long distances, even around the globe.

- When released in waste waters, some CDDs are broken down by sunlight, some evaporate to air, but most attach to soil and settle to the bottom sediment in water.
- CDD concentrations may build up in the food chain, resulting in measurable levels in animals.

How might I be exposed to CDDs?

- Eating food, primarily meat, dairy products, and fish, makes up more than 90% of the intake of CDDs for the general population.
- Breathing low levels in air and drinking low levels in water.
- Skin contact with certain pesticides and herbicides.
- Living near an uncontrolled hazardous waste site containing CDDs or incinerators releasing CDDs.
- Working in industries involved in producing certain pesticides containing CDDs as impurities, working at paper and pulp mills, or operating incinerators.

How can CDDs affect my health?

The most noted health effect in people exposed to large amounts of 2,3,7,8-TCDD is chloracne. Chloracne is a severe skin disease with acne-like lesions that occur mainly on the face and upper body. Other skin effects noted in people exposed to high doses of 2,3,7,8-TCDD include skin rashes, dis-

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coloration, and excessive body hair. Changes in blood and urine that may indicate liver damage also are seen in people. Exposure to high concentrations of CDDs may induce long-term alterations in glucose metabolism and subtle changes in hormonal levels.

In certain animal species, 2,3,7,8-TCDD is especially harmful and can cause death after a single exposure. Exposure to lower levels can cause a variety of effects in animals, such as weight loss, liver damage, and disruption of the endocrine system. In many species of animals, 2,3,7,8-TCDD weakens the immune system and causes a decrease in the system's ability to fight bacteria and viruses. In other animal studies, exposure to 2,3,7,8-TCDD has caused reproductive damage and birth defects. Some animal species exposed to CDDs during pregnancy had miscarriages and the offspring of animals exposed to 2,3,7,8-TCDD during pregnancy often had severe birth defects including skeletal deformities, kidney defects, and weakened immune responses.

How likely are CDDs to cause cancer?

Several studies suggest that exposure to 2,3,7,8-TCDD increases the risk of several types of cancer in people. Animal studies have also shown an increased risk of cancer from exposure to 2,3,7,8-TCDD.

The World Health Organization (WHO) has determined that 2,3,7,8-TCDD is a human carcinogen.

The Department of Health and Human Services (DHHS) has determined that 2,3,7,8-TCDD may reasonably be anticipated to cause cancer.

How can CDDs affect children?

Very few studies have looked at the effects of CDDs on children. Chloracne has been seen in children exposed to high levels of CDDs. We don't know if CDDs affect the ability of people to have children or if it causes birth defects, but given the effects observed in animal studies, this cannot be ruled out.

How can families reduce the risk of exposure to CDDs?

- Children should avoid playing in soils near uncontrolled hazardous waste sites.
- Discourage children from eating dirt or putting toys or other objects in their mouths.
- Everyone should wash hands frequently if playing or working near uncontrolled hazardous waste sites.
- For new mothers and young children, restrict eating foods from the proximity of uncontrolled sites with known CDDs.

Is there a medical test to show whether I've been exposed to CDDs?

Tests are available to measure CDD levels in body fat, blood, and breast milk, but these tests are not routinely available. Most people have low levels of CDDs in their body fat and blood, and levels considerably above these levels indicate past exposure to above-normal levels of 2,3,7,8-TCDD. Although CDDs stay in body fat for a long time, tests cannot be used to determine when exposure occurred.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 0.00003 micrograms of 2,3,7,8-TCDD per liter of drinking water (0.00003 µg/L). Discharges, spills, or accidental releases of 1 pound or more of 2,3,7,8-TCDD must be reported to EPA. The Food and Drug Administration (FDA) recommends against eating fish and shellfish with levels of 2,3,7,8-TCDD greater than 50 parts per trillion (50 ppt).

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1998. Toxicological profile for chlorinated dibenzo-p-dioxins. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.



This fact sheet answers the most frequently asked health questions (FAQs) about trichloroethylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Trichloroethylene is a colorless liquid which is used as a solvent for cleaning metal parts. Drinking or breathing high levels of trichloroethylene may cause nervous system effects, liver and lung damage, abnormal heartbeat, coma, and possibly death. Trichloroethylene has been found in at least 852 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is trichloroethylene?

Trichloroethylene (TCE) is a nonflammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste. It is used mainly as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers.

Trichloroethylene is not thought to occur naturally in the environment. However, it has been found in underground water sources and many surface waters as a result of the manufacture, use, and disposal of the chemical.

What happens to trichloroethylene when it enters the environment?

- ❑ Trichloroethylene dissolves a little in water, but it can remain in ground water for a long time.
- ❑ Trichloroethylene quickly evaporates from surface water, so it is commonly found as a vapor in the air.
- ❑ Trichloroethylene evaporates less easily from the soil than from surface water. It may stick to particles and remain for a long time.
- ❑ Trichloroethylene may stick to particles in water, which will cause it to eventually settle to the bottom sediment.
- ❑ Trichloroethylene does not build up significantly in

plants and animals.

How might I be exposed to trichloroethylene?

- ❑ Breathing air in and around the home which has been contaminated with trichloroethylene vapors from shower water or household products such as spot removers and typewriter correction fluid.
- ❑ Drinking, swimming, or showering in water that has been contaminated with trichloroethylene.
- ❑ Contact with soil contaminated with trichloroethylene, such as near a hazardous waste site.
- ❑ Contact with the skin or breathing contaminated air while manufacturing trichloroethylene or using it at work to wash paint or grease from skin or equipment.

How can trichloroethylene affect my health?

Breathing small amounts may cause headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating.

Breathing large amounts of trichloroethylene may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage.

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Drinking large amounts of trichloroethylene may cause nausea, liver damage, unconsciousness, impaired heart function, or death.

Drinking small amounts of trichloroethylene for long periods may cause liver and kidney damage, impaired immune system function, and impaired fetal development in pregnant women, although the extent of some of these effects is not yet clear.

Skin contact with trichloroethylene for short periods may cause skin rashes.

How likely is trichloroethylene to cause cancer?

Some studies with mice and rats have suggested that high levels of trichloroethylene may cause liver, kidney, or lung cancer. Some studies of people exposed over long periods to high levels of trichloroethylene in drinking water or in workplace air have found evidence of increased cancer. Although, there are some concerns about the studies of people who were exposed to trichloroethylene, some of the effects found in people were similar to effects in animals.

In its 9th Report on Carcinogens, the National Toxicology Program (NTP) determined that trichloroethylene is “reasonably anticipated to be a human carcinogen.” The International Agency for Research on Cancer (IARC) has determined that trichloroethylene is “probably carcinogenic to humans.”

Is there a medical test to show whether I've been exposed to trichloroethylene?

If you have recently been exposed to trichloroethylene, it can be detected in your breath, blood, or urine. The breath test, if it is performed soon after exposure, can tell if you have been exposed to even a small amount of trichloroethylene.

Exposure to larger amounts is assessed by blood

and urine tests, which can detect trichloroethylene and many of its breakdown products for up to a week after exposure. However, exposure to other similar chemicals can produce the same breakdown products, so their detection is not absolute proof of exposure to trichloroethylene. This test isn't available at most doctors' offices, but can be done at special laboratories that have the right equipment.

Has the federal government made recommendations to protect human health?

The EPA has set a maximum contaminant level for trichloroethylene in drinking water at 0.005 milligrams per liter (0.005 mg/L) or 5 parts of TCE per billion parts water.

The EPA has also developed regulations for the handling and disposal of trichloroethylene.

The Occupational Safety and Health Administration (OSHA) has set an exposure limit of 100 parts of trichloroethylene per million parts of air (100 ppm) for an 8-hour workday, 40-hour workweek.

Glossary

Carcinogenicity: The ability of a substance to cause cancer.

CAS: Chemical Abstracts Service.

Evaporate: To change into a vapor or gas.

Milligram (mg): One thousandth of a gram.

Nonflammable: Will not burn.

ppm: Parts per million.

Sediment: Mud and debris that have settled to the bottom of a body of water.

Solvent: A chemical that dissolves other substances.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Trichloroethylene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

This fact sheet answers the most frequently asked health questions (FAQs) about uranium. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Uranium is a naturally occurring chemical substance that is mildly radioactive. Everyone is exposed to low amounts of uranium through food, air, and water. Exposure to high levels of uranium can cause kidney disease. It is not known to cause cancer, but can decay into other radioactive materials that may. Uranium above background levels has been found in at least 54 of the 1,517 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is uranium?

(Pronounced yoo-rā'nē-əm)

Uranium is a common naturally occurring and radioactive substance. It is a normal part of rocks, soil, air, and water, and it occurs in nature in the form of minerals - but never as a metal. Uranium metal is silver-colored with a gray surface and is nearly as strong as steel. Natural uranium is a mixture of three types or isotopes called U-234 (^{234}U), U-235 (^{235}U), and U-238 (^{238}U). All three are the same chemical, but they have different radioactive properties.

Typical concentrations in soil are a few parts per million (ppm). Some rocks contain high enough mineral concentrations of uranium to be mined. The rocks are taken to a chemical plant where the uranium is taken out and made into uranium chemicals or metal. The remaining sand is called mill tailings. Tailings are rich in the chemicals and radioactive materials that were not removed, such as radium and thorium.

One of the radioactive properties of uranium is half-life, or the time it takes for half of the isotope to give off its radiation and change into another substance. The half-lives are very long (around 200,000 years for ^{234}U , 700 million years for ^{235}U , and 5 billion years for ^{238}U). This is why uranium still exists in nature and has not all decayed away.

The isotope ^{235}U is useful as a fuel in power plants and weapons. To make fuel, natural uranium is separated into two portions. The fuel portion has more ^{235}U than normal and is called enriched uranium. The leftover portion with less ^{235}U than normal is called depleted uranium, or DU. Natural, de-

pleted, and enriched uranium are chemically identical. DU is the least radioactive and enriched uranium is the most.

What happens to uranium when it enters the environment?

- Uranium is already naturally present throughout the environment. Human activities, wind, streams, and volcanoes can move the uranium around and change the levels that you are exposed to.
- Uranium is found in soil where it may stay for billions of years.
- It exists as dust in the air and the dust settles onto surface water, soil, and plants.
- Uranium enters water by dissolving soil, eroding soil and rocks, or in releases from processing plants. Larger particles settle into the bottom of lakes, rivers, and ponds and join uranium that is there naturally.
- Some plants may absorb uranium or it may stick to the root surface.

How might I be exposed to uranium?

- Breathing air or drinking water in a place that has higher than background levels of uranium.
- Eating food grown in areas with higher than background levels of uranium.
- Working in factories that process uranium or with phosphate fertilizers, or living near any type of mine.
- Living near a coal-fired power plant.

How can uranium affect my health?

All uranium mixtures (natural, depleted, and enriched) have the same chemical effect on your body. Large amounts of uranium can react with the tissues in your body and damage

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your kidneys. The radiation damage from exposure to high levels of natural or depleted uranium are not known to cause cancer (see next section).

How likely is uranium to cause cancer?

Humans and animals exposed to high levels of uranium did not have higher cancer rates. The Committee on the Biological Effects of Ionizing Radiation (BEIR IV) reported that eating food or drinking water that has normal amounts of uranium will most likely not cause cancer.

Uranium can decay into other radioactive substances, such as radium, which can cause cancer if you are exposed to enough of them for a long enough period of time. Studies have reported lung and other cancers in uranium miners; however, the miners also smoked and were exposed to other substances that cause cancer, such as radon and silica dust.

How can uranium affect children?

Like adults, children are exposed to small amounts of uranium in air, food, and drinking water. If children were exposed to very large amounts of uranium, it is possible that they might have kidney damage like that seen in adults. We do not know whether children differ from adults in their susceptibility to the health effects of uranium exposure.

It is not known if exposure to uranium can affect the developing human fetus. In laboratory animals, high doses of uranium in drinking water resulted in birth defects and an increase in fetal deaths. Measurements of uranium have not been made in pregnant women, so we do not know if uranium can cross the placenta and enter the fetus. In an experiment with pregnant animals, only a small amount of the injected uranium reached the fetus.

How can families reduce the risk of exposure to uranium?

If your doctor finds that you have been exposed to significant amounts of uranium, ask whether your children might also be exposed. Your doctor might need to ask your state health department to investigate.

It is possible that higher-than-normal levels of uranium may be in the soil at a hazardous waste site. If you live near such a hazardous waste site, you should prevent your children from eating dirt and make sure that they wash their hands frequently and before eating. You should also wash fruits and vegetables grown in that soil well, and consider discarding the outside portion of root vegetables.

Is there a medical test to show whether I've been exposed to uranium?

Uranium is in your normal diet, so there will always be some level of uranium in all parts of your body. Uranium is normally measured in a sample of urine collected and sent to a laboratory. Blood, feces, and tissue samples are rarely used. Because most uranium leaves the body within a few days, higher than normal amounts in your urine shows whether you have been exposed to larger-than-normal amounts within the last week or so. Some highly sensitive radiation methods can measure uranium levels for a long time after you take in a large amount. Also, some radiation equipment can tell if uranium is on your skin.

Has the federal government made recommendations to protect human health?

The EPA requires that spills or accidental releases of uranium waste into the environment containing 0.1 curies or more of radioactivity must be reported to the EPA.

The EPA is currently working to develop an appropriate drinking water limit for uranium based on a broad range of human and animal health studies.

The Occupational Safety and Health Administration has set occupational exposure limits for uranium in breathing air over an 8-hour workday, 40-hour workweek. The limits are 0.05 milligrams per cubic meter (0.05 mg/m³) for soluble uranium dust and 0.25 mg/m³ for insoluble uranium dust.

References

Agency for Toxic Substances and Disease Registry. 1999. Toxicological profile for uranium. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

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This fact sheet answers the most frequently asked health questions (FAQs) about vinyl chloride. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to vinyl chloride occurs mainly in the workplace. Breathing high levels of vinyl chloride for short periods of time can cause dizziness, sleepiness, unconsciousness, and at extremely high levels can cause death. Breathing vinyl chloride for long periods of time can result in permanent liver damage, immune reactions, nerve damage, and liver cancer. This substance has been found in at least 616 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is vinyl chloride?

Vinyl chloride is a colorless gas. It burns easily and it is not stable at high temperatures. It has a mild, sweet odor. It is a manufactured substance that does not occur naturally. It can be formed when other substances such as trichloroethane, trichloroethylene, and tetrachloroethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC). PVC is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Vinyl chloride is also known as chloroethene, chloroethylene, and ethylene monochloride.

What happens to vinyl chloride when it enters the environment?

- Liquid vinyl chloride evaporates easily. Vinyl chloride in water or soil evaporates rapidly if it is near the surface.
- Vinyl chloride in the air breaks down in a few days to other substances, some of which can be harmful.
- Small amounts of vinyl chloride can dissolve in water.
- Vinyl chloride is unlikely to build up in plants or animals that you might eat.

How might I be exposed to vinyl chloride?

- Breathing vinyl chloride that has been released from plastics industries, hazardous waste sites, and landfills.
- Breathing vinyl chloride in air or during contact with your skin or eyes in the workplace.
- Drinking water from contaminated wells.

How can vinyl chloride affect my health?

Breathing high levels of vinyl chloride can cause you to feel dizzy or sleepy. Breathing very high levels can cause you to pass out, and breathing extremely high levels can cause death.

Some people who have breathed vinyl chloride for several years have changes in the structure of their livers. People are more likely to develop these changes if they breathe high levels of vinyl chloride. Some people who work with vinyl chloride have nerve damage and develop immune reactions. The lowest levels that produce liver changes, nerve damage, and immune reaction in people are not known. Some workers exposed to very high levels of vinyl chloride have problems with the blood flow in their hands. Their fingers turn white and hurt when they go into the cold.

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The effects of drinking high levels of vinyl chloride are unknown. If you spill vinyl chloride on your skin, it will cause numbness, redness, and blisters.

Animal studies have shown that long-term exposure to vinyl chloride can damage the sperm and testes.

How likely is vinyl chloride to cause cancer?

The U.S. Department of Health and Human Services has determined that vinyl chloride is a known carcinogen. Studies in workers who have breathed vinyl chloride over many years showed an increased risk of liver, brain, lung cancer, and some cancers of the blood have also been observed in workers.

How can vinyl chloride affect children?

It has not been proven that vinyl chloride causes birth defects in humans, but studies in animals suggest that vinyl chloride might affect growth and development. Animal studies also suggest that infants and young children might be more susceptible than adults to vinyl chloride-induced cancer.

How can families reduce the risk of exposure to vinyl chloride?

Tobacco smoke contains low levels of vinyl chloride, so limiting your family's exposure to cigarette or cigar smoke may help reduce their exposure to vinyl chloride.

Is there a medical test to show whether I've been exposed to vinyl chloride?

The results of several tests can sometimes show if you have been exposed to vinyl chloride. Vinyl chloride can be measured in your breath, but the test must be done shortly after exposure. This is not helpful for measuring very low levels of vinyl chloride.

The amount of the major breakdown product of vinyl chloride, thiodiglycolic acid, in the urine may give some information about exposure. However, this test must be done shortly after exposure and does not reliably indicate the level of exposure.

Has the federal government made recommendations to protect human health?

Vinyl chloride is regulated in drinking water, food, and air. The EPA requires that the amount of vinyl chloride in drinking water not exceed 0.002 milligrams per liter (mg/L) of water.

The Occupational Safety and Health Administration (OSHA) has set a limit of 1 part vinyl chloride per 1 million parts of air (1 ppm) in the workplace.

The Food and Drug Administration (FDA) regulates the vinyl chloride content of various plastics. These include plastics that carry liquids and plastics that contact food. The limits for vinyl chloride content vary depending on the nature of the plastic and its use.

Reference

Agency for Toxic Substances and Disease Registry (ATSDR). 2006. Toxicological Profile for Vinyl Chloride (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

