

APPENDIX J

**HUMAN HEALTH RISK ASSESSMENT REPORTS
FOR AOC 1 AND 7 COMBINED**

APPENDIX J
HUMAN HEALTH RISK ASSESSMENT AT AOCs 1 & 7 –
U.S. ARMY SOUTHERN LANDFILL AND TRIANGULAR
DISPOSAL AREA
FORMER SCHENECTADY ARMY DEPOT –
VOORHEESVILLE AREA

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ACRONYMS AND ABBREVIATIONS

AOC	Area of concern
D&D	Construction and Debris
COPC	Chemical of potential concern
CSM	Conceptual site model
DERP-FUDS	Defense Environmental Restoration Program for Formerly Used Defense Sites
DOA	U.S. Department of the Army
DoD	Department of Defense
EIS	Environmental Impact Statement
EPC	Exposure point concentration
GURA	Guilderland Urban Renewal Agency
HHRA	Human health risk assessment
MCL	Maximum contaminant level
MSSL	Medium-specific screening level
NEIP	Northeast Industrial Park
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSWER	Office of Solid Waste & Emergency Response
PAH	Polynuclear aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PCL	Protective concentration level
PVC	Polyvinylchloride
RAB	Restoration Advisory Board
RAGS	Assessment Guidance for Superfund
RI	Remedial Investigation
SADVA	Schenectady Army Depot, Voorheesville Area
SQL	Sample quantitation limit
SVOC	Semivolatile organic compound
TCE	Trichlorethene
TCEQ	Texas Commission on Environmental Quality
TLC	Target Compound List
TRRP	Texas Risk Reduction Program
UCL	Upper confidence limit (95% UCL)
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	Volatile organic compound

SECTION J.1

INTRODUCTION

J.1.1 PROJECT BACKGROUND

J.1.1.1 This quantitative human health risk assessment (HHRA) has been prepared by Parsons as part of the Remedial Investigation (RI) for combined Areas of Concern (AOCs) 1 and 7, located near the southeastern boundary of the former Schenectady Army Depot, Voorheesville Area (SADVA). AOC 1 is the former U.S. Army Southern Landfill and AOC 7 is the Triangular Disposal Area. AOCs 1 and 7 are being combined as a single site in this HHRA because the areas are nearly contiguous. The two AOCs are referred to as the “site” or the “area” throughout this HHRA.

J.1.1.2 The specific objective of this quantitative HHRA is to provide a quantitative risk assessment of the soil, groundwater, sediment and surface water at the site. The HHRA will determine if there is potential risk to human health associated with exposure to these environmental media.

J.1.1.3 This HHRA was conducted under the authority of the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS). The SADVA site is DERP-FUDS site number C02NY0002. This HHRA has been prepared to satisfy the U.S. Army Corps of Engineers (USACE) requirements for RI projects. This HHRA is presented as Appendix J to the Parsons RI report and supports the evaluation and conclusions of potential impacts on soil, groundwater, sediment and surface water related to previous SADVA-related activities at the site.

J.1.1.4 Although the HHRA for AOCs 1 and 7 has not been required by the State of New York or by the U.S. Environmental Protection Agency (USEPA), there are numerous guidelines and criteria from the State and the USEPA that are relevant to this HHRA. As described further in this HHRA, the assessment will use applicable guidelines including those provided by the New York State Department of Environmental Conservation (NYSDEC), the New York State Department of Health (NYSDOH), and the USEPA.

J.1.1.5 As an appendix to the Parsons RI for AOCs 1 and 7, this HHRA refers to information provided in the RI report, including figures and tables relevant to the HHRA. The Parsons RI Report contains specific information related to the site history and regulatory status, land use, environmental setting (*e.g.*, surface features, hydrogeology, geology, and soils), and nature and extent of contamination. This HHRA refers to the RI Report for more detailed information as needed. All of the new figures and tables developed for this HHRA, site photographs taken during a site visit performed by the project risk assessment team in July 2006, and selected figures from the RI report are provided at the end of this HHRA.

J.1.2 FACILITY AND SITE DESCRIPTION

J.1.2.1 The former SADVA is located 0.25 miles southeast of the Village of Guilderland Center, New York (Figure J.1). The former SADVA site plan showing AOCs 1 and 7 is provided on Figure J.2. The Department of Defense (DoD) held ownership of the SADVA property from 1941 through 1969. The site was originally constructed as a regulating station and a holding and reconsignment point, and later became a general Army depot. The principal mission of the installation was the receipt, storage, maintenance, and distribution of supply items for the U.S. Department of the Army (DOA).

J.1.2.2 SADVA was closed in 1969 and most of the SADVA property, including AOCs 1 and 7, were sold to the Town of Guilderland Urban Renewal Agency (GURA). GURA leased the property to Galesi Group, Inc., which established the Northeast Industrial Park (NEIP). The NEIP has been in operation as an industrial park since this time. Various open spaces and buildings on the property are leased to tenants. The leased area has been used for manufacturing, maintenance and repair operations, and storage of goods.

Area of Concern 1 – U.S. Army Southern Landfill

J.1.2.3 AOC 1 is the former U.S. Army Southern Landfill (Figure J.3). The site is approximately 10 acres in size and is situated near the southeastern boundary of the former SADVA. There is an approximately two-acre perennial pond located adjacent to the landfill. The landfill rises approximately four to six feet above the pond and swale, and is gently mounded, forming the elongated landfill. The pond has no apparent inlet. The water appears to be sustained by overland flow from topographically higher areas to the east and south, and groundwater seeping from the adjacent landfill mass. When the water level is high enough, the pond drains through a vegetation-choked swale that extends along the eastern edge of the landfill. There are two wetland areas located approximately 200 to 600 feet west of the southwestern end of the landfill. The pond and wetland areas ultimately discharge to Black Creek. Black Creek flows into the Bozenkill, and the Bozenkill flows into Watervliet Reservoir at a point about four miles downstream of AOC 1.

J.1.2.4 The western edge of the landfill tapers into a railroad spur. A dirt road provides access to the landfill from the north and extends to the south end of the landfill. The landfill is covered by a soil layer that supports a variety of vegetation consisting of grass, shrubs, and a few isolated trees. The thickness and nature of the soil cover is inconsistent across the site and there are some areas of sparse vegetation, particularly in the southern portion of the site.

J.1.2.5 Aerial photographs indicated activity at AOC 1 prior to 1942 and extending through 1968, (based on 1942, 1952, 1963, and 1968 aerial photographs). The landfill appeared to be inactive between 1973 and 1995 (based on 1973, 1978, 1982, 1986, and 1995 aerial photographs). Most activities occurred during the time SADVA was operated by the DoD. However, according to a report by the U.S. Army Toxic and Materials Agency (1980), no written records were found that would indicate that disposal of wastes occurred at the former SADVA. It is not unusual for there to be few, if any, written records of waste disposal for sites of this age and type.

J.1.2.6 In 1990, ERM-Northeast conducted investigations for the Galesi Group, owners of NEIP (ERM-Northeast, 1990). Buried drums, construction and demolition (C&D) debris, ash, metal debris, chemical solvent odors, floating product, and oil-saturated sand above the water table were observed in test pits. Test pits and soil borings characterized the nature and extent of the fill. Information from the Malcolm Pirnie RI (1997) indicates that the fill consists of black ash, slag, metallic debris, steel cable, C&D material, wood, asphalt, red brick, black fill, and sludge-like materials. The fill ranges from less than 1 foot thick along the northeastern side to approximately 13 feet thick along the northwestern side. The presence of volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and metals in surface soil, subsurface soil and groundwater had been detected, particularly in the southern section, where the fill is approximately 5 feet deep.

J.1.2.7 Photos J.7.1 through J.7.4 show the typical vegetation and land features at AOC 1. These photos were taken during the site visit by the Parsons risk assessment team in July 2006.

Area of Concern 7 – Triangular Disposal Area

J.1.2.8 AOC 7 is a triangular-shaped area located near the southeastern end of the former SADVA and west of AOC 1 (Figure J.3). This area was formerly bounded by railroad tracks on each of the three sides. Aerial photographs from the early 1940s indicate the presence of a possible dump in this triangular area, though no storage containers or debris were noted. It was speculated that the debris had been buried. A 1952 aerial photograph showed the area was inactive and partially vegetated. A review of aerial photographs from 1963, 1968 and 1974 showed some of the tracks had been removed and the site was partially vegetated open space. The site was inactive in a 1977 aerial photograph, but the tracks along the southern and eastern sides of the triangular area had been removed and the area was surrounded by woods on all sides.

J.1.2.9 No previous written documentation has been found to confirm the presence of a dump area, or to indicate the types of materials that may have been disposed at the site. During the 1990s, the USACE conducted geophysical surveys to investigate the presence of subsurface disposal areas. The 1999 geophysical survey showed ground conductivity anomalies, suggesting that subsurface disposal areas or fill material may be present in this AOC. Four probable disposal areas were identified along the northeastern side. Two areas were attributed to buried metallic debris and two areas were attributed to nonmetallic conductive material.

J.1.2.10 The objective of the Parsons RI was to assess the presence or absence of fill materials and to characterize surface soils, subsurface soils, and groundwater. Surface and subsurface soil samples were collected from four test pits that were excavated in the areas where the ground conductivity anomalies had been identified during the 1999 geophysical survey. A small amount of fill was encountered in the test pits. The fill consisted of railroad ties, charred wood, angular gravel, glass bottles, black stain, and asphalt. Groundwater samples were collected in July and August 2000 from three temporary wells and two monitoring wells. Metals concentrations in the groundwater samples from temporary wells may have been affected by high turbidity. Permanent wells were installed and sampled in 2004 and 2006 to improve the integrity of groundwater samples.

J.1.2.11 Photos J.7.5 and J.7.6 show the typical vegetation and land features at AOC 7. These photos were taken during the site visit by the Parsons risk assessment team in July 2006.

J.1.3 RISK ASSESSMENT PROCESS

Summary of Available Data for AOCs 1 and 7

J.1.3.1 This quantitative HHRA for AOCs 1 and 7 uses the results of the data collected for the Parsons RI, the Malcolm Pirnie RI (Malcolm Pirnie, 1997), and other previous investigations that were summarized in the Malcolm Pirnie RI Report. Environmental sampling at the site has included surface soil, subsurface soil, groundwater, sediment, and surface water. Additional groundwater samples were also collected as part of the Parsons RI data gap work in 2004 and 2006. The 2006 data gap work included collecting an additional round of groundwater samples from 11 monitoring wells in the vicinity of AOCs 1 and 7. These samples were collected in June 2006 to provide an updated characterization of the VOC plume previously identified at AOC 1, to confirm the presence or absence of Target Compound List (TCL) VOCs in the vicinity of AOC 7, and to assess the water chemistry parameters related to natural attenuation processes. Additionally, a site visit was performed at AOCs 1 and 7 on July 11, 2006, by a Parsons team involved in the risk assessment process for the site. The site visit verified site characteristics and potential exposure pathways for AOCs 1 and 7.

J.1.3.2 The data for all chemicals detected in each environmental media at AOCs 1 and 7 are provided in data summary tables at the end of this HHRA (Tables J.7.1 through J.7.5).

General HHRA Approach and Guidance Documents

J.1.3.3 Techniques and methodology developed or recognized by the USACE and the USEPA were used for this HHRA. This quantitative HHRA is intended to satisfy USACE requirements for risk assessments during RI projects. As recommended by USACE, the quantitative HHRA uses a risk ratio approach to quantify potential risk. USEPA Region 6 risk-based human health screening values, and other screening values listed below, were used for the risk ratio analyses. NYSDEC human health criteria were qualitatively used in the risk ratio approach but were not used to develop the final risk ratio results. The NYSDEC criteria are not specifically derived for cancer and non-cancer risk assessments and thus these criteria were used for comparison only. The NYSDEC soil criteria are not based on human health effects, and the NYSDEC sediment criteria are based on effects to aquatic life only.

J.1.3.4 The primary resources for conducting this quantitative risk ratio HHRA are listed and described below.

- *Standard Scopes of Work for HTRW Risk Assessments* (USACE, 2001).
- USEPA Region 6 *Human Health Medium-Specific Screening Levels* (USEPA, 2006a). These medium-specific screening levels (MSSL) are available for soil, groundwater, and surface water.

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- Technical and Administrative Guidance Memorandum #4046, *Determination of Soil Cleanup Objectives and Cleanup Levels* (NYSDEC, 1994).
 - *Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations* (NYSDEC, 1999).
 - Human health-based sediment screening levels are not available from the State of New York or the USEPA. As presented in the HHRA methodology/assumptions, this HHRA uses the Tier 1 sediment protective concentration levels (PCL) developed by the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP), *Determining PCLs for Surface Water and Sediment* (TCEQ, 2006). The sediment PCLs are based on incidental ingestion of sediment and dermal contact with sediment by a residential receptor.
 - To evaluate vapor intrusion of shallow groundwater contaminants into buildings, the primary resource included the USEPA (2002) *OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)*. This document contains target groundwater concentrations that are calculated to correspond to target indoor air concentrations that are protective of human health if vapor intrusion occurs. The target groundwater concentrations are derived to ensure protection of a residential receptor, and thus provide a conservative evaluation for a potential future indoor worker in the area. Based on future land use plans at SADVA, as described in the Northeastern Industrial Park Generic Environmental Impact Statement (NEIP EIS) (Clough, Harbour & Associates LLP, June 2005), the Master Plan indicates office buildings and parking lots may be developed in the area of AOCs 1 and 7. The Plan describes buildings and parking lots consisting of three 20,000 square foot (ft²) offices and two parking areas with a total of 800 parking spaces. The site will not be converted to residential use, based on information presented in the Master Plan.
 - The use of the target groundwater concentrations provides an initial screening for potentially unacceptable risks. If this evaluation shows the potential for unacceptable risk, further work may be necessary at the site. Additional work will follow the U.S. Army's *Interim Vapor Intrusion Policy* (USACE, 2006) and the *USEPA User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings* (USEPA, 2004a). The USEPA methodology uses the Johnson and Ettinger (J&E) model to evaluate vapor intrusion into buildings from groundwater. The New York State guidance documents, *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH, 2006) and *DER-13 / Strategy for Evaluating Soil Vapor Intrusion at Remedial Sites in New York* (NYSDEC, 2006) will also be considered and used, if necessary. Based on the guidance documents from the State of New York, all J&E results must be supported by actual sampling results, such as soil vapor samples, sub-slab vapor samples, crawl space samples, indoor air samples, and outdoor air samples. These types of samples will be required to satisfy New York guidelines.

- The USEPA provides the basic background and approach for performing standard HHRA (e.g., data evaluation, exposure assessments, etc.). General procedures identified in the USEPA's *Risk Assessment Guidance for Superfund* (RAGS) (USEPA, 1989), were also followed for this HHRA in terms of data evaluation, the exposure assessment, and the toxicity assessment. Supplemental USEPA guidelines were also used in conjunction with RAGS.

J.1.4 ORGANIZATION OF HHRA REPORT

The overall risk assessment process consists of four key steps: data evaluation, exposure assessment, toxicity assessment, and risk characterization. These four steps of risk assessment provide the general outline of a quantitative risk assessment report. Because this HHRA uses the risk ratio approach, the outline and overall format is slightly modified from the traditional HHRA. This HHRA is still consistent with USEPA guidelines as presented in *Risk Assessment Guidance for Superfund* (RAGS) (USEPA, 1989) and supporting supplemental guidance including the *Standard Scopes of Work for HTRW Risk Assessments* (USACE, 2001). This HHRA uses the risk ratio approach organized into seven sections, as outlined below.

- A.1 Introduction,
- A.2 Data Evaluation and Identification of Chemicals of Potential Concern,
- A.3 Exposure Assessment,
- A.4 Risk Ratio and Screening Criteria Assessment,
- A.5 Risk Assessment Results and Uncertainties,
- A.6 References, and
- A.7 Figures, Site Photographs, and Tables (Data and Risk Calculation Tables).

SECTION J.2

DATA EVALUATION AND IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN

J.2.1 INTRODUCTION

J.2.1.1 Several chemicals were identified in the Parsons RI and the Malcolm Pirnie RI (1997) as posing a potential impact on human health. Soil, groundwater, sediment and surface water have been sampled at the site. Sampling results for the chemicals detected in each environmental medium are summarized in Tables J.7.1 through J.7.5. The dates of sample collection are shown in the tables. Samples collected in 1996 were for the Malcolm Pirnie RI. Samples collected prior to 1996 were from previous investigations that were summarized in the Malcolm Pirnie RI Report. Samples collected in 2000 and thereafter are from the Parsons RI and associated Parsons RI data gap work.

J.2.1.2 Samples were analyzed for VOCs, semivolatile organic compounds (SVOC), pesticides, polychlorinated biphenyls (PCB), and metals. Appendix B of the Parsons RI report includes all of the analytical data and data validation reports for samples collected during the Parsons RI. The Malcolm Pirnie RI Report also includes a data validation report. It is assumed that data validation was performed on the data generated during the Malcolm Pirnie RI. It is unlikely that data from earlier investigations had been validated.

J.2.1.3 The Parsons RI and the Malcolm Pirnie RI identified NYSDEC criteria for each of the detected chemicals/metals in each environmental medium. Site-specific background samples were also collected for each environmental medium and were used in conjunction with the NYSDEC criteria to evaluate the nature and extent of contamination. Numerous chemicals/metals were found to be above the NYSDEC and/or background criteria for soil, groundwater, sediment, and surface water.

J.2.1.4 To provide a more precise estimate of groundwater contamination for this human health risk assessment, each of the monitoring wells and the residential wells located adjacent to the site that were sampled by Albany County Health Department in 1990 were assessed separately (see Table J.7.3a and J.7.3b, respectively, for a data summary).

J.2.2 SCREENING CRITERIA OVERVIEW

J.2.2.1 Based on USEPA RAGS guidance (USEPA, 1989) and supplemental guidance for data evaluation, the chemical of potential concern (COPC) list was refined during an initial screening. One of the screening steps is to eliminate essential nutrients from the HHRA. The essential nutrients calcium, magnesium, potassium, iron and sodium were removed from the list of chemicals included in this HHRA.

J.2.2.2 All other chemicals/metals (hereafter referred to as “chemicals”) detected in the Parsons RI and the Malcom Pirnie RI samples were included in the initial screening. As a default step in the screening process, the maximum detected chemical concentrations were used as the exposure point concentrations (EPCs) and those EPCs were compared to background concentrations. Using maximum concentrations provides a conservative (*i.e.*, most health-protective) estimate of exposure to that chemical. For each chemical, if the EPC was greater than the background concentration, it was retained for the risk assessment. If an EPC was less than the background concentration, it was assumed not to pose a potential risk that is attributable to site activities, and was not included in the risk assessment. If no background concentration was available for a chemical, the chemical was retained for the risk assessment. If the initial risk ratio calculations identified a risk for a particular chemical, a 95% upper confidence limit (95% UCL) was calculated (see below for details) to ensure that the one sample with the maximum concentration was not driving the risk. The 95% UCL was used as the EPC and then the EPC was re-screened against the background concentration. The EPC for each chemical, using either the maximum detected concentration or the 95% UCL concentration, are compared to background concentrations on Tables J.7.6 (surface soil), J.7.7 (mixed soil), J.7.8 (sediment), and J.7.9 (surface water). There are no background concentrations available for groundwater.

J.2.2.3 NYSDEC soil, groundwater, sediment and surface water quality criteria were qualitatively used in the risk ratio approach but were not used as the final risk ratio calculations. The NYSDEC criteria are not specifically derived for cancer and non-cancer risk assessments, and thus these criteria were used for qualitative comparison only. For each chemical retained after screening against the background value, the EPC was compared to the NYSDEC criteria, shown in Tables J.7.10 (surface soil), J.7.11 (mixed soil), J.7.12 (sediment), and J.7.13 (surface water). For completeness, the USEPA risk-based soil and surface water criteria (and the TCEQ sediment criteria) are included in the tables. For groundwater, the analytes that exceed the NYSDEC criteria are shown in bold on Tables J.7.3a and J.7.3b.

J.2.3 RISK RATIO APPROACH

J.2.3.1 All chemicals that were retained after the comparison to background concentrations were considered COPC. This quantitative HHRA uses a risk ratio approach to quantify potential cancer risk and non-cancer hazard for each COPC in each contaminated media. The risk ratio method considers risk averaged across an entire exposure area (*e.g.*, surface soil across AOCs 1 and 7) and follows a tiered approach.

J.2.3.2 Initially, maximum detected concentrations were used to calculate risk. Use of maximum concentrations provides a conservative (*i.e.*, most health-protective) estimate of exposure to that chemical. If unacceptable risk is calculated using maximum detected concentrations, then the 95% UCL is calculated and used as the EPC in the risk ratio approach. The 95% UCLs were calculated using the percentile bootstrap method assuming a non-parametric distribution for the particular chemical. This method was performed using USEPA’s ProUCL Version 3.0 software (USEPA, 2004b). A minimum of 10 samples is needed for the purposes of calculating the 95% UCL. The data used to calculate UCLs are shown in Tables J.7.1 through J.7.5. For all chemicals that were detected in at least one sample, one half of the

detection limit was used as the concentration value in the 95% UCL calculations for samples that were non-detects (laboratory qualifier 'U').

J.2.3.3 For groundwater, different approaches to determining the EPC were used, depending on the number of samples collected from each well. There were 19 residential wells, each with only a single sample. If an analyte was detected, the detected concentration was used as the EPC. There were also 35 non-residential wells, with one, two, or three sampling events at each well.

- For the wells with a single sampling event, the concentration of each detected analyte was used as the EPC.
- For the wells with two sampling events;
 - If an analyte was detected during both sampling events, the average concentration of that analyte was used as the EPC.
 - If an analyte was detected in only one of the two samples, the detected concentration was used as the EPC, even if the detected concentration was lower than the detection limit. In many cases, one-half the detection limit was higher than the detected concentration. Therefore, using an average of the detected concentration and half the detection limit would artificially increase the EPC, and would not be an accurate representation of risk at the well.
- For wells with 3 sampling events, if an analyte was detected in one sample, the detected concentration was used as the EPC. If an analyte was detected in two or three samples from a given well, the data were inspected to determine if the chemical concentration was changing over time. If there was a trend (either upward or downward) in concentration over time, the latest concentration was used as the EPC. If there was no consistent trend over time, the average of the three data points was used as the EPC in risk calculations.

J.2.3.4 In the risk ratio procedure, the ratio of the EPC (as derived following the procedures in the preceding paragraphs) was divided by the appropriate screening level for the environmental medium. As discussed above, the primary criteria for the risk ratio analysis were USEPA Region 6 MSSSLs and TCEQ sediment PCLs.

J.2.3.5 After calculating the risk ratios for individual chemicals using the USEPA MSSSLs and TCEQ PCLs, the ratios for all the individual chemicals were then summed to determine the cumulative risk for each media. In the first tier, all carcinogenic chemicals were evaluated together, as were all non-carcinogenic chemicals. Carcinogenic risk ratios greater than the upper bound of the CERCLA acceptable risk range, 1.0×10^{-4} , indicate a potentially unacceptable carcinogenic risk. Non-carcinogenic risk ratios greater than 1 (one) also indicate a potentially unacceptable risk. Should the non-carcinogenic chemicals have indicated an unacceptable risk, they would have been evaluated using specific target organs or organ groupings. To estimate the

risk associated with multiple non-carcinogenic chemicals, the risks are considered cumulative if the chemicals affect the same target organ. Therefore, if necessary, the target organs would have been identified for all non-carcinogenic chemicals. Although there were some non-carcinogenic risks identified in this HHRA, the risks were primarily driven by only one or two chemicals, and thus the use of target organ groupings would not have added value in this assessment. The primary chemicals driving the non-cancer risk are discussed in Section J.5 (Risk Assessment Results and Uncertainties).

J.2.3.6 Based on USEPA RAGS guidance (USEPA, 1989) and supplemental guidance for data evaluation, the COPC list can be refined during initial screening. One of the steps is to screen essential nutrients from the HHRA. Thus, analytical results for any essential nutrients (e.g., calcium, magnesium, potassium, iron, sodium) were removed from the COPC list and not considered further in this HHRA.

J.2.3.7 In addition to the chemicals eliminated during the initial screening process, another chemical that was not quantified using the risk ratio approach was lead. According to USEPA guidance, lead should be evaluated based on blood lead levels and not the potential for cancer or non-cancer risks. In the absence of blood lead data, lead concentrations detected at the site have been directly compared to the treatment technique action level. For groundwater and surface water, the maximum contaminant level (MCL) for lead is used as the treatment technique action level. For soil, both the commercial/industrial and the residential treatment technique action levels for lead are used. A detailed discussion of the development of the soil lead values is discussed in the USEPA Region 6 *Human Health Medium-Specific Screening Levels* user's guide (USEPA, 2006a). If lead concentrations at the site exceed the criteria, then unacceptable risk may occur. If lead concentrations are lower than the criteria, then there is no unacceptable risk.

J.2.3.8 USEPA guidance also allows elimination of COPCs if they are detected in fewer than 5% of the samples in a particular medium. This requires at least 20 samples. However, detection frequency was only qualitatively reviewed on a case by case basis in this HHRA and only following the risk ratio analysis (e.g., infrequently detected chemicals that are driving an unacceptable risk are identified). Thus, chemicals were not eliminated from the HHRA due to detection frequency. In summary, all COPCs, except essential nutrients and those chemicals with a maximum concentration less than the background concentrations were evaluated in this HHRA.

J.2.3.9 The risk ratio calculations for AOCs 1 and 7 are presented in Tables J.7.14 (surface soil), J.7.15 (mixed soil), J.7.16 (sediment) and J.7.17 (surface water). For the residential wells, risk ratio calculations are presented for each well in Tables J.7.18 through J.7.36. For nonresidential (monitoring) wells, risk ratio calculations are presented for each well in Tables J.7.37 through J.7.66.

J.2.4 SURFACE AND SUBSURFACE SOIL SAMPLES

J.2.4.1 Surface soil samples were collected at various depths during the different investigations, with surface soil sample intervals ranging from zero to two inches, zero to six inches and zero to two feet. Therefore, surface soil at the site is defined as soil collected at

depths less than two feet from the surface and include exposure pathways with no, or very minor, soil disturbance (*e.g.*, wind dispersion of surface soil, landscaping/grounds keeping activities in surface soil).

J.2.4.2 Subsurface samples were collected during the various investigations at depths between three and 40 feet. The subsurface sampling results were combined with the surface sampling results to evaluate exposure pathways involving mixed soils (*e.g.*, during land development involving excavation and construction activities). The exposure assessment assumes that surface and subsurface soils are mixed during excavation/construction activities, and that potential exposure occurs to contaminants during the excavation/construction phase, or when contaminants are brought to and deposited near the surface.

J.2.4.3 A total of 19 surface soil samples and 13 subsurface soil samples were collected at AOCs 1 and 7. Tables J.7.1 and J.7.2 of this HHRA further summarize the analytical data for surface soil and mixed (surface/subsurface) soils.

J.2.5 GROUNDWATER SAMPLES

J.2.5.1 A total of 68 groundwater samples were collected from 35 nonresidential wells and 19 residential wells (see Table J.7.3a and J.7.3b, respectively) at and around AOCs 1 and 7. Several of these samples were collected at the same wells during different time frames and not all sampling activities included analyses for a complete suite of analytes. Many samples were single sampling events from individual wells.

J.2.5.2 In the vicinity of AOCs 1 and 7 there is a dense layer of glacial till between the overburden and bedrock water-bearing zones. The glacial till separates the bedrock water-bearing zone from the shallow overburden water-bearing zone. The occurrence and depths to groundwater in the overburden (upper zone/unconfined layer) across SADVA have ranged from 2.5 feet at AOC 5 (in the southern part of SADVA), 23.9 feet at AOC 3 (in the northwest corner of SADVA), to as deep as 67 feet (in the southeast portion of SADVA near AOC 1). The wells are identified in Table J.7.3a and Table J.7.3b as either shallow or bedrock. Many of the samples (mostly within the 1990 and 1996 sample sets) did not indicate the depth of the well to determine whether it was a shallow well or a deeper well. The shallow wells and wells with unknown depths were used in the risk assessment to evaluate the vapor intrusion pathway (*i.e.*, intrusion of VOCs into indoor air from shallow groundwater). Wells with unknown depths were included in the analysis as a conservative approach. EPCs for each well were used as described above.

J.2.6 SEDIMENT SAMPLES

A total of 21 sediment samples were collected at AOC 1. The samples were collected from the wetland areas, pond and drainage areas, a seasonally wet area just west of the access road, and in the intermittently-flooded forested area between AOCs 1 and 7. Table J.7.4 summarizes the analytical data for sediment samples.

J.2.7 SURFACE WATER SAMPLES

J.2.7.1 A total of 12 surface water samples were collected in pond and wetland areas around AOCs 1 and 7. Table J.7.5 of this HHRA summarizes the analytical data for surface water samples.

J.2.7.2 Background surface water samples were collected from Black Creek, upstream of the former SADVA. These upstream locations are south and southwest of AOC 1 as shown on Figure 3.1 of the Parsons RI Report. Three background samples were collected from Black Creek near Route 201 and two additional samples were collected from Black Creek near Route 202 and upstream of Route 202.

J.2.7.3 AOCs 1 and 7 are located within the Black Creek drainage area. The main Black Creek channel is located as much as 1,500 feet west of AOC 1. The Black Creek channel is surrounded by New York State wetland V-19. Wetland V-19 extends east of Black Creek and is adjacent to the western side of AOC 1. There is a pond and seasonally-wet area on the eastern side of AOC 1. This area is connected to wetland V-19 by a drainage ditch.

J.2.7.4 The New York State Bureau of Watershed Management and the NYSDEC have classified the section of Black Creek adjacent to SADVA as a Class C stream. Class C waters are suitable for fishing and fish propagation and primary and secondary recreation, even though other factors may limit the use for that purpose. Individuals were known to withdraw water from Black Creek just south of where Black Creek joins the Bozenkill (Guilderland Water Department, 2000). That stretch of the Black Creek is classified as a Class B waterway by the NYSDEC. Class B waters are considered suitable for primary contact recreation and any other uses except as a source of water supply for drinking, culinary or food processing purposes. Further downstream, the Watervliet Reservoir is a Class A water body which is suitable for drinking water, culinary or food processing purposes, and all other uses. The reservoir is approximately four miles downstream of AOCs 1 and 7, and 2.5 miles downstream of the former SADVA. The Watervliet Reservoir water supply serves a population of over 40,000.

J.2.7.5 For the Parsons RI, surface water sample results are compared to Class A and Class C criteria. The comparison of site samples to Class A criteria has been made for information purposes to address Restoration Advisory Board (RAB) concerns that water in Black Creek makes its way to the Watervliet Reservoir drinking water supply. Thus, for this HHRA, it was assumed that a residential receptor may be exposed to chemicals in the pond and wetland samples based on the connection between these areas and Black Creek, and Black Creek's ultimate connection to the Watervliet Reservoir. This scenario includes ingestion of surface water as drinking water and inhalation of volatiles from use of surface water in the home (*e.g.*, showering, laundering, and dish washing). However, the Watervliet Reservoir is approximately four miles downstream of AOCs 1 and 7 and results for the AOC 8 (Black Creek) HHRA do not indicate an unacceptable risk exists, based on chemicals detected in Black Creek (refer to Appendix K for details).

SECTION J.3

EXPOSURE ASSESSMENT

J.3.1 OBJECTIVE

J.3.1.1 The objective of the exposure assessment is to estimate the type and magnitude of potential exposures to COPCs at the site. The exposure assessment includes identification of potential exposure pathways, receptors, and exposure scenarios, as well as quantification of exposure. Characterization of the exposure setting and identification of all potentially exposed receptors and exposure pathways are discussed in this section. A conceptual site model (CSM) showing results of the exposure assessment is shown on Figure J.7.1 at the end of this section. Quantification of exposure involves quantifying the magnitude, frequency, and duration of exposure for the receptors and exposure pathways of concern.

J.3.1.2 Surface soil, mixed (surface/subsurface) soil, groundwater, sediment and surface water have been evaluated as the environmental media of concern at AOCs 1 and 7. The exposure pathways relevant to the site are described in this exposure assessment and shown in the CSM.

J.3.2 CONCEPTUAL SITE MODEL

J.3.2.1 A CSM is an effective tool for defining site dynamics, streamlining risk assessments, establishing exposure hypotheses, and developing appropriate corrective actions. The CSM for AOCs 1 and 7 is provided on Figure J.4 in Section J.7. CSMs are useful for identifying completed exposure pathways between the contaminated media and potential receptors. The purpose of the CSM is to aid in understanding and describing a site and presents the assumptions regarding:

- Suspected sources and types of contaminants present;
- Contaminant release and transport mechanisms;
- Affected media;
- Potential receptors that could come in contact with site-related contaminants in affected media under current and future land use scenarios; and
- Potential routes of exposure.

J.3.2.2 An overall description of contaminant sources, release mechanisms, and affected media was provided in previous sections. The potential receptors and completed exposure pathways is discussed in the following subsections. Further description of site characterization information is described in the Parsons RI and Malcolm Pirnie RI reports.

J.3.3 POTENTIAL RECEPTORS AND EXPOSURE PATHWAYS

J.3.3.1 Potential human receptors are defined as individuals who may be exposed to site-related contaminants in environmental media. Consistent with USEPA (1989) guidance, current and reasonably anticipated land uses were considered in the receptor selection process.

J.3.3.2 USEPA (1989) defines an exposure pathway as: “The course a chemical or physical agent takes from a source to an exposed organism. An exposure pathway describes a unique mechanism by which an individual or population is exposed to chemicals or physical agents at or originating from a site. Each exposure pathway includes a source or release from a source, an exposure point, and an exposure route. If the exposure point differs from the source, a transport/exposure medium (*e.g.*, air) or media (in cases of intermedia transfer) is also included.”

J.3.3.3 A review of potential exposure pathways links the sources, locations, and types of environmental releases with receptor locations and activity patterns to determine the significant pathways of concern.

J.3.3.4 Based on the previous investigations and the site visit by the project team performing the risk assessment for the site, the observations and reasonable assumptions for the potential human receptors for AOCs 1 and 7 are listed below.

- **Current Receptors** – AOCs 1 and 7 are currently vacant and located in a remote area of the NEIP that has limited access. Current NEIP land use includes infrequent visits to the site, such as those that would be performed during site sampling investigations. Incidental ingestion of surface soil, inhalation of volatiles from surface soil, and dermal contact with surface soil by an outdoor worker were assumed. However, this calculation assumes an exposure frequency of 225 days per year and an exposure duration of 25 years. Thus, it provides a very conservative evaluation for a potential current outdoor worker who would have much less exposure. This scenario is still conservative but much more likely for future use of the property as indicated in the NEIP EIS Master Plan (Clough, Harbour & Associates LLP, June 2005). The Master Plan indicates that the area may be used for offices and parking lots. The Plan describes buildings and parking lots consisting of three 20,000 ft² offices and two parking areas with a total of 800 parking spaces. The site will not be converted to residential use, based on information presented in the Master Plan.
- **Future Receptors** – Although the site is not residential and will not be converted to residential use based on the Master Plan, a residential pathway was shown for comparative purposes. Thus, incidental ingestion of surface soil, inhalation of volatiles from surface soil, and dermal contact with surface soil by a future resident were calculated. This provides the most conservative risk assessment (*i.e.*, most health protective evaluation) than for other types of receptors. Since this is not a complete exposure pathway, it is considered to be hypothetical and used for comparison only.

Based on future land use plans at NEIP as proposed in the Master Plan, it was assumed that the area could be developed and that future land use may include commercial use of the property (the offices and parking lots described above). The above current receptor evaluation is conservative for the future outdoor worker and thus this did not need to be re-evaluated for the future scenario. The current receptor evaluation is also very protective of a future indoor worker because indoor worker exposure to soils would be much less. Thus, the indoor worker exposure scenario was considered to be conservatively evaluated by the current outdoor worker.

- **Current and Future Residential Exposure to Groundwater** – The site is currently vacant and located in a remote part of the NEIP. The Master Plan indicates proposed commercial use of the land in the future (the offices and parking areas described above). The site will not be converted to residential use, based on information presented in the Master Plan. Although these are the current and foreseen land uses, several other conditions and assumptions were used for the groundwater exposure pathway.

Local shallow groundwater flow at AOC 1 is primarily toward Black Creek (to the west-southwest). At AOC 7, a component of shallow groundwater flow is also to the west-southwest toward Black Creek and the adjoining wetlands. The sites are located near the southeast end of the NEIP. The area surrounding the south and east boundaries of NEIP is composed of agricultural land and scattered residences. However, there are homes and businesses in the nearby off-site areas that may still use wells for drinking water or other purposes. Met Weld Inc. is a manufacturing plant that fabricates and welds fluid processing skids, gas process skids, and stand-alone electrical control buildings. Met Weld Inc. is located east of AOC 1 near the intersection of Ostrander Road and Depot Road (County Route 201). Met Weld Inc. apparently uses groundwater; it has a well that has been periodically tested by the NYSDOH.

Groundwater has been used periodically in the past at the Guilderland Central School for irrigation of school grounds and athletic fields. The school is approximately 1.2 miles from the AOCs 1 and 7 area, and not in the direction of groundwater flow. Most local residents are now on the Town of Guilderland public water supply (Town of Guilderland, 2000). The Town of Guilderland public water supply lines run along Route 201 as far as the railroad tracks west of the intersection of Ostrander Road and Route 201. The NEIP is supplied by the Town of Guilderland Water Department, as are most residents west and south of the area.

The USEPA groundwater MSSL used in the risk ratio analysis assumes residential exposure, and thus provides an estimate of risk to potential residents who may still be using a well. Onsite groundwater data were used in the risk analysis and thus the evaluation assumes that residents are living onsite, or are using site groundwater for drinking. NYSDEC Class GA groundwater standards also provide protection for groundwater designated as a source of drinking water and all other uses.

Residential receptors and exposure pathways are considered to provide a conservative estimate of risk for other potential receptors. For example, ingestion of groundwater by a resident will produce a higher level of risk than ingestion of groundwater by a current and/or future indoor and/or outdoor worker, because residents are expected to ingest more water over a longer period of time than a worker. Thus, worker scenarios for ingestion of groundwater were not evaluated separately because they are assumed to be conservatively evaluated via the residential exposure pathway.

J.3.4 EXPOSURE PATHWAYS

Surface Soil Exposure Pathways

J.3.4.1 All surface soil samples were collected at depths from 0 to 2 feet. Therefore, surface soil at the site is defined as soil collected at depths less than two feet from the surface and includes exposure pathways with no, or very minor, soil disturbance (*e.g.*, general grounds maintenance, sampling investigations). Exposure occurs by direct contact and wind dispersion of contaminants. The receptors and pathways evaluated for surface soil are listed below.

- Incidental ingestion of surface soil, inhalation of volatiles from surface soil, and dermal contact with surface soil by a current outdoor worker. This calculation assumes an exposure frequency of 225 days per year and an exposure duration of 25 years. Thus, it provides a very conservative evaluation for a potential current outdoor worker who, under actual, current conditions, would have much less exposure.
- Incidental ingestion of surface soil, inhalation of volatiles from surface soil, and dermal contact with surface soil by a future outdoor worker. This is a complete exposure pathway but is not included separately in the risk ratio analysis because it is assumed to be conservatively evaluated under the current outdoor worker scenario (based on the exposure frequency and exposure duration).
- Incidental ingestion of surface soil, inhalation of volatiles from surface soil, and dermal contact with surface soil by a future indoor worker. This is a complete exposure pathway but is not included separately in the risk ratio analysis because it is assumed to be conservatively evaluated under the current outdoor worker scenario (future indoor workers would have much less exposure to surface soils than outdoor workers).
- Although the site is not residential and is not planned to be converted to residential use (based on the Master Plan), a residential pathway was shown for comparative purposes. Thus, incidental ingestion of surface soil, inhalation of volatiles from surface soil, and dermal contact with surface soil by a future resident were calculated. This provides the most conservative risk assessment (*i.e.*, most health protective evaluation) than for other types of receptors.

J.3.4.2 The chemicals detected in surface soil are shown in Table J.7.1. The exposure and risk ratio calculations for the surface soil pathway are presented in Table J.7.14.

Mixed Soil Exposure Pathways

J.3.4.3 The subsurface soil sample results were combined with the surface soil sample results to evaluate exposure pathways involving mixed soils (*e.g.*, future land development including excavation activities). The exposure assessment assumes that surface and subsurface soils are mixed during excavation/digging activities, and that potential exposure occurs to contaminants during the excavation/construction phase or to contaminants brought to the surface after excavation and site development. Subsurface samples from the site were collected at depths between three and 40 feet. Thus, the mixed soil interval at the site is zero to 40 feet (the zero to two feet deep surface soils and the three to 40 feet deep subsurface soils).

J.3.4.4 The receptors and pathways evaluated for mixed soil are exactly the same as those listed above for surface soil. They are included below for purposes of completing the CSM.

- Incidental ingestion of mixed soil, inhalation of volatiles from mixed soil, and dermal contact with mixed soil by a current outdoor worker. This calculation assumes an exposure frequency of 225 days per year and an exposure duration of 25 years. Thus, it provides a very conservative evaluation for a potential current outdoor worker who, under actual, current conditions, would have much less exposure.
- Incidental ingestion of mixed soil, inhalation of volatiles from mixed soil, and dermal contact with mixed soil by a future outdoor worker. This is a complete exposure pathway but is not included separately in the risk ratio analysis because it is assumed to be conservatively evaluated under the current outdoor worker scenario (based on the exposure frequency and exposure duration).
- Incidental ingestion of mixed soil, inhalation of volatiles from mixed soil, and dermal contact with mixed soil by a future indoor worker. This is a complete exposure pathway but is not included separately in the risk ratio analysis because it is assumed to be conservatively evaluated under the current outdoor worker scenario (future indoor workers would have much less exposure to mixed soils than outdoor workers).
- Although the site is not residential and is not planned to be converted to residential use (based on the Master Plan), a residential pathway was shown for comparative purposes. Thus, incidental ingestion of mixed soil, inhalation of volatiles from mixed soil, and dermal contact with mixed soil by a future resident were calculated. This provides the most conservative risk assessment (*i.e.*, most health protective evaluation) than for other types of receptors.

J.3.4.5 Chemicals detected in mixed soil are shown in Table J.7.2. Exposure and risk ratio calculations for this pathway are presented in Table J.7.15.

Groundwater Exposure Pathways

J.3.4.6 AOCs 1 and 7 are currently vacant and located in a remote area of the NEIP that has limited access. The site is not expected to be converted to residential land use based on the NEIP Master Plan. The area surrounding the south and east boundaries of the NEIP, close to AOCs 1 and 7, is composed of agricultural land and scattered residences. It is uncertain whether all homes in this area have converted to the Town of Guilderland public drinking water supply. The nearby Met Weld, Inc property has a groundwater supply well that has been tested periodically by the Albany County Health Department. Thus, there are some homes and businesses in this area that may still use private wells for drinking water or other purposes. Groundwater beneath the site is also very shallow and there may be potential for vapor intrusion of contaminants into indoor air (*e.g.*, vapor intrusion into buildings that may be constructed on site or possibly homes/businesses located near the site).

J.3.4.7 Based on these potential exposure scenarios, the groundwater at the site was evaluated for the receptors listed below.

- Ingestion of groundwater as drinking water and inhalation of volatiles from use of groundwater in the home (*e.g.*, showering, laundering, and dish washing) by a current residential receptor. Residential receptors and exposure pathways are considered to provide a conservative estimate of risk for other potential receptors. Thus, ingestion of groundwater by a resident will produce a higher level of risk than ingestion of groundwater by a current and/or future indoor and/or outdoor worker. The worker scenarios may be complete exposure pathways if groundwater was used as drinking water; however, these pathways are not included in the risk ratio analysis because they are assumed to be conservatively evaluated under the residential scenario.
- Inhalation of volatiles (from vapor intrusion of groundwater VOCs into indoor air) by a current resident and a future industrial/commercial worker. These exposure pathways are considered to be potentially complete because groundwater beneath the site is very shallow and VOCs in groundwater could possibly intrude into indoor air. The examples given above include vapor intrusion into future buildings that may be constructed on site or possibly homes/businesses currently located near the site.

J.3.4.8 Chemicals detected in groundwater are shown in Table J.7.3 for the vapor intrusion pathway. The vapor intrusion pathway was assessed for the all the residential wells and for all the nonresidential wells combined. If an unacceptable risk was determined due to vapor intrusion, the well(s) responsible for driving vapor intrusion risk were assessed separately. Exposure and risk ratio calculations for the drinking water pathway in each residential well are presented in Tables J.7.18 through J.7.36. Exposure and risk ratio calculations for the drinking water pathway in each nonresidential (monitoring) well are presented in Table J.7.37 through J.7.66.

Sediment Exposure Pathways

J.3.4.9 Sediment sample results were compared to TCEQ Tier 1 sediment PCLs which are screening values developed to be protective of residential exposure to sediment. Thus, these values are considered to be conservative for current or future workers who might come into contact with contaminated sediment. The worker scenarios may be complete exposure pathways if workers were to come in contact with contaminated sediment; however, these pathways are not separately included in the risk ratio analysis because they are assumed to be conservatively evaluated under the residential scenario.

J.3.4.10 The PCL screening values incorporate incidental ingestion of sediment and dermal contact with sediment. The exposure areas at the site include the wetland areas, an approximately 2-acre perennial pond located adjacent to the landfill, drainage areas, a seasonally wet area just west of the access road, and the intermittently-flooded forested area between AOCs 1 and 7.

J.3.4.11 Chemicals detected in sediment are shown in Table J.7.4. Exposure and risk ratio calculations for the residential sediment exposure pathway are presented in Table J.7.16.

Surface Water Exposure Pathways

J.3.4.12 AOCs 1 and 7 are located within the Black Creek drainage area. The main Black Creek channel is located up to 1,500 feet west of AOC 1, where it is surrounded by New York State wetland V-19. Wetland V-19 extends east of Black Creek and is adjacent to the western side of AOC 1. There is a pond and seasonally-wet area on the eastern side of AOC 1. This area is connected to wetland V-19 by a drainage ditch.

J.3.4.13 The section of Black Creek adjacent to SADVA has been classified by the New York State Bureau of Watershed Management and the NYSDEC as a Class C stream. Class C waters are suitable for fishing and fish propagation and primary and secondary recreation. Black Creek flows north and joins the Bozenkill. Individuals were known to withdraw water from Black Creek just south of its confluence with the Bozenkill (Guilderland Water Department, 2000). That stretch of the Black Creek is classified as a Class B waterway by the NYSDEC. Class B waters are suitable for primary contact recreation and any other uses except as a source of water supply for drinking, culinary, or food processing purposes. Farther downstream, approximately four miles from AOCs 1 and 7, the Watervliet Reservoir is a Class A water body, which is suitable for drinking, culinary or food processing, and all other uses. The Watervliet Reservoir water supply serves a population of over 40,000.

J.3.4.14 Based on land use, the surface water receptors and exposure pathway will be:

- Ingestion of surface water as drinking water and inhalation of volatiles from use of surface water in the home (*e.g.*, showering, laundering, and dish washing) by a current and/or future residential receptor. The residential “tap water” screening level will be used. The residential exposure scenario is protective of other receptor scenarios. Thus, if surface water were to be used by indoor or outdoor workers,

the residential values would be protective for the workers. Thus, the potential worker scenarios were not evaluated.

J.3.4.15 Chemicals detected in surface water are shown in Table J.7.5. Exposure and risk ratio calculations for the residential surface water exposure pathway are presented in Table J.7.17.

SECTION J.4

RISK RATIO AND SCREENING CRITERIA ASSESSMENT

J.4.1 SCREENING AND COMPARISON CRITERIA ASSESSMENT

J.4.1.1 The screening criteria assessment considers that if the EPC is less than the background value, there is no risk from that chemical attributable to the site. In addition to essential nutrients being eliminated from this HHRA, the following chemicals were eliminated from further analysis. In surface soil, the following chemical concentrations did not exceed background and were eliminated from further consideration (Table J.7.6):

- Benzo(k)fluoranthene
- 4,4'-DDE
- 4,4'-DDT
- Aluminum
- Antimony
- Arsenic
- Barium
- Beryllium
- Lead
- Manganese
- Mercury
- Selenium
- Thallium
- Zinc

J.4.1.2 In mixed soil, the following chemical concentrations did not exceed background and were eliminated from further consideration (Table J.7.7):

- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- 4,4'-DDE
- 4,4'-DDT
- Aluminum
- Antimony
- Arsenic
- Lead

-
- Manganese
 - Mercury
 - Selenium
 - Thallium
 - Zinc

J.4.1.3 In sediment, the following chemical concentrations did not exceed background and were eliminated from further consideration (Table J.7.8):

- Acetone
- Aluminum
- Thallium

J.4.1.4 In surface water, the following chemical concentrations did not exceed background and were eliminated from further consideration (Table J.7.9):

- Aluminum
- Beryllium
- Manganese
- Mercury

J.4.1.5 Tables J.7.10 through J.7.13 show the qualitative comparison of the EPCs for surface soil, mixed soil, sediment and surface water to the NYSDEC screening criteria, as well as the USEPA Region MSSSLs and TCEQ PCLs, as appropriate. Tables J.7.3a and J.7.3b show the qualitative comparison of the EPCs for groundwater to the NYSDEC Class GA groundwater quality criteria; concentrations exceeding the criteria are shown in bold. These tables are presented for informational purposes.

J.4.2 RISK RATIO ASSESSMENT

J.4.2.1 The risk ratio method considers risk averaged across an entire exposure area (*e.g.*, surface soil across AOCs 1 and 7) and follows a tiered approach. For the risk ratio assessment for soil, the maximum detected chemical concentrations were the EPCs initially used to calculate risk. Use of maximum concentrations provides the most health-protective estimate of exposure to a particular chemical. If unacceptable risk is calculated based on the maximum detected concentration, then the 95% UCL was calculated and used in the risk ratio approach. This was done to ensure that one sample having the maximum detected concentration was not completely driving the risk calculation. The 95% UCLs were calculated using the percentile bootstrap method, assuming a non-parametric distribution of the particular chemical. This method was performed using USEPA's ProUCL Version 3.0 software (USEPA, 2004b). A minimum of 10 samples was needed to calculate the 95% UCL. A 95% UCL was only calculated for chemicals that have been detected in at least one sample. One-half the sample quantitation limit (SQL) was used as a concentration value for samples in which the chemical was reported as not detected.

J.4.2.2 The EPC for groundwater was the detected concentration, if only one sample was collected in a well. For wells with two sampling events, the average concentration was used as the EPC, unless there was only one detected concentration in the two sampling events. In the latter case, the detected concentration was used as the EPC. In wells with 3 sampling events, for each detected analyte, the data were inspected to determine if there was a consistent downward or upward trend. If there was a consistent downward or upward trend, the latest concentration was used as the EPC. If there were three detected concentrations and no obvious trend, the average concentration was used as the EPC. For wells where a duplicate sample was collected, the highest result of the primary or duplicate sample was used as the EPC.

J.4.2.3 In the risk ratio analysis, the ratio of the EPC was divided by the appropriate screening level for the environmental medium. For soil, the EPC for detected analytes are either the maximum detected concentration or the 95% UCL. For groundwater, the EPCs for each detected analyte in each well are calculated as described above (*e.g.*, the detected concentration, the average concentration, or the latest concentration). If the EPC was within the background range for a particular chemical, the risk ratio was not calculated for that chemical. Background concentrations were available for PAHs, pesticides/PCBs, metals, and other miscellaneous volatile or semivolatile chemicals that are sometimes found in the environment from regional anthropogenic sources. Background concentrations were not available for groundwater.

J.4.2.4 Following calculation of the risk ratios for individual chemicals, the ratios were then summed to determine the cumulative risk. Carcinogenic risk ratios greater than the upper bound of the CERCLA acceptable risk range, 1.0×10^{-4} , indicate a potentially unacceptable carcinogenic risk. Non-carcinogenic risk ratios greater than 1 (one) also indicate a potential unacceptable risk. In the first tier, all carcinogenic chemicals were evaluated together, as were all non-carcinogenic chemicals. Should the non-carcinogenic chemicals have indicated an unacceptable risk, they would have been evaluated using specific target organs or organ groupings. To estimate the risk associated with multiple non-carcinogenic chemicals, the risks are considered cumulative if the chemicals affect the same target organ. Therefore, if necessary, the target organs would have been identified for all non-carcinogenic chemicals. Although there were some non-carcinogenic risks identified in this HHRA, the risks were primarily driven by only a few chemicals, and thus the use of target organ groupings would not add value or additional information to this assessment. The primary chemicals driving the non-cancer risk are discussed in Section J.5 (Risk Assessment Results and Uncertainties).

J.4.3 SCREENING CRITERIA

Soil Screening Criteria

J.4.3.1 The soil sample results were compared to NYSDEC soil criteria, background concentrations, and USEPA soil screening levels (*i.e.*, USEPA soil MSSLs). The NYSDEC-recommended soil cleanup criteria for metals include provisions for using site-specific background concentrations, as well as reference concentrations for eastern U.S. soils. The background metals concentrations were integrated into the NYSDEC soil criteria using the guidance provided by NYSDEC (1994). Thus, the criteria for metals were derived by integrating

the NYSDEC criteria with the background concentrations and using the higher of the two concentrations as the screening criteria (NYSDEC, 1994). The higher of the reference eastern U.S. soil concentrations and the site-specific background concentration for each metal was accepted as the “RI background concentration” for comparison purposes in the Parsons RI.

J.4.3.2 Based on the exposure assessment for current and future land use (discussed in Section J.3), the soil risk-based levels from USEPA Region 6 (*i.e.*, the soil MSSSLs) were the following:

- Current outdoor industrial (commercial) worker – the risk ratio screening levels are the cancer (corresponding to a risk of 10^{-6}) and non-cancer (HQ=1) values calculated for incidental ingestion of soil, inhalation of volatiles from soil, and dermal contact with soil. These values are very conservative for a current scenario because they are based on an exposure frequency of 225 days and an exposure duration of 25 years. As previously discussed, these values are protective of potential future outdoor or indoor workers.
- Although the site is not residential and is not expected to be converted to residential use, a residential pathway was shown for comparative purposes. Thus, incidental ingestion of soil, inhalation of volatiles from soil, and dermal contact with soil by a future resident were calculated. This provides the most conservative risk assessment (*i.e.*, most health protective evaluation) as compared to other types of receptors.

J.4.3.3 One screening value was derived for the combined exposure routes. Thus, incidental ingestion of soil, inhalation of volatiles from soil, and dermal contact with soil were included as the combined exposure route.

Groundwater Screening Criteria

J.4.3.4 Groundwater results were compared to NYSDEC Class GA groundwater standards (NYSDEC, 1998). Class GA groundwater standards provide protection for groundwater designated as a source of drinking water and all other uses.

J.4.3.5 Based on the exposure assessment for current and future land use, the groundwater risk-based levels from USEPA Region 6 (*i.e.*, the groundwater MSSSLs) are those listed below:

- Current residential receptor – the risk ratio screening levels are the cancer (10^{-6}) and non-cancer (HQ=1) “tap water” values calculated for ingestion of groundwater as drinking water, and inhalation of volatiles from use of groundwater in the home (*e.g.*, showering, laundering, and dish washing). Residential receptors and exposure pathways are considered to provide a conservative estimate of risk for other potential receptors. As previously discussed, these values are protective of potential future outdoor or indoor workers.

- Screening criteria to evaluate vapor intrusion of shallow groundwater VOCs into buildings were based on USEPA (2002) target groundwater concentrations. The target groundwater concentrations are calculated to correspond to target indoor air concentrations that are protective of human health if vapor intrusion occurs. As previously discussed, the target groundwater concentrations are derived to ensure protection of a residential receptor, and thus provide a conservative evaluation for a potential future indoor worker. Based on future land use plans as described in the NEIP EIS Master Plan (Clough, Harbour & Associates LLP, June 2005), future land use for AOCs 1 and 7 may include office buildings and parking lots. The site will not be converted to residential use, based on information provided in the Master Plan.

Sediment Screening Criteria

J.4.3.6 The sediment risk-based levels (*i.e.*, sediment Tier 1 PCLs) from TCEQ are based on the following assumption:

- Residential receptor – the risk ratio screening levels are the cancer (10^{-5}) and non-cancer (HQ=1) values calculated for incidental ingestion of sediment and dermal contact with sediment.

J.4.3.7 No PCLs will be developed for indoor and outdoor industrial (commercial) workers. The sediment PCLs are based on residential exposure. Because of the residential-based calculation of the sediment PCLs, the values are very conservative and thus would also be protective for a current outdoor worker or a future outdoor construction worker.

Surface Water Screening Criteria

J.4.3.8 Surface water results were compared to NYSDEC Class A and Class C surface water standards/guidance values (NYSDEC, 1998) and/or background concentrations. AOCs 1 and 7 are located within the Black Creek drainage area. It is unlikely that runoff from AOC 7 would reach Black Creek; the area is flat and there are no ditches draining the AOC 7 area. The main Black Creek channel is located approximately 1,500 feet west of AOC 1. The Black Creek channel is surrounded by New York State wetland V-19. Wetland V-19 extends east of Black Creek and is adjacent to the western side of AOC 1. There is a pond and seasonally-wet area on the eastern side of AOC 1. The pond is connected to wetland V-19 by a drainage ditch.

J.4.3.9 For the Parsons RI, surface water sample results were compared to Class A and Class C criteria. The comparison of site samples to Class A criteria has been made for informational purposes based on RAB concerns that water in Black Creek may make its way to the Watervliet Reservoir drinking water supply.

J.4.3.10 Based on land use, the surface water risk-based levels (*i.e.*, surface water MSSLs) from USEPA Region 6 will be:

- Residential receptor – the risk ratio screening levels are the cancer (10^{-6}) and non-cancer (HQ=1) “tap water” values calculated for ingestion of surface water as drinking water and inhalation of volatiles from use of surface water in the home (e.g., showering, laundering, and dish washing). As previously discussed, residential receptors and exposure pathways are considered to provide a conservative estimate of risk for other potential receptors. Thus, these values are protective for potential future outdoor or indoor workers.

J.4.4 RISK RATIO EQUATIONS

J.4.4.1 Cancer risks were estimated using the following equation. This equation assumes use of maximum concentrations or the 95% UCLs for the EPCs.

$$\text{Cumulative Risk} = \sum (TR) \frac{(EPC_i)}{MSSL_{c-i}}$$

where:

Cumulative Risk = Cumulative risk for carcinogenic COPCs one through “i”

(unitless), where $(TR) \frac{(EPC_i)}{MSSL_{c-i}}$ is the chemical-specific cancer risk for chemical “i”;

TR = Target lifetime excess cancer risk of 10^{-6} (unitless) or 10^{-5} for sediment only;

EPC_i = Exposure point concentration for chemical “i” (mg/kg for soil/sediment or µg/L for water); and

MSSL_{c-i} = USEPA Region 6 (2006a) residential cancer-based medium-specific screening level (MSSL) (mg/kg for soil or µg/L for water) for chemical “i” (for sediment evaluations, the TCEQ PCL is used).

J.4.4.2 Non-cancer risks were estimated using the following equation. This equation assumes use of maximum concentrations or the 95% UCLs for the EPCs.

$$HI = \sum (THQ) \frac{(EPC_i)}{MSSL_{nc-i}}$$

where:

HI	=	Cumulative hazard index for non-cancer COPCs one through “i” (unitless), where $(THQ) \frac{(EPC_i)}{MSSL_{nc-i}}$ is the chemical-specific non-cancer hazard quotient (HQ) for chemical “i”;
THQ	=	Target hazard quotient of one (unitless);
EPC _i	=	Exposure point concentration for chemical “i” (mg/kg for soil/sediment or µg/L for water); and
MSSL _{nc-i}	=	USEPA Region 6 (2006a) residential cancer-based medium-specific screening level (MSSL) (mg/kg for soil or µg/L for water) for chemical “i” (for sediment evaluations, the TCEQ PCL is used).

SECTION J.5

RISK ASSESSMENT RESULTS AND UNCERTAINTIES

J.5.1 INTRODUCTION

J.5.1.1 The primary objective of this HHRA was to quantitatively characterize the human health risk associated with current and reasonably expected future exposure to contaminated media at AOCs 1 and 7. As discussed in Section J.3, all potentially complete exposure pathways for the site were evaluated or were assumed to be evaluated based on more protective exposure scenarios (*e.g.*, the residential scenarios provide very conservative estimates for standard worker scenarios). The exposure pathways were outlined in Section J.3 and were also shown on the CSM (Figure J.7.1). The results of the risk ratio quantification are presented in this section.

J.5.2 ESTIMATED RISKS FOR SURFACE SOIL

J.5.2.1 The calculated risks for surface soil are shown in Table J.7.14.

J.5.2.2 No unacceptable risks were calculated for the non-carcinogenic COPCs in the surface soils at AOCs 1 and 7. The cumulative non-carcinogenic risk ratio results were 0.94 and 0.26 for the residential and industrial receptors, respectively. These results are below the cumulative risk ratio threshold of 1 (one) indicating no unacceptable risk is expected.

J.5.2.3 No unacceptable risks were calculated for the carcinogenic COPCs in the surface soils at AOCs 1 and 7. The cumulative carcinogenic risk ratios were 3.1×10^{-5} and 1.0×10^{-5} for residential and industrial receptors, respectively. These results are within the acceptable range of 1×10^{-4} and 1×10^{-6} .

J.5.3 ESTIMATED RISKS FOR MIXED SOIL

J.5.2.4 The calculated risks for mixed soil are shown in Table J.7.15.

J.5.2.5 As with surface soils at AOCs 1 and 7, no unacceptable risks were calculated for the non-carcinogenic chemicals detected in the mixed soils at the site. The cumulative non-carcinogenic risk ratio results were 0.72 and 0.16 for the residential and industrial receptors, respectively. These results are well below the cumulative risk ratio of one, indicating no unacceptable risk occurs for the mixed soil exposure pathways.

J.5.2.6 Similar to surface soil, there were no unacceptable risks associated with carcinogenic chemicals in mixed soils at AOCs 1 and 7. The cumulative risk ratios for carcinogenic chemicals were 1.7×10^{-5} and 6.4×10^{-6} , which are within the acceptable range of 1×10^{-4} and 1×10^{-6} .

J.5.4 ESTIMATED RISKS FOR GROUNDWATER USED AS DRINKING WATER

J.5.2.7 The calculated risks for groundwater were evaluated for each individual well. There were no background concentrations available for groundwater, so the results are qualitatively compared to NYSDEC Class GA criteria prior to the risk ratio calculations, as shown in Tables J.7.3a (nonresidential wells) and J.7.3b (residential wells). No analytes were eliminated from consideration in the SLRA.

Residential Wells

J.5.3.1 Tables J.7.18 through J.7.36 present the results of the risk ratio calculations for each of the residential wells. For all of the residential wells except well E5306 (Table J.7.35, discussed below), there were no unacceptable carcinogenic risks associated with contaminants in the wells. The highest carcinogenic risk for any of the residential wells was 1.1×10^{-6} , which is less than the upper end of USEPA's acceptable risk range of 1.0×10^{-4} . The highest cumulative non-carcinogenic risk for any of the residential wells is 0.11, which is significantly less than one, indicating that there is no unacceptable non-carcinogenic risk in any of the residential wells.

J.5.3.2. For well E5306, the cumulative non-carcinogenic risk (0.0015) is less than one, indicating no unacceptable non-carcinogenic risks. The cumulative carcinogenic risks in well E5306 were 1.8×10^{-4} , which is greater than the upper end of USEPA's acceptable risk range of 1.0×10^{-4} . The chemical that is driving the cumulative risk in this well is arsenic, with a detected concentration of 7.9 µg/L. The guidelines of the Safe Drinking Water Act as developed by the USEPA sets a drinking water standard for arsenic at 10 µg/L. The safe water drinking water standard is higher than the detected concentration of arsenic at well E5306, indicating that the detected concentration of arsenic in this well is less than the concentration of arsenic allowed in drinking water.

J.5.3.3 Lead is not assessed in the cumulative risk ratios described above, but is assessed individually. There was lead detected in only one residential well, E4880 (Table J.7.31). The detected concentration of lead in well E4880 exceeded the USEPA screening value by a factor of 3.3, indicating that there is a potential for an unacceptable risk due to lead in well E4880. This well was only sampled in 1990, and it is not known if lead has attenuated in the well since that sampling event. Additionally, well construction was not reviewed to determine if lead pipe was used in the construction of the well. .

Nonresidential Wells

Tables J.7.37 through J.7.66 present the results of the risk ratio calculations for each of the nonresidential (monitoring) wells. Because of the large number of wells, the results of groundwater analyses at nonresidential wells will be further divided into those wells with calculated non-carcinogenic risk, carcinogenic risk, and risks due to lead.

Non-carcinogenic Risks in Nonresidential Wells

Five nonresidential wells have cumulative non-carcinogenic risks greater than one.

- Well MW-AMW1 (Table J.7.38) has a cumulative non-carcinogenic risk ratio value of 1.6, primarily due to the presence of the VOC cis-1,2-dichloroethene (risk ratio = 1.4). The EPC for cis-1,2-dichloroethene is based on one sample collected in 1996, and because no additional samples have been collected, it is not known if attenuation has occurred at this well.
- Well MW-AMW11 (Table J.7.40) has a cumulative non-carcinogenic risk ratio value of 1.6, primarily due to the presence of several metals (aluminum, antimony, selenium, and vanadium). The EPC for each of the metals is based on 2 samples, which were averaged to determine the final EPC. In all cases, the concentration in the second sample (collected in 2004) was less than the concentration in the first sample (collected in 2001), but without at least one additional sample, it cannot be definitively determined if this is attenuation of contaminant concentrations or simply variation in contaminant concentrations.
- Well AOC7-2AMW-7 (Table J.7.58) has a cumulative non-carcinogenic risk ratio value of 1.8, primarily due to the presence of manganese in the sample. The EPC for manganese is the highest value of the primary and duplicate sample collected in 2000. There is potentially human health risk at this well due to exposure to manganese in drinking water. Since no additional samples have been collected in this well, it is not known if concentrations of manganese have attenuated at this well.
- Well AOC7-HP02 (Table J.7.61) has a cumulative non-carcinogenic risk ratio value of 31, primarily due to the presence of several metals (aluminum, manganese, nickel, thallium and vanadium). The EPC for each of the metals is the detected concentration based on a single sampling event, collected in 2000. This was a temporary wellpoint sample that was suspected to have elevated turbidity; as a result, a permanent well was installed near this location (GW03) and there was no unacceptable risk in that well.
- Well AOC7-HP03 (Table J.7.62) has a cumulative non-carcinogenic risk ratio value of 1.5, primarily due to the presence of two metals (aluminum and manganese). The EPC for each of the metals is the detected concentration based on a single sampling event in 2000. This was a temporary wellpoint sample that was suspected to have elevated turbidity; as a result, a permanent well was installed near this location (GW02) and there was no unacceptable risk in that well.

Carcinogenic risks in nonresidential wells.

Eighteen nonresidential wells have calculated carcinogenic risk values greater than the upper bound of the CERCLA risk range of 1.0×10^{-4} .

- Well MW-ACE2 (Table J.7.37) has a cumulative carcinogenic risk ratio of 1.7×10^{-2} , primarily due to the VOCs trichloroethene (6×10^{-3}) and vinyl chloride (1.1×10^{-2}), and the metal arsenic (1.3×10^{-4}). The EPC for trichloroethene is based on the average of three sampling events. The first sampling event had a

higher concentration than the third (and latest) event, but the second sample collected exhibited a higher concentration than the other two samples. Therefore, there was no obvious trend in the data, and the average was used as the EPC. Additional sampling at the well may reveal that natural attenuation has occurred in the well. A downward trend was observed for vinyl chloride; therefore, the EPC is based on the latest value, indicating that natural attenuation may have occurred in this well. The EPC for arsenic is based on the only sample analyzed for metals collected in 1996 (6 µg/L). The Safe Drinking Water standard of 10 µg/L is greater than the maximum concentration of arsenic in this well, indicating that the detected concentration of arsenic in this well is less than the concentration allowed in drinking water.

- Well MW-AMW1 (Table J.7.38) has a cumulative carcinogenic risk ratio of 1.5×10^{-3} , primarily from the VOC vinyl chloride (1.4×10^{-3}). A downward trend was observed for vinyl chloride; therefore, the EPC is based on the latest value of three sampling events, indicating that natural attenuation may be occurring.
- Well MW-AMW11 (Table J.7.40) has a cumulative carcinogenic risk ratio of 1.6×10^{-3} , primarily due to the presence of arsenic. The EPC is based on the average concentration of two sampling events. The concentration of arsenic in the first sampling event (collected in 2001) is larger than the concentration in the second event (collected in 2004), but without additional sampling, a trend of natural attenuation cannot be verified. Further, the concentration in the second sample collected (15.9 µg/L) is greater than the safe drinking water standard of 10 µg/L, indicating there may be potential risk due to exposure to arsenic in the groundwater at this well.
- Well AMW-104, a duplicate sample from AMW-1, (Table J.7.43) has a cumulative carcinogenic risk ratio of 2.4×10^{-4} , primarily due to the presence of the VOC vinyl chloride (2.3×10^{-4}). The EPC is based on a single sampling event (collected in 2006). There may be a potential risk due to exposure to VOCs in the groundwater at this well.
- Well MW-ACE4 (Table J.7.46) has a cumulative carcinogenic risk ratio of 2.2×10^{-4} , due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 1996). The detected concentration is 10 µg/L, which is equal to the safe drinking water standard of 10 µg/L. Therefore, the detected concentration of arsenic is equal to what would be allowed in drinking water.
- Well MW-ACE3 (Table J.7.47) has a cumulative carcinogenic risk ratio of 1.1×10^{-4} , due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 1996). The detected concentration of 5 µg/L is less than the safe drinking water standard of 10 µg/L, indicating that the detected concentration of arsenic would be allowed in drinking water.

- Well MW-2-2 (Table J.7.48) has a cumulative carcinogenic risk ratio of 1.3×10^{-4} , due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 1996). The detected concentration of 6 $\mu\text{g/L}$ is less than the safe drinking water standard of 10 $\mu\text{g/L}$, indicating that the detected concentration of arsenic would be allowed in drinking water.
- Well MW-2AMW8 (Table J.7.52) has a cumulative carcinogenic risk ratio of 1.8×10^{-3} , due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 1996). The detected concentration of 82 $\mu\text{g/L}$ is much greater than the safe drinking water standard of 10 $\mu\text{g/L}$, indicating there may be adverse effects to humans from exposure to arsenic at this well.
- Well MW-2AMW3 (Table J.7.53) has a cumulative carcinogenic risk ratio of 1.1×10^{-4} , due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 1996). The detected concentration of 5 $\mu\text{g/L}$ is less than the safe drinking water standard of 10 $\mu\text{g/L}$, indicating that the detected concentration of arsenic would be allowed in drinking water.
- Well MW-1 (Table J.7.54) has a cumulative carcinogenic risk ratio of 1.5×10^{-4} , due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 1988). The detected concentration of 6.6 $\mu\text{g/L}$ is less than the safe drinking water standard of 10 $\mu\text{g/L}$, indicating that the detected concentration of arsenic would be allowed in drinking water.
- Well MW-2 (Table J.7.55) has a cumulative carcinogenic risk ratio of 6.9×10^{-4} , due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 1988). The detected concentration of 31 $\mu\text{g/L}$ is greater than the safe drinking water standard of 10 $\mu\text{g/L}$, indicating there may be adverse effects to humans from exposure to arsenic at this well. Since no additional samples have been collected in this well, it is not known if concentrations of arsenic are attenuating.
- Well MW-3 (Table J.7.56) has a cumulative carcinogenic risk ratio of 6.2×10^{-4} , primarily due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 1988). The detected concentration of 28 $\mu\text{g/L}$ is greater than the safe drinking water standard of 10 $\mu\text{g/L}$, indicating there may be adverse effects to humans from exposure to arsenic at this well. Since no additional samples have been collected in this well, it is not known if concentrations of arsenic are attenuating.
- Well MW-4 (Table J.7.57) has a cumulative carcinogenic risk ratio of 5.1×10^{-4} , due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 1988). The detected concentration of 23 $\mu\text{g/L}$ is greater than the safe drinking water standard of 10 $\mu\text{g/L}$, indicating there may be adverse effects to humans from exposure to arsenic at this well. Since no additional samples have

been collected in this well, it is not known if concentrations of arsenic are attenuating.

- Well AOC7-2AMW-5 (Table J.7.59) has a cumulative carcinogenic risk ratio of 3.3×10^{-4} , due to the presence of arsenic and bis(2-ethylhexyl)phthalate. The EPC for both chemicals is based on a single sampling event (collected in 2000). The chemical bis(2-ethylhexyl)phthalate is a common laboratory contaminant that may have been detected due to contamination of the sample at the laboratory. The detected concentration of arsenic of 14.7 µg/L is greater than the safe drinking water standard of 10 µg/L, indicating there may be adverse effects to humans from exposure to arsenic at this well. Since no additional samples have been collected in this well, it is not known if concentrations of arsenic are attenuating.
- Well AOC7-HP01 (Table J.7.60) has a cumulative carcinogenic risk ratio of 1.2×10^{-4} , due to the presence of arsenic and bis(2-ethylhexyl)phthalate. The EPC for both chemicals is based on a single sampling event (collected in 2000). The chemical bis(2-ethylhexyl)phthalate is a common laboratory contaminant that may have been detected due to contamination of the sample at the laboratory. The detected concentration of arsenic of 4.8 µg/L is less than the safe drinking water standard of 10 µg/L, indicating that the detected concentration of arsenic would be allowed in drinking water.
- Well AOC7-HP02 (Table J.7.61) has a cumulative carcinogenic risk ratio of 4.6×10^{-3} , primarily due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 2000). The detected concentration of 207 µg/L is much greater than the safe drinking water standard of 10 µg/L. This was a temporary wellpoint sample that was suspected to have elevated turbidity; as a result, a permanent well was installed near this location (GW03) and there was no unacceptable risk in that well.
- Well AOC7-HP03 (Table J.7.62) has a cumulative carcinogenic risk ratio of 2.3×10^{-4} , primarily due to the presence of arsenic. The EPC for arsenic is based on a single sampling event (collected in 2000). The detected concentration of 10.2 µg/L is slightly greater than the safe drinking water standard of 10 µg/L. This was a temporary wellpoint sample that was suspected to have elevated turbidity; as a result, a permanent well was installed near this location (GW02) and there was no unacceptable risk in that well.
- Well SC-2AMW5-AOC1 (Table J.7.64) has a cumulative carcinogenic risk ratio of 2.6×10^{-4} , primarily due to the presence of arsenic and bis(2-ethylhexyl) phthalate. The EPC for both chemicals is based on a single sampling event (collected in 2000). The chemical bis(2-ethylhexyl) phthalate is a common laboratory contaminant and may have been detected due to contamination of the sample at the laboratory. The detected concentration of arsenic at 11.6 µg/L is greater than the safe drinking water standard of 10 µg/L, indicating there may be adverse effects to humans from exposure to arsenic at this well. Since no

additional samples have been collected in this well, it is not known if concentrations of arsenic are attenuating.

Risks of lead in nonresidential wells

Lead was detected in 14 nonresidential wells. However, for only 5 wells was the risk ratio for lead greater than one. Therefore, there are not likely to be adverse effects on humans due to exposure to lead in wells MW-AMW1 (Table J.7.38), MW-AMW2 (Table J.7.39), MW-AMW11 (Table J.7.40), MW-2AMW3 (Table J.7.53), MW-1 (Table J.7.54), AOC7-2AMS-7 (Table J.7.58), AOC7-2AMW-5 (Table J.7.59), AOC7-HP01 (Table J.7.60), AOC7-HP02 (Table J.7.60), or SD-2AMW5-AOC1 (Table J.7.64). Lead concentrations in the remaining wells are assessed below:

- Well MW-ACE2 (Table J.7.37) has detection of lead of 79 µg/L, which exceeded the USEPA screening value by a factor of 5.2, indicating that there is a potential for an unacceptable risk due to lead in this well.
- Well MW-2 (Table J.7.55) has detection of lead of 90 µg/L, which exceeded the USEPA screening value by a factor of 6.0, indicating that there is a potential for an unacceptable risk due to lead in this well.
- Well MW-3 (Table J.7.56) has detection of lead of 66 µg/L, which exceeded the USEPA screening value by a factor of 4.4, indicating that there is a potential for an unacceptable risk due to lead in this well.
- Well MW-4 (Table J.7.57) has detection of lead of 69 µg/L, which exceeded the USEPA screening value by a factor of 4.6, indicating that there is a potential for an unacceptable risk due to lead in this well.
- Well AOC7-HP02 (Table J.7.61) has detection of lead of 388 µg/L, which exceeded the USEPA screening value by a factor of 25.86, indicating that there is a potential for an unacceptable risk due to lead in this well. This was a temporary wellpoint sample that was suspected to have elevated turbidity; as a result, a permanent well was installed near this location (GW03) and there was no unacceptable risk in that well.

J.5.2.13 An uncertainty associated with the groundwater risk ratio results is that, in most cases, there was a single sampling event, and therefore the detected concentration of each chemical was used as the EPC and compared to the USEPA “tap water” MSSSLs. Without additional samples, there is no way to determine if natural attenuation of chemicals in wells has occurred.

J.5.2.14 Another uncertainty associated with the groundwater risk ratio results is that the residential exposure pathway is extremely unlikely. Most of the homes in the area have converted to the Town of Guilderland public drinking water supply. However, the area consists of scattered country homes and it is uncertain whether all homes in this area have converted to

public water. Thus, there may be some homes and businesses in this area that may still use private wells for drinking water or other purposes. Additionally, as previously discussed, the site is not proposed for residential development. Based on the NEIP EIS Master Plan, future land use includes proposed office buildings and parking lots (Clough, Harbour & Associates LLP, June 2005).

Estimated Risks and Uncertainties for Vapor Intrusion of Groundwater into Indoor Air

J.5.2.15 Groundwater beneath the site is very shallow and there may be potential for vapor intrusion of contaminants into indoor air. Thus, future buildings that may be constructed on site or possibly homes/businesses located near the site may be susceptible to vapor intrusion. The deeper bedrock and upgradient well locations were not included in the evaluation. Table J.7.3 shows which samples are the shallow samples, the bedrock samples, and the upgradient samples.

J.5.2.16 Screening criteria to evaluate vapor intrusion of shallow groundwater VOCs into buildings were based on USEPA (2002) target groundwater concentrations. The target groundwater concentrations are calculated to correspond to target indoor air concentrations that are protective of human health if vapor intrusion occurs. Table J.7.3 compares detected concentrations to screening criteria. In the vapor intrusion analysis, five VOCs were found to be above the target screening value. The five chemicals were 1,2-dichloroethane (1,2-DCA), *trans*(1,2)dichloroethene (*trans*-1,2-DCE), *cis*(1,2)dichloroethene (*cis*-1,2-DCE), TCE, and vinyl chloride. Only one well had the highest concentrations of these chemicals, which also were the concentrations that exceeded the target screening value for groundwater to indoor air. This well was identified as MW-ACE2 (sampled in July 1996) and also identified as ACE-2 (sampled in June 2000 and June 2006). Most of the exceedances of the target screening values were related to the 1996 sampling event. The 2000 sampling event still had high concentrations for three VOCs (*trans*-1,2-DCE, TCE, and vinyl chloride). When this well was sampled in June 2006, concentrations were all lower, but there were still the same three VOCs above the target screening values (*trans*-1,2-DCE, TCE, and vinyl chloride).

J.5.2.17 There are several levels of uncertainty associated with this exposure pathway analysis. The target screening values are a first-step approach to evaluating chemicals that may pose a risk due to the vapor intrusion pathway. The State of New York guidance documents, *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH, 2006) and DER-13 / *Strategy for Evaluating Soil Vapor Intrusion at Remedial Sites in New York* (NYSDEC, 2006) need to be followed to satisfy New York State guidelines. As discussed in previous sections of this HHRA, the guidance documents from the State of New York require all sites with groundwater contamination to perform air sampling for the vapor intrusion pathway. Therefore, any results from a target screening approach (used in this HHRA) or from modeling approaches (such as the J&E model) must be supported by air sampling results. Such sampling may include soil vapor samples, sub-slab vapor samples, crawl space air samples, indoor air samples, and outdoor air samples.

J.5.2.18 According to the USACE policy for vapor intrusion, *U.S. Army's Interim Vapor Intrusion Policy* (USACE, 2006), the Army would accept modeling for cases where the future

construction of a building may take place at a site. If the modeling indicated a potential risk, the Army may chose to amend its installation management plan or file a deed notice in accordance with State law. Such forms of notice would notify Army employees, contractors and others that the issue of vapor intrusion must be considered if a building is to be constructed on the site in question.

J.5.2.19 Another level of uncertainty is that the target screening concentrations are derived to ensure protection of a residential receptor, and thus provide an overly conservative evaluation for the current and/or future worker exposure scenarios expected for the site.

Estimated Risks for Sediment

J.5.2.20 The calculated risks for sediment are shown in Table J.7.16 (Risk Ratio Calculations for Sediment).

J.5.2.21 As shown in the risk calculation table, there are no non-carcinogenic or carcinogenic risks associated with the sediments at AOCs 1 and 7. The non-carcinogenic risk ratio result for the site is 0.73 and the carcinogenic risk ratio result is 7.8×10^{-6} . These values are lower than the acceptable thresholds of one (non-carcinogenic) and 1×10^{-4} (carcinogenic), and thus indicate that there is no unacceptable risk due to exposure to sediments.

Estimated Risks and Uncertainties for Surface Water

J.5.2.22 The calculated risks for surface water are shown in Table J.7.17 (Risk Ratio Calculations for Surface Water).

J.5.2.23 Risk calculations indicate that there may be potential for non-carcinogenic and carcinogenic risk for the surface water exposure pathways at the site. The non-carcinogenic risk was 1.7 and was primarily due to exposure to cadmium in pond water. The carcinogenic risk was 2.8×10^{-4} and was primarily due to exposure to TCE, BEHP, and arsenic in pond water.

J.5.2.24 These results are very conservative and overestimate potential risk; thus, it is very unlikely that surface water poses a potential risk. There are several factors in this HHRA that overestimate potential risk. Surface water sampling results were compared to the USEPA “tap water” MSSSLs. These MSSSLs assume residential exposure to surface water used as drinking water and inhalation of volatiles from use of surface water in the home (e.g., showering, laundering, and dish washing). The comparison of pond samples to residential criteria was made for informational purposes based on RAB concerns that water in Black Creek may make its way to the Watervliet Reservoir drinking water supply. The pond water has no known use, including use as drinking water. It is possible for pond water to flow through a ditch to the wetland and possibly to Black Creek. A separate HHRA completed for surface water in Black Creek showed no unacceptable risk exists.

J.5.2.25 A total of 12 surface water samples were collected for the site. It is noted that of these 12 samples, the contaminants were not frequently detected. Although lead was detected at seven locations and BEHP was detected at three locations, TCE, arsenic, and cadmium were only detected at one location each. The single detections of TCE and cadmium were from the same

sampling location (SW-4 in the pond). Thus, there was only a single detection of cadmium that was driving the risk. No sampling has been performed for surface water at AOCs 1 and 7 since July 2000. Lead values were only high in the samples collected in 1988. Since that time lead levels have been below the “tap water” MSSLs. Lead in surface water does not present a risk for the site. *Bis(2-ethylhexyl)phthalate* was not included in surface water analyses prior to the July 2000 samples. Thus, the three detections occurred in the 2000 data set (which included only four samples). Although BEHP was detected in three of the four surface water samples, it is not unusual to detect this phthalate in environmental media. BEHP is a common laboratory contaminant and phthalates are prevalent in the environment because of their use in plastics such as polyvinylchloride (PVC).

SECTION J.6

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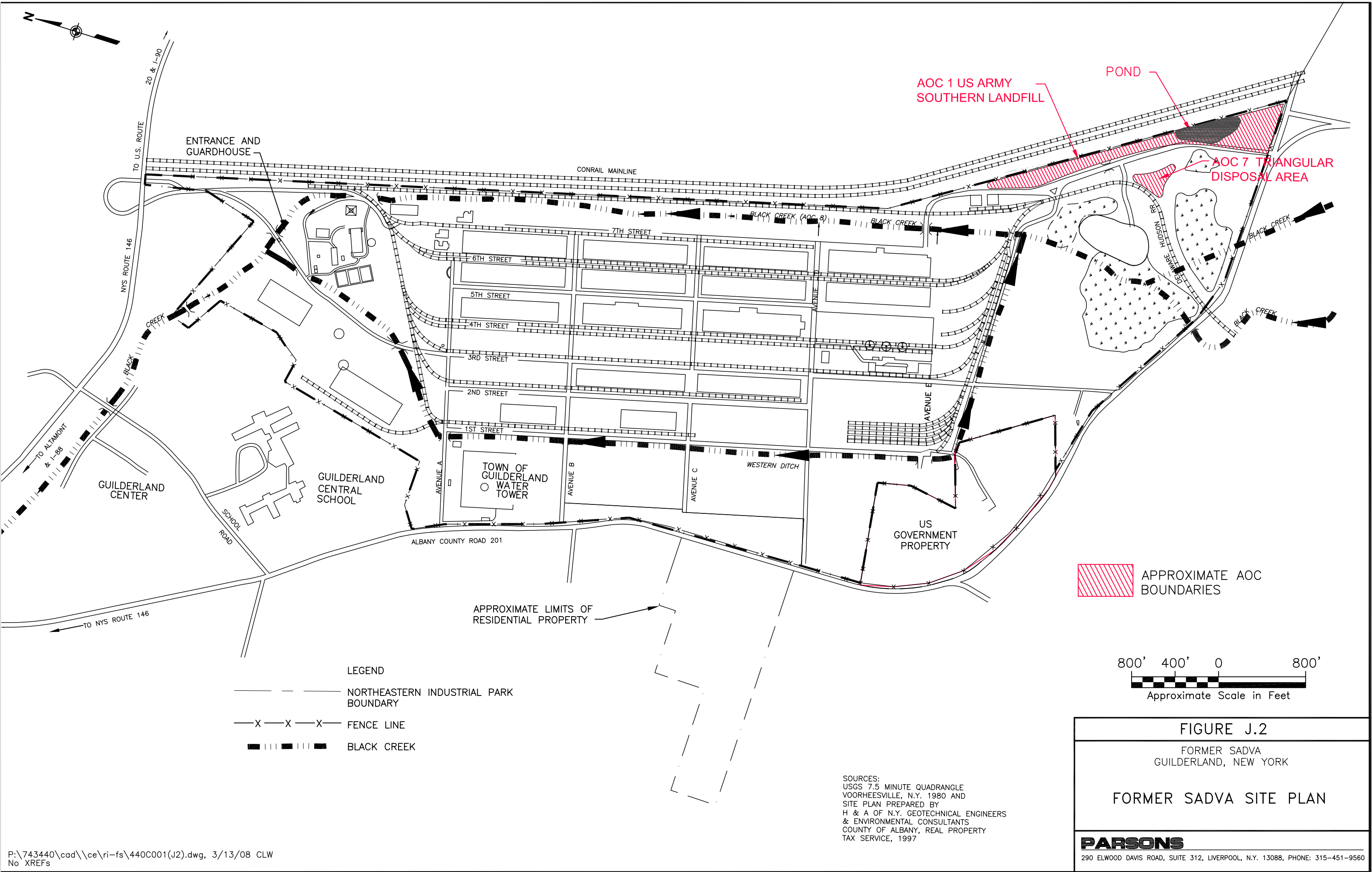
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SECTION J.7

**FIGURES, SITE PHOTOGRAPHS, AND
TABLES (DATA AND RISK CALCULATION TABLES)**



SOURCES:
USGS 7.5 MINUTE QUADRANGLE
VOORHEESVILLE, N.Y. 1980 AND
SITE PLAN PREPARED BY
H & A OF N.Y. GEOTECHNICAL ENGINEERS
& ENVIRONMENTAL CONSULTANTS
COUNTY OF ALBANY, REAL PROPERTY
TAX SERVICE, 1997

FIGURE J.2

FORMER SADVA
GUILDERLAND, NEW YORK

FORMER SADVA SITE PLAN

PARSONS
290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, N.Y. 13088, PHONE: 315-451-9560

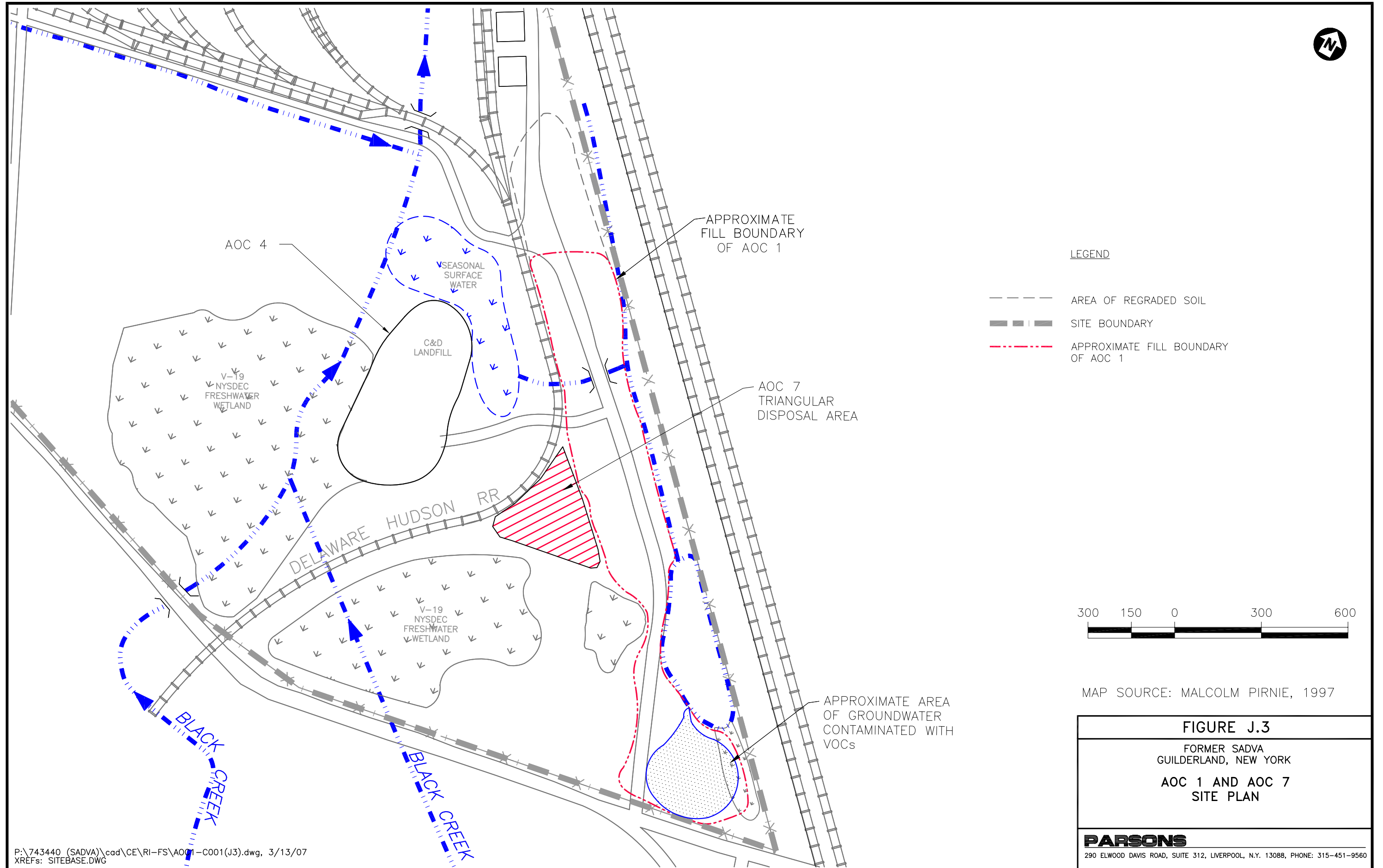


Figure J.4 Human Health Conceptual Site Model

Potential Medium of Concern	Potential Route of Exposure	Potentially Exposed Population	Pathway Completeness and Assumptions
Soil (Surface and/or Mixed Soil)	<ul style="list-style-type: none"> • Incidental ingestion of surface/mixed soil • Inhalation of volatiles from surface/mixed soil • Dermal contact with surface/mixed soil 	<ul style="list-style-type: none"> • Current outdoor worker • Future outdoor worker • Future indoor worker • Current/future resident 	<ul style="list-style-type: none"> • Current outdoor worker is a complete exposure pathway. An exposure frequency of 225 days per year and an exposure duration of 25 years are assumed for this scenario. Thus, it is a very conservative (protective) evaluation for a potential current outdoor worker who would have much less exposure (<i>e.g.</i>, current worker that visits the site to perform site sampling activities). • Future outdoor worker is a complete exposure pathway. The Master Plan indicates proposed office buildings and parking lots for the area, consisting of three 20,000 ft² offices and two parking lots with 800 parking spaces. This pathway is not included in the risk ratio analysis because it is assumed to be conservatively evaluated under the current outdoor worker scenario (based on the exposure frequency and exposure duration). • Future indoor worker is a complete exposure pathway (based on Master Plan). This pathway is not included in the risk ratio analysis because it is assumed to be conservatively evaluated under the current outdoor worker scenario (future indoor workers would have much less exposure to surface and/or mixed soils). • Although the site is not residential and will not be converted to residential use (based on the Master Plan), a residential pathway was shown for comparative purposes. This provides the most conservative risk assessment (<i>i.e.</i>, most health protective evaluation) than for other types of receptors.

Figure J.4 continued

Groundwater	<ul style="list-style-type: none"> • Ingestion of groundwater as drinking water • Inhalation of groundwater from use of groundwater in the home (<i>e.g.</i>, showering, laundering, and dish washing) • Inhalation of volatiles due to vapor intrusion of VOCs from shallow groundwater into indoor air 	<ul style="list-style-type: none"> • Current outdoor worker • Future outdoor worker • Future indoor worker • Current/future resident 	<ul style="list-style-type: none"> • The area surrounding the south and east boundaries of the former SADVA, close to AOCs 1 and 7, is composed of agricultural land and scattered country homes. It is uncertain whether all homes in the area have converted to the Town of Guilderland public drinking water supply. Thus, there may be some homes and businesses that still use private wells for drinking water or other purposes. • Residential receptors and exposure pathways are considered to provide a conservative estimate of risk for other potential receptors. Thus, ingestion of groundwater by a resident will produce a higher level of risk than ingestion of groundwater by a current and/or future indoor and/or outdoor worker. The worker scenarios may be complete exposure pathways if groundwater were to be used as drinking water; however, these pathways are not included in the risk ratio analysis because they are assumed to be conservatively evaluated under the residential scenario. • Inhalation of volatiles (from vapor intrusion of VOCs from shallow groundwater into indoor air) by a current/future resident and a future industrial/commercial worker. These exposure pathways are considered to be potentially complete because groundwater beneath the site is very shallow and VOCs in groundwater could possibly intrude into indoor air (<i>e.g.</i>, vapor intrusion into buildings that may be constructed on site or possible homes/businesses located near the site).
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Figure J.4 continued

Sediment	<ul style="list-style-type: none"> • Incidental ingestion of sediment • Dermal contact with sediment 	<ul style="list-style-type: none"> • Current outdoor worker • Future outdoor worker • Future indoor worker • Current/future resident 	<ul style="list-style-type: none"> • PCLs are screening values protective of residential exposure to sediment. Thus, these values are considered to be conservative for current or future workers who might come into contact with contaminated sediment. The worker scenarios may be complete exposure pathways if workers were to come in contact with contaminated sediment; however, these pathways are not included in the risk ratio analysis because they are assumed to be conservatively evaluated under the residential scenario.
Surface Water (samples from pond and surrounding wetland areas)	<ul style="list-style-type: none"> • Ingestion of surface water as drinking water • Inhalation of surface water from use of surface water in the home (e.g., showering, laundering, and dish washing) 	<ul style="list-style-type: none"> • Current outdoor worker • Future outdoor worker • Future indoor worker • Current/future resident 	<ul style="list-style-type: none"> • Approximately four miles downstream from AOCs 1 and 7, the Watervliet Reservoir is a Class A water body, which is suitable for drinking and all other uses. The Watervliet Reservoir water supply serves a population of over 40,000. • The residential surface water pathway was evaluated for information purposes to address RAB concerns that water in Black Creek may make its way to the Watervliet Reservoir drinking water supply. The pond at AOC 1 drains to a ditch that discharges to a wetland area. Black Creek flows through that wetland area, and eventually discharges to the Bozenkill, before entering Watervliet Reservoir, approximately four miles downstream of AOC 1 and 7. • The residential exposure scenario is protective of other receptor scenarios. Thus, if surface water were to be used by indoor or outdoor workers, the residential values would be protective for the workers. Thus, the potential worker scenarios were not evaluated.

Photo J.7.1 Facing from the Northeast Side of AOC 1 – Pond and Drainage Area



Photo J.7.2 Facing from the Northeast Side of AOC 1 – Typical Vegetation for Pond and Drainage Area



Photo J.7.3 Facing Northeast Adjacent from AOC 1 – Fence Boundary of SADVA



Photo J.7.4 Northeast Side of AOC 1 – Terrestrial Vegetation (Monitoring Well Location Shown in Center of Photo)



Photo J.7.5 Abandoned Railroad Tracks Leading to AOC 7



Photo J.7.6 Freshwater Wetland Vegetation at AOC 7



Table J.7.1
Detected Chemicals in Surface Soil
SADVA - AOCs 1 and 7

		SAMPLE ID: DEPTH: SAMPLED:		SD-SS-GW01-0-0.5 0-0.5' 6/14/2004	SD-SS-GW02-0-0.5 0-0.5' 6/15/2004	SD-SS-GW03-0-0.5 ^a 0-0.5' 6/15/2004	AOC7-SB01A 0.2' 7/21/2000	AOC7-SB02A 0.2' 7/21/2000	AOC7-SB03A 0.2' 7/21/2000	AOC7-SB04A 0.2' 7/21/2000	SS-04-0,18 ^b 1-1.5 27-Jun-96	SS-05-12,18 1-1.5 27-Jun-96
PARAMETER	CAS NUMBER	UNITS:	MAX VALUE									
VOLATILES												
Acetone	67-64-1	µg/kg	2600	--	--	--	23 U	22 U	23 U	24 U	29 U	6 U
Ethylbenzene	100-41-4	µg/kg	24	--	--	--	5.7 U	5.6 U	5.6 U	6 U	24 J	6 U
Toluene	108-88-3	µg/kg	4	--	--	--	5.7 U	5.6 U	5.6 U	6 U	4 J	6 U
Trichloroethene	79-01-6	µg/kg	8	--	--	--	5.7 U	5.6 U	5.6 U	6 U	8 J	6 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	µg/kg	170	--	--	--	23 UJ	22 UJ	23 UJ	24 UJ	170	6 U
Xylene (total)	1330-20-7	µg/kg	530	--	--	--	5.7 U	5.6 U	5.6 U	6 U	530	6 U
SEMIVOLATILES												
Acenaphthene	83-32-9	µg/kg	350	360 U	350 J	360 U	370 U	370 U	370 U	390 U	--	--
Acenaphthylene	208-96-8	µg/kg	120	360 U	39 J	360 U	370 U	370 U	370 U	390 U	--	--
Anthracene	120-12-7	µg/kg	730	360 U	730	360 U	370 U	370 U	370 U	390 U	--	--
Benzo(a)anthracene	56-55-3	µg/kg	2400	54 J	2400	360 U	16 J	13 J	10 J	39 J	--	--
Benzo(b)fluoranthene	205-99-2	µg/kg	2700	82 J	2700	55 J	18 J	25 J	12 J	56 J	--	--
Benzo(k)fluoranthene	207-08-9	µg/kg	940	360 U	940	360 U	24 J	25 J	15 J	65 J	--	--
Benzo(a)pyrene	50-32-8	µg/kg	2400	46 J	2400	360 U	15 J	13 J	9.7 J	43 J	--	--
Benzo(g,h,i)perylene	191-24-2	µg/kg	1600	59 J	1600	44 J	10 J	12 J	370 U	27 J	--	--
Carbazole	86-74-8	µg/kg	1300	360 U	310 J	360 U	370 U	370 U	370 U	390 U	--	--
Chrysene	218-01-9	µg/kg	2800	94 J	2800	71 J	26 J	29 J	14 J	67 J	--	--
Dibenz(a,h)anthracene	53-70-3	µg/kg	420	360 U	420	360 U	370 U	370 U	370 U	390 U	--	--
Dibenzofuran	132-64-9	µg/kg	120	360 U	120 J	360 U	370 U	370 U	370 U	390 U	--	--
Di-n-butylphthalate	84-74-2	µg/kg	100	46 J	37 J	42 J	370 U	370 U	100 J	390 U	--	--
Fluoranthene	206-44-0	µg/kg	6100	93 J	6100	85 J	38 J	41 J	23 J	89 J	--	--
Fluorene	86-73-7	µg/kg	220	--	--	--	370 U	370 U	370 U	390 U	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	1700	53 J	1700	37 J	11 J	11 J	370 U	29 J	--	--
Naphthalene	91-20-3	µg/kg	410	360 U	74 J	360 U	370 U	370 U	370 U	390 U	--	--
Phenanthrene	85-01-8	µg/kg	3100	57 J	3100	37 J	16 J	19 J	370 U	44 J	--	--
Pyrene	129-00-0	µg/kg	4200	90 J	4200	73 J	28 J	29 J	17 J	64 J	--	--
2,4-Dimethylphenol	105-67-9	µg/kg	150	--	--	--	370 U	370 U	370 U	390 U	--	--
2-Methylnaphthalene	91-57-6	µg/kg	230	360 U	50 J	360 U	370 U	370 U	370 U	390 U	--	--
Dibenzofuran	132-64-9	µg/kg	110	--	--	--	370 U	370 U	370 U	390 U	--	--
N-Nitrosodiphenylamine	86-30-6	µg/kg	68	--	--	--	370 U	370 U	370 U	390 U	--	--
PESTICIDES/PCBs												
4,4'-DDE	72-55-9	µg/kg	2.1	--	--	--	0.077 JN	0.29 JN	2.1 J	0.65 JN	--	--
Endrin	72-20-8	µg/kg	0.29	--	--	--	1.9 U	0.29 JN	1.9 U	2 U	--	--
Endrin aldehyde	7421-93-4	µg/kg	2.9	--	--	--	1.9 U	1.9 U	2.9 J	2 U	--	--
4,4'-DDD	72-54-8	µg/kg	2.7	--	--	--	1.9 U	1.9 U	2.7 JN	2 U	--	--
4,4'-DDT	50-29-3	µg/kg	6.9	--	--	--	1.9 U	0.45 J	6.9 JN	0.9 JN	--	--
Aroclor 1260	1336-36-3	µg/kg	160	--	--	--	1.9 U	1.9 U	160	2 U	--	--
Metals												
Aluminum	7429-90-5	mg/kg	12100	--	--	--	10600	10400	9850	12100	--	--
Antimony	7440-36-0	mg/kg	0.36	--	--	--	0.19 J	0.29 J	0.27 J	0.36 J	--	--
Arsenic	7440-38-2	mg/kg	6.7	--	--	--	5.9	5.7	5.4	6.7	--	--
Barium	7440-39-3	mg/kg	47.4	--	--	--	40	39.4	41	47.4	--	--
Beryllium	7440-41-7	mg/kg	0.59	--	--	--	0.52 J	0.54 J	0.49 J	0.59 J	--	--
Cadmium	7440-43-9	mg/kg	0.65	--	--	--	0.53 J	0.44 J	0.53 J	0.65	--	--
Calcium	7440-70-2	mg/kg	--	--	--	--	7350	3890	13500	5580	--	--
Chromium	7440-47-3	mg/kg	337	--	--	--	16.9 J	15.7 J	19.4 J	19.3 J	--	--
Chromium VI	18540-29-9	mg/kg	350	--	--	--	--	--	--	--	--	--
Cobalt	7440-48-4	mg/kg	13.3	--	--	--	11.8 J	11.8 J	11.2 J	13.3 J	--	--
Copper	7440-50-8	mg/kg	32.7	--	--	--	29.2	24.9	30.9	32.7	--	--
Iron	7439-89-6	mg/kg	--	--	--	--	26700 J	25400 J	25100 J	30000 J	--	--
Lead	7439-92-1	mg/kg	35.4	--	--	--	19.3	15.2	35.4	25.9	--	--
Magnesium	7439-95-4	mg/kg	--	--	--	--	6340	4820	8550	6760	--	--
Manganese	7439-96-5	mg/kg	649	--	--	--	649	549	517	615	--	--
Mercury	7439-97-6	mg/kg	0.064	--	--	--	0.044	0.047	0.04	0.064	--	--
Nickel	7440-02-0	mg/kg	27.3	--	--	--	26.2 J	22.9 J	24.8 J	27.3 J	--	--
Potassium	7440-09-7	mg/kg	--	--	--	--	1370	1140	1270	1600	--	--
Silver	7440-22-4	mg/kg	1.9	--	--	--	0.12 J	0.15 J	0.16 J	0.12 J	--	--
Sodium	7440-23-5	mg/kg	--	--	--	--	50.4 J	46.3 J	57.6 J	59.2 J	--	--
Thallium	7440-28-0	mg/kg	0.55	--	--	--	0.44 U	0.44 U	0.44 U	0.55 J	--	--
Vanadium	7440-62-2	mg/kg	25.2	--	--	--	20.9	22.9	18.6	25.2	--	--
Zinc	7440-66-6	mg/kg	114	--	--	--	88.9	79.8	84.5	114	--	--

J = Estimated Value
UJ = Analyte not detected; the number is the estimated analytical reporting limit.
U = Analyte not detected; the number is the analytical reporting limit.
R = Rejected during data validation
D = Diluted
ND = Not Detected
a) The highest result between samples SD-SS-GW03-0-0.5 and SD-SS-GW103-0-0.5 (dup of SD-SS-GW03-0-0.5) is reported.
b) The highest result between samples SS-04-12,18 and SS-04-12,18DUP is reported.
c) The highest result between samples SS-04-0,18 and SS-04-0,18 DUP is reported.

Table J.7.1
Detected Chemicals in Surface Soil
SADVA - AOCs 1 and 7

		SAMPLE ID: DEPTH: SAMPLED:	SS-01-12,18 1-1.5 27-Jun-96	SS-02-12,18 1-1.5 27-Jun-96	SS-03-12,18 1-1.5 27-Jun-96	SS-06-12,18 1-1.5 27-Jun-96	SS-04-0,18 ° 0-1.5 27-Jun-96	SS-05-0,24 0-2 27-Jun-96	SS-01-0,24 0-2 27-Jun-96	SS-02-0,24 0-2 27-Jun-96	SS-03-0,24 0-2 27-Jun-96	SS-06-0,24 0-2 27-Jun-96
PARAMETER	CAS NUMBER	UNITS:										
VOLATILES												
Acetone	67-64-1	µg/kg	6 U	2600 D	6 U	6 U	--	--	--	--	--	--
Ethylbenzene	100-41-4	µg/kg	6 U	6 UJ	6 U	6 U	--	--	--	--	--	--
Toluene	108-88-3	µg/kg	6 U	6 UJ	6 U	6 U	--	--	--	--	--	--
Trichloroethene	79-01-6	µg/kg	6 U	6 U	6 U	6 U	--	--	--	--	--	--
Methyl Ethyl Ketone (2-Butanone)	78-93-3	µg/kg	6 U	6 U	6 U	6 U	--	--	--	--	--	--
Xylene (total)	1330-20-7	µg/kg	6 U	6 UJ	6 U	6 U	--	--	--	--	--	--
SEMIVOLATILES												
Acenaphthene	83-32-9	µg/kg	--	--	--	--	270 J	370 UJ	410 UJ	15 J	380 U	20 J
Acenaphthylene	208-96-8	µg/kg	--	--	--	--	120 J	23 J	410 UJ	410 U	380 U	29 J
Anthracene	120-12-7	µg/kg	--	--	--	--	490 J	20 J	410 UJ	30 J	14 J	70 J
Benzo(a)anthracene	56-55-3	µg/kg	--	--	--	--	1500 J	61 J	410 UJ	110 J	59 J	180 J
Benzo(b)fluoranthene	205-99-2	µg/kg	--	--	--	--	2100 J	100 J	410 UJ	140 J	75 J	270 J
Benzo(k)fluoranthene	207-08-9	µg/kg	--	--	--	--	660 J	36 J	410 UJ	53 J	28 J	84 J
Benzo(a)pyrene	50-32-8	µg/kg	--	--	--	--	1300 J	57 J	410 UJ	97 J	54 J	170 J
Benzo(g,h,i)perylene	191-24-2	µg/kg	--	--	--	--	470 J	14 J	410 UJ	410 U	30 J	60 J
Carbazole	86-74-8	µg/kg	--	--	--	--	1300 J	370 UJ	410 UJ	410 U	380 U	370 U
Chrysene	218-01-9	µg/kg	--	--	--	--	1500 J	84 J	410 UJ	120 J	66 J	200 J
Dibenz(a,h)anthracene	53-70-3	µg/kg	--	--	--	--	130 J	370 UJ	410 UJ	410 U	6 J	370 U
Dibenzofuran	132-64-9	µg/kg	--	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate	84-74-2	µg/kg	--	--	--	--	360 UJ	780 UJ	480 UJ	410 U	500 U	370 U
Fluoranthene	206-44-0	µg/kg	--	--	--	--	2800 J	86 J	410 UJ	240 J	120 J	360 J
Fluorene	86-73-7	µg/kg	--	--	--	--	220 J	370 UJ	410 UJ	410 U	380 U	370 U
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	--	--	--	--	530 J	28 J	410 UJ	32 J	29 J	69 J
Naphthalene	91-20-3	µg/kg	--	--	--	--	410 J	5 J	410 UJ	410 U	380 U	370 U
Phenanthrene	85-01-8	µg/kg	--	--	--	--	1900 J	36 J	410 UJ	150 J	62 J	220 J
Pyrene	129-00-0	µg/kg	--	--	--	--	3100 DJ	110 J	410 UJ	200 J	110 J	330 J
2,4-Dimethylphenol	105-67-9	µg/kg	--	--	--	--	150 J	370 UJ	410 UJ	410 U	380 U	370 U
2-Methylnaphthalene	91-57-6	µg/kg	--	--	--	--	230 J	7 J	410 UJ	410 U	380 U	370 U
Dibenzofuran	132-64-9	µg/kg	--	--	--	--	110 J	370 UJ	410 UJ	410 U	380 U	10 J
N-Nitrosodiphenylamine	86-30-6	µg/kg	--	--	--	--	68 J	370 UJ	410 UJ	410 U	380 U	370 U
PESTICIDES/PCBs												
4,4'-DDE	72-55-9	µg/kg	--	--	--	--	--	--	--	--	--	--
Endrin	72-20-8	µg/kg	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	7421-93-4	µg/kg	--	--	--	--	--	--	--	--	--	--
4,4'-DDD	72-54-8	µg/kg	--	--	--	--	--	--	--	--	--	--
4,4'-DDT	50-29-3	µg/kg	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	1336-36-3	µg/kg	--	--	--	--	--	--	--	--	--	--
Metals												
Aluminum	7429-90-5	mg/kg	--	--	--	--	--	--	--	--	--	--
Antimony	7440-36-0	mg/kg	--	--	--	--	--	--	--	--	--	--
Arsenic	7440-38-2	mg/kg	--	--	--	--	--	--	--	--	--	--
Barium	7440-39-3	mg/kg	--	--	--	--	4.1	37.1	1.6	3.5	4.6	4.3
Beryllium	7440-41-7	mg/kg	--	--	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	mg/kg	--	--	--	--	--	--	--	--	--	--
Calcium	7440-70-2	mg/kg	--	--	--	--	--	--	--	--	--	--
Chromium	7440-47-3	mg/kg	--	--	--	--	337	21.4	13.2	19.2	36.1	14.1
Chromium VI	18540-29-9	mg/kg	--	--	--	--	350 J	0.11 UJ	0.12 UJ	0.12 UJ	0.17 J	0.12 J
Cobalt	7440-48-4	mg/kg	--	--	--	--	--	--	--	--	--	--
Copper	7440-50-8	mg/kg	--	--	--	--	--	--	--	--	--	--
Iron	7439-89-6	mg/kg	--	--	--	--	--	--	--	--	--	--
Lead	7439-92-1	mg/kg	--	--	--	--	--	--	--	--	--	--
Magnesium	7439-95-4	mg/kg	--	--	--	--	--	--	--	--	--	--
Manganese	7439-96-5	mg/kg	--	--	--	--	--	--	--	--	--	--
Mercury	7439-97-6	mg/kg	--	--	--	--	--	--	--	--	--	--
Nickel	7440-02-0	mg/kg	--	--	--	--	--	--	--	--	--	--
Potassium	7440-09-7	mg/kg	--	--	--	--	--	--	--	--	--	--
Silver	7440-22-4	mg/kg	--	--	--	--	1.9	0.47 U	0.52 U	0.52 U	0.48 U	0.47 U
Sodium	7440-23-5	mg/kg	--	--	--	--	--	--	--	--	--	--
Thallium	7440-28-0	mg/kg	--	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	mg/kg	--	--	--	--	--	--	--	--	--	--
Zinc	7440-66-6	mg/kg	--	--	--	--	--	--	--	--	--	--

J = Estimated Value
UJ = Analyte not detected; the number is the estimated analytical reporting limit.
U = Analyte not detected; the number is the analytical reporting limit.
R = Rejected during data validation
D = Diluted
ND = Not Detected
a) The highest result between samples SD-SS-GW03-0-0.5 and SD-SS-GW103-0-0.5 (dup of SD-SS-GW03-0-0.5) is reported.
b) The highest result between samples SS-04-12,18 and SS-04-12,18DUP is reported.
c) The highest result between samples SS-04-0,18 and SS-04-0,18 DUP is reported.

Table J.7.2
Detected Chemicals in Mixed (Surface/Subsurface) Soil
SADVA - AOCs 1 and 7

		SAMPLE ID: DEPTH: SAMPLED:	MAX VALUE	SD-SS-GW01-0-0.5 0-0.5' 6/14/2004	SD-SS-GW02-0-0.5 0-0.5' 6/15/2004	SD-SS-GW03-0-0.5 ^a 0-0.5' 6/15/2004	SD-GW12C AOC1 6-8' 11/23/2004	SD-GW14DE AOC1 6-10' 11/19/2004	SD-SS-GW01-10-12 10-12' 6/14/2004	SD-SS-GW02-38-40 38-40' 6/15/2004	SD-SS-GW03-10-12 10-12' 6/15/2004	AOC7-SB01A 0.2' 7/21/2000	AOC7-SB02A 0.2' 7/21/2000	
PARAMETER	CAS NUMBER	UNITS:												
VOLATILES														
Acetone	67-64-1	µg/kg	2600	--	--	--	--	--	--	--	--	23 U	22 U	
Ethylbenzene	100-41-4	µg/kg	24	--	--	--	--	--	--	--	--	5.7 U	5.6 U	
Toluene	108-88-3	µg/kg	4	--	--	--	--	--	--	--	--	5.7 U	5.6 U	
Trichloroethene	79-01-6	µg/kg	8	--	--	--	--	--	--	--	--	5.7 U	5.6 U	
Methyl Ethyl Ketone (2-Butanone)	78-93-3	µg/kg	170	--	--	--	--	--	--	--	--	23 UJ	22 UJ	
Xylene (total)	1330-20-7	µg/kg	530	--	--	--	--	--	--	--	--	5.7 U	5.6 U	
SEMIVOLATILES														
Acenaphthene	83-32-9	µg/kg	350	360 U	350 J	360 U	--	--	750 U	360 U	420 U	370 U	370 U	
Acenaphthylene	208-96-8	µg/kg	120	360 U	39 J	360 U	--	--	750 U	360 U	420 U	370 U	370 U	
Anthracene	120-12-7	µg/kg	730	360 U	730	360 U	--	--	750 U	360 U	420 U	370 U	370 U	
Benzo(a)anthracene	56-55-3	µg/kg	2400	54 J	2400	360 U	--	--	750 U	360 U	420	16 J	13 J	
Benzo(b)fluoranthene	205-99-2	µg/kg	2700	82 J	2700	55 J	--	--	750 U	360 U	420	18 J	25 J	
Benzo(k)fluoranthene	207-08-9	µg/kg	940	360 U	940	360 U	--	--	750 U	360 U	420	24 J	25 J	
Benzo(a)pyrene	50-32-8	µg/kg	2400	46 J	2400	360 U	--	--	750 U	360 U	420	15 J	13 J	
Benzo(g,h,i)perylene	191-24-2	µg/kg	1600	59 J	1600	44 J	--	--	750 U	360 U	420 U	10 J	12 J	
bis(2-Ethylhexyl)phthalate	117-81-7	µg/kg	74	--	--	--	360 U	74 J	--	--	--	370 U	370 U	
Carbazole	86-74-8	µg/kg	1300	360 U	310 J	360 U	--	--	750 U	360 U	420 U	370 U	370 U	
Chrysene	218-01-9	µg/kg	2800	94 J	2800	71 J	--	--	750 U	360 U	420 U	26 J	29 J	
Dibenz(a,h)anthracene	53-70-3	µg/kg	420	360 U	420	360 U	--	--	750 U	360 U	420 U	370 U	370 U	
Dibenzofuran	132-64-9	µg/kg	120	360 U	120 J	360 U	--	--	750 U	360 U	420 U	370 U	370 U	
Di-n-butylphthalate	84-74-2	µg/kg	100	46 J	37 J	42 J	--	--	750 U	360 U	420 U	370 U	370 U	
Fluoranthene	206-44-0	µg/kg	6100	93 J	6100	85 J	--	--	750 U	360 U	420 U	38 J	41 J	
Fluorene	86-73-7	µg/kg	220	--	--	--	--	--	--	--	--	370 U	370 U	
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	1700	53 J	1700	37 J	--	--	750 U	360 U	420 U	11 J	11 J	
Naphthalene	91-20-3	µg/kg	410	360 U	74 J	360 U	--	--	750 U	360 U	420 U	370 U	370 U	
Phenanthrene	85-01-8	µg/kg	3100	57 J	3100	37 J	--	--	750 U	360 U	420 U	16 J	19 J	
Pyrene	129-00-0	µg/kg	4200	90 J	4200	73 J	--	--	750 U	360 U	420 U	28 J	29 J	
2,4-Dimethylphenol	105-67-9	µg/kg	150	--	--	--	--	--	--	--	--	370 U	370 U	
2-Methylnaphthalene	91-57-6	µg/kg	230	360 U	50 J	360 U	--	--	750 U	360 U	420 U	370 U	370 U	
Dibenzofuran	132-64-9	µg/kg	110	--	--	--	--	--	--	--	--	370 U	370 U	
N-Nitrosodiphenylamine	86-30-6	µg/kg	68	--	--	--	--	--	--	--	--	370 U	370 U	
PESTICIDES/PCBs														
4,4'-DDE	72-55-9	µg/kg	2.1	--	--	--	--	--	--	--	--	0.077 JN	0.29 JN	
Endrin	72-20-8	µg/kg	0.29	--	--	--	--	--	--	--	--	1.9 U	0.29 JN	
Endrin aldehyde	7421-93-4	µg/kg	2.9	--	--	--	--	--	--	--	--	1.9 U	1.9 U	
4,4'-DDD	72-54-8	µg/kg	2.7	--	--	--	--	--	--	--	--	1.9 U	1.9 U	
4,4'-DDT	50-29-3	µg/kg	6.9	--	--	--	--	--	--	--	--	1.9 U	0.45 J	
Aroclor 1260	1336-36-3	µg/kg	160	--	--	--	--	--	--	--	--	1.9 U	1.9 U	
Metals														
Aluminum	7429-90-5	mg/kg	15100	--	--	--	10700	10300	--	--	--	10600	10400	
Antimony	7440-36-0	mg/kg	0.36	--	--	--	--	--	--	--	--	0.19 J	0.29 J	
Arsenic	7440-38-2	mg/kg	8.6	--	--	--	7.7	5.8	--	--	--	5.9	5.7	
Barium	7440-39-3	mg/kg	140	--	--	--	140 J	60 J	--	--	--	40	39.4	
Beryllium	7440-41-7	mg/kg	1.2	--	--	--	0.81	0.82	--	--	--	0.52 J	0.54 J	
Cadmium	7440-43-9	mg/kg	0.65	--	--	--	0.33 J	0.31 J	--	--	--	0.53 J	0.44 J	
Calcium	7440-70-2	mg/kg	--	--	--	--	18500 J	21500 J	--	--	--	7350	3890	
Chromium	7440-47-3	mg/kg	337	--	--	--	15.8	15.2	--	--	--	16.9 J	15.7 J	
Chromium VI	18540-29-9	mg/kg	350	--	--	--	--	--	--	--	--	--	--	
Cobalt	7440-48-4	mg/kg	15	--	--	--	11	10.1	--	--	--	11.8 J	11.8 J	
Copper	7440-50-8	mg/kg	32.7	--	--	--	27.7	27.3	--	--	--	29.2	24.9	
Iron	7439-89-6	mg/kg	--	--	--	--	24600	24800	--	--	--	26700 J	25400 J	
Lead	7439-92-1	mg/kg	35.4	--	--	--	12.8 J	9.8 J	--	--	--	19.3	15.2	
Magnesium	7439-95-4	mg/kg	--	--	--	--	8470	8570	--	--	--	6340	4820	
Manganese	7439-96-5	mg/kg	649	--	--	--	477	483	--	--	--	649	549	
Mercury	7439-97-6	mg/kg	0.064	--	--	--	0.023 J	0.014 J	--	--	--	0.044	0.047	
Nickel	7440-02-0	mg/kg	27.3	--	--	--	24.6 J	23.8 J	--	--	--	26.2 J	22.9 J	
Potassium	7440-09-7	mg/kg	--	--	--	--	1910	1850	--	--	--	1370	1140	
Selenium	7782-49-2	mg/kg	1	--	--	--	1 J	0.94 J	--	--	--	0.24 U	0.24 U	
Silver	7440-22-4	mg/kg	1.9	--	--	--	0.13 J	0.12 J	--	--	--	0.12 J	0.15 J	
Sodium	7440-23-5	mg/kg	--	--	--	--	153 J	133 J	--	--	--	50.4 J	46.3 J	
Thallium	7440-28-0	mg/kg	0.95	--	--	--	--	--	--	--	--	0.44 U	0.44 U	
Vanadium	7440-62-2	mg/kg	35.7	--	--	--	20.5	20.3	--	--	--	20.9	22.9	
Zinc	7440-66-6	mg/kg	114	--	--	--	53.3 J	53.5 J	--	--	--	88.9	79.8	

J = Estimated Value
UJ = Analyte not detected; the number is the estimated analytical reporting limit.
U = Analyte not detected; the number is the analytical reporting limit.
R = Rejected during data validation
D = Diluted
ND = Not Detected
N = Presumptive Evidence; compound identification is not definitive
SB = Site Background
NS = No Standard
Concentration above NYSDEC Soil Criteria.
a) The highest result between samples SD-SS-GW03-0-0.5 and SD-SS-GW103-0-0.5 (dup of SD-SS-GW03-0-0.5) is reported.
c) The highest result between samples SS-04-0,18 and SS-04-0,18 DUP is reported.

Table J.7.2
Detected Chemicals in Mixed (Surface/Subsurface) Soil
SADVA - AOCs 1 and 7

		SAMPLE ID: DEPTH: SAMPLED:	AOC7-SB03A 0.2' 7/21/2000	AOC7-SB04A 0.2' 7/21/2000	AOC7-SB01B 3' 8/15/2000	AOC7-SB01C 5' 8/15/2000	AOC7-SB02B 3' 8/15/2000	AOC7-SB02C 5' 8/15/2000	AOC7-SB03B 3' 8/15/2000	AOC7-SB03C 5' 8/15/2000	AOC7-SB04B 3' 8/15/2000	AOC7-SB04C 5' 8/15/2000	SS-04-12,18 ^b 1-1.5 01-Jul-96	SS-05 1- 01-Jul-96
PARAMETER	CAS NUMBER	UNITS:												
VOLATILES														
Acetone	67-64-1	µg/kg	23 U	24 U	22 UJ	30 J	21 UJ	25 UJ	21 UJ	4 J	22 UJ	24 UJ	27 U	6
Ethylbenzene	100-41-4	µg/kg	5.6 U	6 U	5.5 U	6 U	5.3 U	6.3 U	5.3 U	6.3 U	5.5 U	6 U	24 J	6
Toluene	108-88-3	µg/kg	5.6 U	6 U	5.5 U	6 U	1.6 J	3.1 J	5.3 U	6.3 U	5.5 U	6 U	4 J	6
Trichloroethene	79-01-6	µg/kg	5.6 U	6 U	5.5 U	6 U	5.3 U	6.3 U	5.3 U	6.3 U	5.5 U	6 U	8 J	6
Methyl Ethyl Ketone (2-Butanone)	78-93-3	µg/kg	23 UJ	24 UJ	22 UJ	24 UJ	21 UJ	25 UJ	21 UJ	25 UJ	22 UJ	24 UJ	170	6
Xylene (total)	1330-20-7	µg/kg	5.6 U	6 U	5.5 U	6 U	5.3 U	6.3 U	5.3 U	6.3 U	5.5 U	6 U	530	6
SEMIVOLATILES														
Acenaphthene	83-32-9	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Acenaphthylene	208-96-8	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Anthracene	120-12-7	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Benzo(a)anthracene	56-55-3	µg/kg	10 J	39 J	360 U	390 U	350 U	420 U	350 U	410 U	29 J	390 U	--	--
Benzo(b)fluoranthene	205-99-2	µg/kg	12 J	56 J	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Benzo(k)fluoranthene	207-08-9	µg/kg	15 J	65 J	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Benzo(a)pyrene	50-32-8	µg/kg	9.7 J	43 J	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Benzo(g,h,i)perylene	191-24-2	µg/kg	370 U	27 J	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
bis(2-Ethylhexyl)phthalate	117-81-7	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	58 J	390 U	--	--
Carbazole	86-74-8	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Chrysene	218-01-9	µg/kg	14 J	67 J	360 U	390 U	350 U	420 U	350 U	410 U	53 J	390 U	--	--
Dibenz(a,h)anthracene	53-70-3	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Dibenzofuran	132-64-9	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Di-n-butylphthalate	84-74-2	µg/kg	100 J	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Fluoranthene	206-44-0	µg/kg	23 J	89 J	360 U	390 U	350 U	420 U	350 U	410 U	170 J	390 U	--	--
Fluorene	86-73-7	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	370 U	29 J	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Naphthalene	91-20-3	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Phenanthrene	85-01-8	µg/kg	370 U	44 J	360 U	390 U	350 U	420 U	350 U	410 U	30 J	390 U	--	--
Pyrene	129-00-0	µg/kg	17 J	64 J	360 U	390 U	350 U	420 U	350 U	410 U	100 J	390 U	--	--
2,4-Dimethylphenol	105-67-9	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
2-Methylnaphthalene	91-57-6	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
Dibenzofuran	132-64-9	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
N-Nitrosodiphenylamine	86-30-6	µg/kg	370 U	390 U	360 U	390 U	350 U	420 U	350 U	410 U	360 U	390 U	--	--
PESTICIDES/PCBs														
4,4'-DDE	72-55-9	µg/kg	2.1 J	0.65 JN	1.9 U	2 U	1.8 U	2.1 U	1.8 U	2.1 U	0.069 JN	2 U		
Endrin	72-20-8	µg/kg	1.9 U	2 U	1.9 U	2 U	1.8 U	2.1 U	1.8 U	2.1 U	1.9 U	2 U		
Endrin aldehyde	7421-93-4	µg/kg	2.9 J	2 U	1.9 U	2 U	1.8 U	2.1 U	1.8 U	2.1 U	1.9 U	2 U		
4,4'-DDD	72-54-8	µg/kg	2.7 JN	2 U	1.9 U	2 U	1.8 U	2.1 U	1.8 U	2.1 U	1.9 U	2 U		
4,4'-DDT	50-29-3	µg/kg	6.9 JN	0.9 JN	1.9 U	2 U	1.8 U	2.1 U	1.8 U	2.1 U	1.9 U	2 U		
Aroclor 1260	1336-36-3	µg/kg	160	2 U	1.9 U	2 U	1.8 U	2.1 U	1.8 U	2.1 U	1.9 U	2 U		
Metals														
Aluminum	7429-90-5	mg/kg	9850	12100	11000	15100	10000	13900	10300	11300	10200	14800	--	--
Antimony	7440-36-0	mg/kg	0.27 J	0.36 J	0.17 J	0.17 UJ	0.32 J	0.18 UJ	0.15 UJ	0.2 J	0.16 UJ	0.17 UJ	--	--
Arsenic	7440-38-2	mg/kg	5.4	6.7	4.9	5.4	6.9	8.1	4.7	8.6	6.5	4.3	--	--
Barium	7440-39-3	mg/kg	41	47.4	31	84.3	50.9	98.7	28.7	64.4	33	97.2	--	--
Beryllium	7440-41-7	mg/kg	0.49 J	0.59 J	0.45 J	0.95	0.58	1.2	0.41 J	0.91	0.5 J	1	--	--
Cadmium	7440-43-9	mg/kg	0.53 J	0.65	0.092 J	0.059 U	0.06 J	0.062 U	0.095 J	0.062 U	0.17 J	0.059 U	--	--
Calcium	7440-70-2	mg/kg	13500	5580	17500	1360	23800	2650	31500	3370	21300	2790	--	--
Chromium	7440-47-3	mg/kg	19.4 J	19.3 J	15.8	16.7	15.6	15.1	13.9	13.6	15	15.4	--	--
Chromium VI	18540-29-9	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	7440-48-4	mg/kg	11.2 J	13.3 J	11.2	13.6	12.7	15	11.2	13.5	12.4	8.8	--	--
Copper	7440-50-8	mg/kg	30.9	32.7	23.5 J	19.9 J	29.8 J	27.2 J	21.6 J	27.1 J	28.8 J	17.3 J	--	--
Iron	7439-89-6	mg/kg	25100 J	30000 J	26800	38400	26300	42600	25000	34200	27600	28700	--	--
Lead	7439-92-1	mg/kg	35.4	25.9	10.6	11.1	11.6	8.7	11	7.5	11.2	7.7	--	--
Magnesium	7439-95-4	mg/kg	8550	6760	7090	3710	7050	3310	13300	3570	8070	3130	--	--
Manganese	7439-96-5	mg/kg	517	615	647	205	523	183	614	246	599	174	--	--
Mercury	7439-97-6	mg/kg	0.04	0.064	0.019 J	0.028 J	0.025 J	0.035 J	0.016 J	0.039 J	0.023 J	0.034 J	--	--
Nickel	7440-02-0	mg/kg	24.8 J	27.3 J	21.6	20.7	24.1	24.6	21.4	22.9	24.2	16.6	--	--
Potassium	7440-09-7	mg/kg	1270	1600	677	497 J	1130	533 J	673	594 J	880	453 J	--	--
Selenium	7782-49-2	mg/kg	0.24 U	0.25 U	0.23 U	0.25 U	0.22 U	0.26 U	0.22 U	0.26 U	0.23 U	0.25 U	--	--
Silver	7440-22-4	mg/kg	0.16 J	0.12 J	0.1 U	0.11 U	0.099 U	0.12 U	0.099 U	0.12 U	0.1 U	0.11 U	--	--
Sodium	7440-23-5	mg/kg	57.6 J	59.2 J	50.3 J	73.3 J	64.4 J	89.4 J	67.9 J	119 J	64.2 J	128 J	--	--
Thallium	7440-28-0	mg/kg	0.44 U	0.55 J	0.43 U	0.46 U	0.41 U	0.83 J	0.95 J	0.49 U	0.93 J	0.46 U	--	--
Vanadium	7440-62-2	mg/kg	18.6	25.2	16.2 J	27.5 J	18.8 J	35.7 J	14.7 J	32.2 J	18.4 J	31.7 J	--	--
Zinc	7440-66-6	mg/kg	84.5	114	71.3	48.2	68.4	59.1	73.1	52.6	93.8	40.8	--	--

J = Estimated Value
UJ = Analyte not detected; the number is the estimated analytical reporting limit.
U = Analyte not detected; the number is the analytical reporting limit.
R = Rejected during data validation
D = Diluted
ND = Not Detected
N = Presumptive Evidence; compound identification is not definitive
SB = Site Background
NS = No Standard
Concentration above NYSDEC Soil Criteria.
a) The highest result between samples SD-SS-GW03-0-0.5 and SD-SS-GW103-0-0.5 (dup of SD-SS-GW03-0-0.5) is reported.
c) The highest result between samples SS-04-0,18 and SS-04-0,18 DUP is reported.

Table J.7.2
Detected Chemicals in Mixed (Surface/Subsurface) Soil
SADVA - AOCs 1 and 7

		SAMPLE ID: DEPTH: SAMPLED:	12,18 1.5 Jul-96	SS-01-12,18 1-1.5 01-Jul-96	SS-02-12,18 1-1.5 01-Jul-96	SS-03-12,18 1-1.5 02-Jul-96	SS-06-12,18 1-1.5 01-Jul-96	SS-04-0,18 ^c 0-1.5 02-Jul-96	SS-05-0,24 0-2 02-Jul-96	SS-01-0,24 0-2 02-Jul-96	SS-02-0,24 0-2 02-Jul-96	SS-03-0,24 0-2 02-Jul-96	SS-06-0,24 0-2 02-Jul-96
PARAMETER	CAS NUMBER	UNITS:											
VOLATILES													
Acetone	67-64-1	µg/kg	U	6 U	2600 D	6 U	6 U	--	--	--	--	--	--
Ethylbenzene	100-41-4	µg/kg	U	6 U	6 UJ	6 U	6 U	--	--	--	--	--	--
Toluene	108-88-3	µg/kg	U	6 U	6 UJ	6 U	6 U	--	--	--	--	--	--
Trichloroethene	79-01-6	µg/kg	U	6 U	6 U	6 U	6 U	--	--	--	--	--	--
Methyl Ethyl Ketone (2-Butanone)	78-93-3	µg/kg	U	6 U	6 U	6 U	6 U	--	--	--	--	--	--
Xylene (total)	1330-20-7	µg/kg	U	6 U	6 UJ	6 U	6 U	--	--	--	--	--	--
SEMIVOLATILES													
Acenaphthene	83-32-9	µg/kg		--	--	--	--	270 J	370 UJ	410 UJ	15 J	380 U	20 J
Acenaphthylene	208-96-8	µg/kg		--	--	--	--	120 J	23 J	410 UJ	410 U	380 U	29 J
Anthracene	120-12-7	µg/kg		--	--	--	--	490 J	20 J	410 UJ	30 J	14 J	70 J
Benzo(a)anthracene	56-55-3	µg/kg		--	--	--	--	1500 J	61 J	410 UJ	110 J	59 J	180 J
Benzo(b)fluoranthene	205-99-2	µg/kg		--	--	--	--	2100 J	100 J	410 UJ	140 J	75 J	270 J
Benzo(k)fluoranthene	207-08-9	µg/kg		--	--	--	--	750 J	36 J	410 UJ	53 J	28 J	84 J
Benzo(a)pyrene	50-32-8	µg/kg		--	--	--	--	1300 J	57 J	410 UJ	97 J	54 J	170 J
Benzo(g,h,i)perylene	191-24-2	µg/kg		--	--	--	--	470 J	14 J	410 UJ	410 U	30 J	60 J
bis(2-Ethylhexyl)phthalate	117-81-7	µg/kg		--	--	--	--	360 UJ	370 UJ	410 UJ	410 U	380 U	560 U
Carbazole	86-74-8	µg/kg		--	--	--	--	1300 J	370 UJ	410 UJ	410 U	380 U	370 U
Chrysene	218-01-9	µg/kg		--	--	--	--	1500 J	84 J	410 UJ	120 J	66 J	200 J
Dibenz(a,h)anthracene	53-70-3	µg/kg		--	--	--	--	130 J	370 UJ	410 UJ	410 U	6 J	370 U
Dibenzofuran	132-64-9	µg/kg		--	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate	84-74-2	µg/kg		--	--	--	--	360 UJ	780 UJ	480 UJ	410 U	500 U	370 U
Fluoranthene	206-44-0	µg/kg		--	--	--	--	2800 J	86 J	410 UJ	240 J	120 J	360 J
Fluorene	86-73-7	µg/kg		--	--	--	--	220 J	370 UJ	410 UJ	410 U	380 U	370 U
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg		--	--	--	--	530 J	28 J	410 UJ	32 J	29 J	69 J
Naphthalene	91-20-3	µg/kg		--	--	--	--	410 J	5 J	410 UJ	410 U	380 U	370 U
Phenanthrene	85-01-8	µg/kg		--	--	--	--	1900 J	36 J	410 UJ	150 J	62 J	220 J
Pyrene	129-00-0	µg/kg		--	--	--	--	3100 DJ	110 J	410 UJ	200 J	110 J	330 J
2,4-Dimethylphenol	105-67-9	µg/kg		--	--	--	--	150 J	370 UJ	410 UJ	410 U	380 U	370 U
2-Methylnaphthalene	91-57-6	µg/kg		--	--	--	--	230 J	7 J	410 UJ	410 U	380 U	370 U
Dibenzofuran	132-64-9	µg/kg		--	--	--	--	110 J	370 UJ	410 UJ	410 U	380 U	10 J
N-Nitrosodiphenylamine	86-30-6	µg/kg		--	--	--	--	68 J	370 UJ	410 UJ	410 U	380 U	370 U
PESTICIDES/PCBs													
4,4'-DDE	72-55-9	µg/kg					--	--	--	--	--	--	--
Endrin	72-20-8	µg/kg					--	--	--	--	--	--	--
Endrin aldehyde	7421-93-4	µg/kg					--	--	--	--	--	--	--
4,4'-DDD	72-54-8	µg/kg					--	--	--	--	--	--	--
4,4'-DDT	50-29-3	µg/kg					--	--	--	--	--	--	--
Aroclor 1260	1336-36-3	µg/kg					--	--	--	--	--	--	--
Metals													
Aluminum	7429-90-5	mg/kg		--	--	--	--	--	--	--	--	--	--
Antimony	7440-36-0	mg/kg		--	--	--	--	--	--	--	--	--	--
Arsenic	7440-38-2	mg/kg		--	--	--	--	--	--	--	--	--	--
Barium	7440-39-3	mg/kg		--	--	--	--	4.1	37.1	1.6	3.5	4.6	4.3
Beryllium	7440-41-7	mg/kg		--	--	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	mg/kg		--	--	--	--	--	--	--	--	--	--
Calcium	7440-70-2	mg/kg		--	--	--	--	--	--	--	--	--	--
Chromium	7440-47-3	mg/kg		--	--	--	--	337	21.4	13.2	19.2	36.1	14.1
Chromium VI	18540-29-9	mg/kg		--	--	--	--	350 J	0.11 UJ	0.12 UJ	0.12 UJ	0.17 J	0.12 J
Cobalt	7440-48-4	mg/kg		--	--	--	--	--	--	--	--	--	--
Copper	7440-50-8	mg/kg		--	--	--	--	--	--	--	--	--	--
Iron	7439-89-6	mg/kg		--	--	--	--	--	--	--	--	--	--
Lead	7439-92-1	mg/kg		--	--	--	--	--	--	--	--	--	--
Magnesium	7439-95-4	mg/kg		--	--	--	--	--	--	--	--	--	--
Manganese	7439-96-5	mg/kg		--	--	--	--	--	--	--	--	--	--
Mercury	7439-97-6	mg/kg		--	--	--	--	--	--	--	--	--	--
Nickel	7440-02-0	mg/kg		--	--	--	--	--	--	--	--	--	--
Potassium	7440-09-7	mg/kg		--	--	--	--	--	--	--	--	--	--
Selenium	7782-49-2	mg/kg		--	--	--	--	--	--	--	--	--	--
Silver	7440-22-4	mg/kg		--	--	--	--	1.9	0.47 U	0.52 U	0.52 U	0.48 U	0.47 U
Sodium	7440-23-5	mg/kg		--	--	--	--	--	--	--	--	--	--
Thallium	7440-28-0	mg/kg		--	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	mg/kg		--	--	--	--	--	--	--	--	--	--
Zinc	7440-66-6	mg/kg		--	--	--	--	--	--	--	--	--	--

J = Estimated Value
UJ = Analyte not detected; the number is the estimated analytical reporting limit.
U = Analyte not detected; the number is the analytical reporting limit.
R = Rejected during data validation
D = Diluted
ND = Not Detected
N = Presumptive Evidence; compound identification is not definitive
SB = Site Background
NS = No Standard
Concentration above NYSDEC Soil Criteria.
a) The highest result between samples SD-SS-GW03-0-0.5 and SD-SS-GW103-0-0.5 (dup of SD-SS-GW03-0-0.5) is reported.
c) The highest result between samples SS-04-0,18 and SS-04-0,18 DUP is reported.

Table J.7.3
Detected Chemicals in Groundwater and Screening Concentrations for Potential Vapor Intrusion of VOCs into Indoor Air
SADVA - AOCs 1 and 7

		SAMPLE ID: SAMPLED: DEPTH ZONE:		MAX VALUE AFFECTING INDOOR AIR	INDOOR AIR SCREENING VALUE (Risk = 1x10 ⁻⁶)	ACE-2 6/15/2006 Shallow	AMW- 6/15/2006 Shallow	AMW-2 6/15/2006 Bedrock	AMW-3 6/14/2006 Shallow	AMW-4 6/14/2006 Shallow	AMW-104 6/14/2006 Unknown	GW-01 6/16/2006 Shallow	GW-03 6/16/2006 Shallow	GW-12 6/14/2006 Shallow	GW-13 6/16/2006 Shallow	GW-14 6/16/2006 Shallow	MW-2B 6/15/2006 Shallow	SD-GW11R-AOC-1 28-Jul-04 Bedrock	SD-GW13-AOC1 07-Dec-04 Shallow
PARAMETER	CAS NUMBER	UNITS:	MAX VALUE																
VOLATILES																			
2-Butanone	78-93-3	µg/L	2.3	2.3	4.40E+05	100 U	15 U	2.3 J	5 U	2 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--	--
1,1-Dichloroethene	75-35-4	µg/L	4	4	1.90E+02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	µg/L	5	5	5.00E+00	20 U	1.4 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--
1,2-Dichloroethene (total)**	540-59-0	µg/L	990	990	1.80E+02	530	78	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--
cis-1,2-Dichloroethene	156-59-2	µg/L	930	930	2.10E+02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	156-60-5	µg/L	43	43	1.80E+02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	µg/L	1600	57	2.20E+05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	µg/L	4	4	5.00E+00	20 U	3 U	1 U	1 U	0.28 J	0.81 J	1 U	1 U	1 U	1 U	1 U	1 U	--	--
Chlorobenzene	108-90-7	µg/L	2	2	3.90E+02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	75-09-2	µg/L	4.8	4.8	5.80E+01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	108-88-3	µg/L	0.62	0.6	1.50E+03	20 U	3 U	0.28 J	1 U	0.23 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.62 J	1 U
Trichloroethene	79-01-6	µg/L	300	300	5.00E+00	44	2.5 J	1 U	0.26 J	1 U	0.32 J	1 U	1 U	1 U	1 U	1 U	1 U	--	--
Vinyl chloride	75-01-4	µg/L	360	360	2.00E+00	160	21	1 U	1 U	1 J	3.4 J	1 U	1 U	1 U	1 U	1 U	1 U	--	--
Xylenes (total)***	1330-20-7	µg/L	0.7	0.7	2.20E+04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SEMIVOLATILES																			
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	100			--	--	--	--	--	--	--	--	--	--	--	--	6.8	9.8 U
Butyl benzyl phthalate	85-68-7	µg/L	0.12			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	86-74-8	µg/L	0.13			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	84-74-2	µg/L	5.4			--	--	--	--	--	--	--	--	--	--	--	--	5.4	1.1 J
Diethyl phthalate	84-66-2	µg/L	1.7			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	µg/L	2.5			--	--	--	--	--	--	--	--	--	--	--	--	4.9 U	2.5 J
Pyrene	129-00-0	µg/L	0.95			--	--	--	--	--	--	--	--	--	--	--	--	4.9 U	0.95 J
PESTICIDES / PCBs																			
alpha-BHC	319-84-6	µg/L	0.0023			--	--	--	--	--	--	--	--	--	--	--	--	0.005 U	0.0023 J
gamma-BHC (Lindane)	58-89-9	µg/L	0.0017			--	--	--	--	--	--	--	--	--	--	--	--	0.005 U	0.0017 JN
4,4'-DDE	72-55-9	µg/L	0.023			--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDD	72-54-8	µg/L	0.035			--	--	--	--	--	--	--	--	--	--	--	--	0.005 U	0.027 J
4,4'-DDT	50-29-3	µg/L	0.087			--	--	--	--	--	--	--	--	--	--	--	--	0.0039 JN	0.014 JN
Endrin	72-20-8	µg/L	0.0077			--	--	--	--	--	--	--	--	--	--	--	--	0.005 U	0.0077 JN
Endrin Ketone	53494-70-5	µg/L	0.0027			--	--	--	--	--	--	--	--	--	--	--	--	0.005 U	0.0027 J
Endrin aldehyde	7421-93-4	µg/L	0.0065			--	--	--	--	--	--	--	--	--	--	--	--	0.0065 JN	0.0019 JN
METALS																			
Aluminum	7429-90-5	µg/L	389000			--	--	--	--	--	--	--	--	--	--	--	--	1860 J	8 U
Antimony	7440-36-0	µg/L	11.5			--	--	--	--	--	--	--	--	--	--	--	--	6.5 J	3.2 U
Arsenic	7440-38-2	µg/L	207			--	--	--	--	--	--	--	--	--	--	--	--	15.6	3.3 U
Barium	7440-39-3	µg/L	1990			--	--	--	--	--	--	--	--	--	--	--	--	116 J	36.5 J
Beryllium	7440-41-7	µg/L	20.7			--	--	--	--	--	--	--	--	--	--	--	--	1.2 J	0.71 J
Cadmium	7440-43-9	µg/L	9.1			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	7440-70-2	µg/L				--	--	--	--	--	--	--	--	--	--	--	--	1690 J	441000
Chromium	7440-47-3	µg/L	544			--	--	--	--	--	--	--	--	--	--	--	--	3.3 J	7
Chromium VI	18540-29-9	µg/L				--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	7440-48-4	µg/L	423			--	--	--	--	--	--	--	--	--	--	--	--	1.1 J	0.53 U
Copper	7440-50-8	µg/L	989			--	--	--	--	--	--	--	--	--	--	--	--	14.1 J	1.2 J
Iron	7439-89-6	µg/L				--	--	--	--	--	--	--	--	--	--	--	--	2220 J	18 U
Lead	7439-92-1	µg/L	388			--	--	--	--	--	--	--	--	--	--	--	--	2.2 J	1.6 U
Magnesium	7439-95-4	µg/L				--	--	--	--	--	--	--	--	--	--	--	--	653 J	168000
Manganese	7439-96-5	µg/L	16200			--	--	--	--	--	--	--	--	--	--	--	--	30	90.2
Mercury	7439-97-6	µg/L	0.97			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	7440-02-0	µg/L	857			--	--	--	--	--	--	--	--	--	--	--	--	7 J	2.4 J
Potassium	7440-09-7	µg/L				--	--	--	--	--	--	--	--	--	--	--	--	4240 J	47800
Selenium	7782-49-2	µg/L	84.5			--	--	--	--	--	--	--	--	--	--	--	--	11.2	8.4 J
Silver	7440-22-4	µg/L	4.1			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	7440-23-5	µg/L				--	--	--	--	--	--	--	--	--	--	--	--	352000	74600
Strontium	7440-24-6	µg/L	269			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	7440-28-0	µg/L	7.8			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	µg/L	704			--	--	--	--	--	--	--	--	--	--	--	--	8 J	4.9 J
Zinc	7440-66-6	µg/L	2090			--	--	--	--	--	--	--	--	--	--	--	--	339	30.6

B = The analyte was found in an associated blank, as well as in the sample.
J = The analyte was positively identified, the quantitation is an estimation.
U - The analyte was analyzed for, but not detected. The associated numerical value is the MDL.
* - Analytes also detected in Blank.
** - trans-1,2-Dichloroethene screening value used as a surrogate for 1,2-Dichloroethene (total).
*** - p-Xylene screening value used as a surrogate for Xylenes (total).
a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.

Table J.7.3
Detected Chemicals in Groundwater and Screening Concentrations for Potential Vapor Intrusion of VOCs into Indoor Air
SADVA - AOCs 1 and 7

		SAMPLE ID: SAMPLED: DEPTH ZONE:	SD-GW01-AOC-7 21-Jul-04 Shallow	SD-GW101-AOC-7 21-Jul-04 Shallow	SD-GW02-AOC-7 22-Jul-04 Bedrock	SD-GW03-AOC-7 22-Jul-04 Shallow	SD-2AMW5-AOC-1 21-Jul-04 Shallow	SD-2AMW7-AOC-1 21-Jul-04 Shallow	AOC-1 GW-11R 11-Jan-01 Bedrock	AMW-11 29-Jun-00 Bedrock	AMW-2 29-Jun-00 Bedrock	ACE-6 29-Jun-00 Shallow	ACE-2 29-Jun-00 Shallow	AMW-1 29-Jun-00 Shallow	AOC7-2AMW-7 16-Aug-00 Shallow	AOC7-2AMW-5 16-Aug-00 Shallow
PARAMETER	CAS NUMBER	UNITS:	UPGRADIENT	Dup of SD-GW01-AOC-7	DOWNGRADIENT		UPGRADIENT									
VOLATILES																
2-Butanone	78-93-3	µg/L							5 UJ	--	--	--	--	--	R	R
1,1-Dichloroethene	75-35-4	µg/L							1 U	--	--	--	--	--	1 U	1 U
1,2-Dichloroethane	107-06-2	µg/L							1 U	--	--	--	--	--	1 U	1 U
1,2-Dichloroethene (total)**	540-59-0	µg/L							1 U	ND	ND	ND	990	120	1 U	1 U
cis-1,2-Dichloroethene	156-59-2	µg/L							1 U	--	--	--	--	--	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	µg/L							1 U	--	--	--	--	--	--	--
Acetone	67-64-1	µg/L							4.3 J	--	--	--	--	--	10 U	10 U
Benzene	71-43-2	µg/L							1 U	--	--	--	--	--	1 U	1 U
Chlorobenzene	108-90-7	µg/L							1 U	--	--	--	--	--	1 U	1 U
Methylene chloride	75-09-2	µg/L							2 U	--	--	--	--	--	2 U	2 U
Toluene	108-88-3	µg/L							0.3 J	--	--	--	--	--	1 U	1 U
Trichloroethene	79-01-6	µg/L							1 U	ND	ND	ND	300	11	1 U	1 U
Vinyl chloride	75-01-4	µg/L							2 U	ND	ND	ND	270	42	2 U	2 U
Xylenes (total)***	1330-20-7	µg/L							1 U	--	--	--	--	--	1 U	1 U
SEMIVOLATILES																
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	22 J	1.6 J	16	7.6	27	4.1 J	10 U	--	--	--	--	--	5.9 J	15
Butyl benzyl phthalate	85-68-7	µg/L	4.7 U	4.8 U	4.8 U	4.7 U	0.12 J	4.8 U	10 U	--	--	--	--	--	10 U	10 U
Carbazole	86-74-8	µg/L	4.7 U	4.8 U	4.8 U	4.7 U	0.13 J	4.8 U	10 U	--	--	--	--	--	10 U	10 U
Di-n-butyl phthalate	84-74-2	µg/L	4.7 U	4.8 U	4.8 U	4.7 U	0.28 J	4.8 U	10 U	--	--	--	--	--	10 U	10 U
Diethyl phthalate	84-66-2	µg/L	4.7 U	4.8 U	1.7 J	4.7 U	0.35 J	1.6 J	10 U	--	--	--	--	--	10 U	10 U
Fluoranthene	206-44-0	µg/L	4.7 U	4.8 U	4.8 U	4.7 U	0.2 J	4.8 U	10 U	--	--	--	--	--	10 U	10 U
Pyrene	129-00-0	µg/L	4.7 U	4.8 U	4.8 U	4.7 U	0.17 J	4.8 U	10 U	--	--	--	--	--	10 U	10 U
PESTICIDES / PCBs																
alpha-BHC	319-84-6	µg/L							0.05 U	--	--	--	--	--	0.05 U	0.05 U
gamma-BHC (Lindane)	58-89-9	µg/L							0.05 U	--	--	--	--	--	0.05 U	0.05 U
4,4'-DDE	72-55-9	µg/L							0.05 U	--	--	--	--	--	0.05 U	0.05 U
4,4'-DDD	72-54-8	µg/L							0.05 U	--	--	--	--	--	0.05 U	0.05 U
4,4'-DDT	50-29-3	µg/L							0.05 U	--	--	--	--	--	0.05 U	0.05 U
Endrin	72-20-8	µg/L							0.05 U	--	--	--	--	--	0.05 U	0.05 U
Endrin Ketone	53494-70-5	µg/L							0.05 U	--	--	--	--	--	0.05 U	0.05 U
Endrin aldehyde	7421-93-4	µg/L							0.05 U	--	--	--	--	--	0.05 U	0.05 U
METALS																
Aluminum	7429-90-5	µg/L	12.1 J	13.7 J	59.9 J	27.4 J	79.4 J	29.5 J	12800	--	--	--	--	--	3560	1600
Antimony	7440-36-0	µg/L							11.5 J	--	--	--	--	--	1.5 U	1.5 U
Arsenic	7440-38-2	µg/L	3.3 U	3.3 U	3.3 U	3.3 U	11.6	3.3 U	131	--	--	--	--	--	2.6 U	14.7
Barium	7440-39-3	µg/L	38.1 J	40.7 J	197 J	10.4 J	41.6 J	16.3 J	357	--	--	--	--	--	33.8 J	44.6 J
Beryllium	7440-41-7	µg/L	0.53 J	0.48 J	0.42 U	0.42 U	0.42 U	0.42 U	0.8 J	--	--	--	--	--	0.12 J	0.071 U
Cadmium	7440-43-9	µg/L							0.49 U	--	--	--	--	--	0.49 U	0.49 U
Calcium	7440-70-2	µg/L	184000	185000	97600	161000	226000	274000	2810 J	--	--	--	--	--	238000	250000
Chromium	7440-47-3	µg/L							21	--	--	--	--	--	4 J	1.8 J
Chromium VI	18540-29-9	µg/L							--	--	--	--	--	--	--	--
Cobalt	7440-48-4	µg/L							5.6 J	--	--	--	--	--	3.2 U	3.2 U
Copper	7440-50-8	µg/L	1.2 U	1.2 U	1.2 U	2 J	4.6 J	1.2 U	25.4	--	--	--	--	--	6.8 J	63.3 U
Iron	7439-89-6	µg/L	2840	3100	5360	18 U	2540	18 U	12800	--	--	--	--	--	3010	3880
Lead	7439-92-1	µg/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 J	1.6 U	15.8	--	--	--	--	--	2 J	5.2
Magnesium	7439-95-4	µg/L	128000	131000	15100	29900	47000	178000	3210 J	--	--	--	--	--	111000	49500
Manganese	7439-96-5	µg/L	1480	1700	456	59	810	135	120	--	--	--	--	--	1980	124
Mercury	7439-97-6	µg/L							0.049 J	--	--	--	--	--	0.045 U	0.045 U
Nickel	7440-02-0	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	2 J	1.2 U	17.3 J	--	--	--	--	--	6.1 U	6.1 U
Potassium	7440-09-7	µg/L	3820 J	4500 J	1140 J	296 J	5740	1090 J	9060	--	--	--	--	--	2270 J	7460
Selenium	7782-49-2	µg/L							84.5	--	--	--	--	--	2.1 U	2.3 J
Silver	7440-22-4	µg/L	0.59 J	0.75 J	0.3 U	0.3 U	0.3 U	0.3 U	0.94 U	--	--	--	--	--	0.94 U	0.94 U
Sodium	7440-23-5	µg/L	37300	38900	19200	5510	9730	24100	437000	--	--	--	--	--	15900	8780
Strontium	7440-24-6	µg/L							3.9 U	--	--	--	--	--	--	--
Thallium	7440-28-0	µg/L							--	--	--	--	--	--	3.9 U	3.9 U
Vanadium	7440-62-2	µg/L	1 U	1 U	1 U	1.1 J	5.4 J	7.6 J	61.7	--	--	--	--	--	10.1 J	4.4 J
Zinc	7440-66-6	µg/L	3.4 J	4 J	2.1 J	12.4 J	11.6 J	6.6 J	21.2	--	--	--	--	--	22.3	17.5 J

B = The analyte was found in an associated blank, as well as in the sample.
J = The analyte was positively identified, the quantitation is an estimation.
U - The analyte was analyzed for, but not detected. The associated numerical value is the MDL
* - Analytes also detected in Blank.
** - trans-1,2-Dichloroethene screening value used as a surrogate for 1,2-Dichloroethene (total)
*** - p-Xylene screening value used as a surrogate for Xylenes (total).
a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.

Table J.7.3
Detected Chemicals in Groundwater and Screening Concentrations for Potential Vapor Intrusion of VOCs into Indoor Air
SADVA - AOCs 1 and 7

		SAMPLE ID: SAMPLED: DEPTH ZONE:	AOC7-2AMW-7 ^a 16-Aug-00 Shallow	AOC7-HP01 ^b 02-Aug-00 Shallow	AOC7-HP02 31-Jul-00 Shallow	AOC7-HP03 31-Jul-00 Shallow	AOC7-HP04 8/2/2000 Shallow	MW-ACE4 23-Jul-96 Unknown	MW-ACE3 ^c 23-Jul-96 Shallow	MW-2-2 24-Jul-96 Unknown	MW-ACE5 24-Jul-96 Unknown	MW-2BMW9 24-Jul-96 Shallow	MW-2AMW6 24-Jul-96 Shallow	MW-2AMW8 24-Jul-96 Shallow	MW-2AMW3 24-Jul-96 Unknown	MW-ACE2 ^d 25-Jul-96 Shallow
PARAMETER	CAS NUMBER	UNITS:														
VOLATILES																
2-Butanone	78-93-3	µg/L	R	R	ND	ND	5 U		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	75-35-4	µg/L	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	4 J
1,2-Dichloroethane	107-06-2	µg/L	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5
1,2-Dichloroethene (total)**	540-59-0	µg/L	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	156-59-2	µg/L	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	930
trans-1,2-Dichloroethene	156-60-5	µg/L	--	--	--	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	43
Acetone	67-64-1	µg/L	10 U	4.2 J	2.4 J	10 U	4.2 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	71-43-2	µg/L	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	4 J
Chlorobenzene	108-90-7	µg/L	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 J
Methylene chloride	75-09-2	µg/L	2 U	2 U	2 U	2 U	2 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	108-88-3	µg/L	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.6 J
Trichloroethene	79-01-6	µg/L	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	160
Vinyl chloride	75-01-4	µg/L	2 U	2 U	2 U	2 U	2 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	360 D
Xylenes (total)***	1330-20-7	µg/L	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.7 J
SEMIVOLATILES																
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	27 J	69	100	13	8.5 J	--	--	--	--	--	--	--	--	--
Butyl benzyl phthalate	85-68-7	µg/L	10 U	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
Carbazole	86-74-8	µg/L	10 U	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	84-74-2	µg/L	10 U	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
Diethyl phthalate	84-66-2	µg/L	10 U	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	µg/L	10 U	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	µg/L	10 U	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
PESTICIDES / PCBs																
alpha-BHC	319-84-6	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
gamma-BHC (Lindane)	58-89-9	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
4,4'-DDE	72-55-9	µg/L	0.05 U	0.05 U	0.05 U	0.023 J	0.05 U	--	--	--	--	--	--	--	--	--
4,4'-DDD	72-54-8	µg/L	0.05 U	0.05 U	0.05 U	0.035 JN	0.05 U	--	--	--	--	--	--	--	--	--
4,4'-DDT	50-29-3	µg/L	0.05 U	0.05 U	0.05 U	0.087	0.05 U	--	--	--	--	--	--	--	--	--
Endrin	72-20-8	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Endrin Ketone	53494-70-5	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Endrin aldehyde	7421-93-4	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
METALS																
Aluminum	7429-90-5	µg/L	3560	5940	389000	19600	5310	--	--	--	--	--	--	--	--	--
Antimony	7440-36-0	µg/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	--	--	--	--	--	--	--	--	--
Arsenic	7440-38-2	µg/L	2.6 U	4.8 J	207	10.2	2.7 J	10	5	6	2 U	2 U	2 U	82	5	6
Barium	7440-39-3	µg/L	33.8 J	85 J	1990	187 J	72.3 J	104	42	79	13	28	14	51	107	131
Beryllium	7440-41-7	µg/L	0.12 J	0.41 J	20.7	1.2 J	0.41 J	--	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	µg/L	0.49 U	0.49 U	9.1 J	0.49 U	0.49 U	--	--	--	--	--	--	--	--	--
Calcium	7440-70-2	µg/L	238000	255000	694000	147000	255000	--	--	--	--	--	--	--	--	--
Chromium	7440-47-3	µg/L	4 J	11.9	544	31.1	11.2	22	17	18	4 U	4 U	4 U	50	34	18
Chromium VI	18540-29-9	µg/L	--	--	--	--	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Cobalt	7440-48-4	µg/L	3.2 U	3.8 J	423	15 J	3.2 U	--	--	--	--	--	--	--	--	--
Copper	7440-50-8	µg/L	10.3 J	13.8 J	989	37.7	13.3 J	--	--	--	--	--	--	--	--	--
Iron	7439-89-6	µg/L	3010	9920	912000	31200	8910	--	--	--	--	--	--	--	--	--
Lead	7439-92-1	µg/L	2 J	4.9	388	12.1	4.9	6 U	2 U	6 U	6 U	6 U	6 U	2 U	13	79
Magnesium	7439-95-4	µg/L	111000	106000	313000	40000	96200	--	--	--	--	--	--	--	--	--
Manganese	7439-96-5	µg/L	2700	461	16200	989	422	--	--	--	--	--	--	--	--	--
Mercury	7439-97-6	µg/L	0.045 U	0.069 J	0.97	0.067 J	0.06 J	--	--	--	--	--	--	--	--	--
Nickel	7440-02-0	µg/L	6.1 U	12.4 J	857	46.5	8.1 J	--	--	--	--	--	--	--	--	--
Potassium	7440-09-7	µg/L	2270 J	46800	73700	17100	32000	--	--	--	--	--	--	--	--	--
Selenium	7782-49-2	µg/L	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	--	--	--	--	--	--	--	--
Silver	7440-22-4	µg/L	0.94 U	0.94 U	4.1 J	0.94 U	0.94 U	--	--	--	--	--	--	--	--	--
Sodium	7440-23-5	µg/L	15900	143000	74700	14300	134000	--	--	--	--	--	--	--	--	--
Strontium	7440-24-6	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	7440-28-0	µg/L	3.9 U	3.9 U	7.8	3.9 U	3.9 U	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	µg/L	10.1 J	15.8 J	704	41.5 J	15.6 J	--	--	--	--	--	--	--	--	--
Zinc	7440-66-6	µg/L	22.3	56.9	2090	109	46.8	--	--	--	--	--	--	--	--	--

B = The analyte was found in an associated blank, as well as in the sample.
J = The analyte was positively identified, the quantitation is an estimation.
U - The analyte was analyzed for, but not detected. The associated numerical value is the MDL
* - Analytes also detected in Blank.
** - trans-1,2-Dichloroethene screening value used as a surrogate for 1,2-Dichloroethene (total)
*** - p-Xylene screening value used as a surrogate for Xylenes (total).
a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.

Table J.7.3
Detected Chemicals in Groundwater and Screening Concentrations for Potential Vapor Intrusion of VOCs into Indoor Air
SADVA - AOCs 1 and 7

		SAMPLE ID: SAMPLED: DEPTH ZONE:	MW-AMW1 25-Jul-96 Shallow	MW-AMW2 26-Jul-96 Bedrock	MW-AMW11 30-Jul-96 Bedrock	E4800 27-Aug-90 Unknown	E4801 27-Aug-90 Unknown	E4802 27-Aug-90 Unknown	E4803 27-Aug-90 Unknown	E4804 27-Aug-90 Unknown	E4806 27-Aug-90 Unknown	E4807 27-Aug-90 Unknown	E4808 27-Aug-90 Unknown	E4809 27-Aug-90 Unknown	E4810 27-Aug-90 Unknown
PARAMETER	CAS NUMBER	UNITS:													
VOLATILES															
2-Butanone	78-93-3	µg/L	5 U	5 U	50 UJ	--	--	--	--		--	--	--	--	--
1,1-Dichloroethene	75-35-4	µg/L	5 U	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	µg/L	3 J	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)**	540-59-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	156-59-2	µg/L	87	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	156-60-5	µg/L	14	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	µg/L	5 U	5 U	1600 DJ	29 *	21 *	20 *	--	--	--	--	--	--	--
Benzene	71-43-2	µg/L	5 U	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	µg/L	5 U	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
Methylene chloride	75-09-2	µg/L	5 U	5 U	50 UJ	2.4 *	4.8 *	1.9 *	--	2.6 *	1.6 *	1.2 *	2.3 *	1.1 *	3.4 *
Toluene	108-88-3	µg/L	5 U	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
Trichloroethene	79-01-6	µg/L	12	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	75-01-4	µg/L	66	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
Xylenes (total)***	1330-20-7	µg/L	5 U	5 U	50 UJ	--	--	--	--	--	--	--	--	--	--
SEMIVOLATILES															
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl benzyl phthalate	85-68-7	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	86-74-8	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	84-74-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	84-66-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
PESTICIDES / PCBs															
alpha-BHC	319-84-6	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC (Lindane)	58-89-9	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDE	72-55-9	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDD	72-54-8	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDT	50-29-3	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	72-20-8	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin Ketone	53494-70-5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	7421-93-4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
METALS															
Aluminum	7429-90-5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	7440-36-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	7440-38-2	µg/L	2 U	2 U	NA	--	--	--	--	--	--	--	--	--	--
Barium	7440-39-3	µg/L	44	69	NA	--	--	--	319	--	--	--	--	--	--
Beryllium	7440-41-7	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	7440-70-2	µg/L	--	--	--	--	--	--	1.7	--	--	--	--	--	--
Chromium	7440-47-3	µg/L	4 U	7	NA	--	10	10	44	30	--	20	--	--	20
Chromium VI	18540-29-9	µg/L	20 U	20 UJ	NA	--	--	--	--	--	--	--	--	--	--
Cobalt	7440-48-4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	7440-50-8	µg/L	--	--	--	--	--	--	55	--	--	--	--	--	--
Iron	7439-89-6	µg/L	--	--	--	--	--	--	6	--	--	--	--	--	--
Lead	7439-92-1	µg/L	2	2	NA	--	--	--	--	--	--	--	--	--	--
Magnesium	7439-95-4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	7439-96-5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	7439-97-6	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	7440-02-0	µg/L	--	--	--	--	--	--	3.4	--	--	--	--	--	--
Potassium	7440-09-7	µg/L	--	--	--	--	--	--	397	--	--	--	--	--	--
Selenium	7782-49-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	7440-22-4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	7440-23-5	µg/L	--	--	--	--	--	--	456	--	--	--	--	--	--
Strontium	7440-24-6	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	7440-28-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	7440-66-6	µg/L	--	--	--	10	20	20	--	30	30	30	20	10	20

B = The analyte was found in an associated blank, as well as in the sample.
J = The analyte was positively identified, the quantitation is an estimation.
U - The analyte was analyzed for, but not detected. The associated numerical value is the MDL
* - Analytes also detected in Blank.
** - trans-1,2-Dichloroethene screening value used as a surrogate for 1,2-Dichloroethene (total)
*** - p-Xylene screening value used as a surrogate for Xylenes (total).
a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.

Table J.7.3
Detected Chemicals in Groundwater and Screening Concentrations for Potential Vapor Intrusion of VOCs into Indoor Air
SADVA - AOCs 1 and 7

		SAMPLE ID: SAMPLED: DEPTH ZONE:	E4811 27-Aug-90 Unknown	E4812 27-Aug-90 Unknown	E4813 27-Aug-90 Unknown	E4880 27-Aug-90 Unknown	E4794 27-Aug-90 Unknown	E4795 27-Aug-90 Unknown	E4796 27-Aug-90 Unknown	E5306 27-Aug-90 Unknown	E4797 27-Aug-90 Unknown	MW-1 1988 Unknown	MW-2 1988 Unknown	MW-3 1988 Unknown	MW-4 1988 Unknown
PARAMETER	CAS NUMBER	UNITS:													
VOLATILES															
2-Butanone	78-93-3	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	75-35-4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)**	540-59-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	156-59-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	156-60-5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	µg/L	22 *	--	15 *	--	21 *	57 *	42 *	--	22 *	--	--	--	--
Benzene	71-43-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	75-09-2	µg/L	2.1 *	1.1 *	2.6 *	--	1.6 *	1.4 *	2.4 *	1.2 *	2.8 *	--	--	--	--
Toluene	108-88-3	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	79-01-6	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	75-01-4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes (total)***	1330-20-7	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
SEMIVOLATILES															
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl benzyl phthalate	85-68-7	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	86-74-8	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	84-74-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	84-66-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
PESTICIDES / PCBs															
alpha-BHC	319-84-6	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC (Lindane)	58-89-9	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDE	72-55-9	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDD	72-54-8	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDT	50-29-3	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	72-20-8	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin Ketone	53494-70-5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	7421-93-4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
METALS															
Aluminum	7429-90-5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	7440-36-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	7440-38-2	µg/L	--	--	--	--	--	--	--	7.9	--	6.6	31	28	23
Barium	7440-39-3	µg/L	--	--	--	63	--	--	--	--	73	82	356	187	232
Beryllium	7440-41-7	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	7440-70-2	µg/L	--	--	--	94	--	--	--	--	--	--	--	--	--
Chromium	7440-47-3	µg/L	10	--	50	10	30	20	90	30	--	19	144	83	66
Chromium VI	18540-29-9	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	7440-48-4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	7440-50-8	µg/L	--	--	--	29	--	--	--	--	107	--	--	--	--
Iron	7439-89-6	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	7439-92-1	µg/L	--	--	--	49	--	--	--	--	--	14	90	66	69
Magnesium	7439-95-4	µg/L	--	--	--	797	--	--	--	--	--	--	--	--	--
Manganese	7439-96-5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	7439-97-6	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	7440-02-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	7440-09-7	µg/L	--	--	--	29.6	--	--	--	--	2.2	--	--	--	--
Selenium	7782-49-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	7440-22-4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	7440-23-5	µg/L	--	--	--	--	--	--	--	--	338	--	--	--	--
Strontium	7440-24-6	µg/L	--	--	--	23	--	--	--	--	269	--	--	--	--
Thallium	7440-28-0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	7440-66-6	µg/L	20	20	140	--	30	47	80	10	--	--	--	--	--

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* - Analytes also detected in Blank.
** - trans-1,2-Dichloroethene screening value used as a surrogate for 1,2-Dichloroethene (total)
*** - p-Xylene screening value used as a surrogate for Xylenes (total).
a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.

Table J.7.3a

= The analyte was found in an associated blank, as well as in the sample.
 J = The analyte was positively identified, the quantitation is an estimation.
 U - The analyte was analyzed for, but not detected. The associated numerical value is the MDL.
 * - Analytes also detected in Blank.
 ** - trans-1,2-Dichloroethene screening value used as a surrogate for 1,2-Dichloroethene (total).
 *** - p-Xylene screening value used as a surrogate for Xylenes (total).
 H(WS) - drinking water (groundwater)
 E - aesthetic
Bold concentrations were detected above the NYSDEC criterion for that analyte
 a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
 b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
 c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
 d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.

Table J.7.3a
Detected Chemicals in Groundwater and NYSDEC Screening Concentrations for Groundwater Quality
Former Schenectedy Army Depot - Voorheesville Area

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B = The analyte was found in an associated blank, as well as in the sample.
J = The analyte was positively identified, the quantitation is an estimation.
U - The analyte was analyzed for, but not detected. The associated numerical value is the MDL.
* - Analytes also detected in Blank.
** - trans-1,2-Dichloroethene screening value used as a surrogate for 1,2-Dichloroethene (total).
*** - p-Xylene screening value used as a surrogate for Xylenes (total).
H(WS) - drinking water (groundwater)
E - aesthetic
Bold concentrations were detected above the NYSDEC criterion for that analyte
a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.

Table J.7.3a

B = The analyte was found in an associated blank, as well as in the sample.
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*** - p-Xylene screening value used as a surrogate for Xylenes (total).
H(WS) - drinking water (groundwater)
E - aesthetic
Bold concentrations were detected above the NYSDEC criterion for that analyte
a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.

Table J.7.3a

B = The analyte was found in an associated blank, as well as in the sample.
 J = The analyte was positively identified, the quantitation is an estimation.
 U - The analyte was analyzed for, but not detected. The associated numerical value is the MDL.
 * - Analytes also detected in Blank.
 ** - trans-1,2-Dichloroethene screening value used as a surrogate for 1,2-Dichloroethene (total).
 *** - p-Xylene screening value used as a surrogate for Xylenes (total).
 H(WS) - drinking water (groundwater)
 E - aesthetic
Bold concentrations were detected above the NYSDEC criterion for that analyte
 a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
 b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
 c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
 d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.

Table J.7.3b
Detected Chemicals in Groundwater and NYSDEC Screening Concentrations for Groundwater Quality
Former Schenectedy Army Depot - Voorheesville Area

Residential Wells AOC 1/7		NYSDEC Recommended Cleanup Objective (µg/L)	Basis of NYSDEC Cleanup Objective	SAMPLE ID:	E4800	E4801	E4802	E4803	E4804	E4806	E4807	E4808	E4809	E4810	E4811	E4812	E4813	E4880	E4794	E4795	E4796	E5306	E4797	
				SAMPLED:	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90	27-Aug-90
PARAMETER	CAS NUMBER			DEPTH ZONE:	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
		UNITS:																						
VOLATILES																								
2-Butanone	78-93-3		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1-Dichloroethene	75-35-4		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichloroethane	107-06-2		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichloroethene (total)**	540-59-0		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
cis-1,2-Dichloroethene	156-59-2		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
trans-1,2-Dichloroethene	156-60-5		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acetone	67-64-1	N/A	µg/L	29 *	21 *	20 *	--	--	--	--	--	--	--	--	22 *	--	15 *	--	21 *	57 *	42 *	--	22 *	
Benzene	71-43-2		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chlorobenzene	108-90-7		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Methylene chloride	75-09-2	5	µg/L	2.4 *	4.8 *	1.9 *	--	--	2.6 *	1.6 *	1.2 *	2.3 *	1.1 *	3.4 *	2.1 *	1.1 *	2.6 *	--	1.6 *	1.4 *	2.4 *	1.2 *	2.8 *	
Toluene	108-88-3		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	79-01-6		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vinyl chloride	75-01-4		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Xylenes (total)***	1330-20-7		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
SEMIVOLATILES																								
bis(2-Ethylhexyl) phthalate	117-81-7		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Butyl benzyl phthalate	85-68-7		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Carbazole	86-74-8		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Di-n-butyl phthalate	84-74-2		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Diethyl phthalate	84-66-2		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Fluoranthene	206-44-0		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pyrene	129-00-0		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
PESTICIDES / PCBs																								
alpha-BHC	319-84-6		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC (Lindane)	58-89-9		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4,4'-DDE	72-55-9		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4,4'-DDD	72-54-8		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4,4'-DDT	50-29-3		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Endrin	72-20-8		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Endrin Ketone	53494-70-5		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Endrin aldehyde	7421-93-4		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
METALS																								
Aluminum	7429-90-5		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony	7440-36-0		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic	7440-38-2	25	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.9	--	
Barium	7440-39-3	1000	µg/L	--	--	--	319	--	--	--	--	--	--	--	--	--	63	--	--	--	--	--	73	
Beryllium	7440-41-7		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium	7440-43-9		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium	7440-70-2		µg/L	--	--	--	1.7	--	--	--	--	--	--	--	--	--	--	94	--	--	--	--	--	
Chromium	7440-47-3	50	µg/L	--	10	10	44	30	--	20	--	--	20	10	--	50	10	30	20	90	30	--	--	
Chromium VI	18540-29-9		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt	7440-48-4		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper	7440-50-8	200	µg/L	--	--	--	55	--	--	--	--	--	--	--	--	--	29	--	--	--	--	--	107	
Iron	7439-89-6	300	µg/L	--	--	--	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Lead	7439-92-1	25	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	49	--	--	--	--	--	--	
Magnesium	7439-95-4		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	797	--	--	--	--	--	--	
Manganese	7439-96-5		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Mercury	7439-97-6		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel	7440-02-0	100	µg/L	--	--	--	3.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium	7440-09-7	N/A	µg/L	--	--	--	397	--	--	--	--	--	--	--	--	--	29.6	--	--	--	--	--	2.2	
Selenium	7782-49-2		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver	7440-22-4		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium	7440-23-5	N/A	µg/L	--	--	--	456	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	338	
Strontium	7440-24-6		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	23	--	--	--	--	--	269	
Thallium	7440-28-0		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium	7440-62-2		µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc	7440-66-6	N/A	µg/L	10	20	20	--	30	30	30	20	10	20	20	20	140	--	30	47	80	10	--	--	

J = The analyte was positively identified, the quantitation is an estimation.
U - The analyte was analyzed for, but not detected. The associated numerical value is the MDL.
B = The analyte was found in an associated blank, as well as in the sample.
* - Analytes also detected in Blank.
** - trans-1,2-Dichloroethene screening value used as a surrogate for 1,2-Dichloroethene (total).
*** - p-Xylene screening value used as a surrogate for Xylenes (total).
a) The highest result between samples 2AMW-7 and 2AMW-17 (dup of 2AMW-7) is reported.
b) The highest result between samples HP01 and HP04 (dup of HP01) is reported.
c) The highest result between samples MW-ACE3 and MW-ACE3 DUP is reported.
d) The highest result between samples MW-ACE2 and MW-ACE2 DUP is reported.
Bold concentrations were detected above the NYSDEC criterion for that analyte
H(WS) - drinking water (groundwater)
E - aesthetic

Table J.7.4
Detected Chemicals in Sediment
SADVA - AOCs 1 and 7

		SAMPLE ID: DEPTH: SAMPLED:		SD-SD08-0-0.2-AOC-1 0-0.2 7/19/2004	SD-SD08-0.5-0.75-AOC-1 0.5-0.75 7/19/2004	SD-SD09-0-0.2-AOC-1 0-0.2 7/19/2004	SD-SD09-0.5-0.8-AOC-1 0.5-0.8 7/19/2004	SD-SD10-0-0.2-AOC-1 ^a 0-0.2 7/19/2004	SD-SD10-0.5-0.75-AOC-1 0.5-0.75 7/19/2004	SD-SD11-0-0.2-AOC-1 0-0.2 7/19/2004
PARAMETER	CAS NUMBER	UNITS:	MAX VALUE							
VOLATILES										
Acetone	67-64-1	µg/kg	7.5	--	--	--	--	--	--	--
SEMIVOLATILES										
Acenaphthene	83-32-9	µg/kg	700	--	--	--	--	--	--	--
Anthracene	120-12-7	µg/kg	1500	--	--	--	--	--	--	--
Benzo(a)anthracene	56-55-3	µg/kg	2400	--	--	--	--	--	--	--
Benzo(a)pyrene	50-32-8	µg/kg	2200	--	--	--	--	--	--	--
Benzo(b)fluoranthene	205-99-2	µg/kg	1900	--	--	--	--	--	--	--
Benzo(ghi)perylene	191-24-2	µg/kg	570	--	--	--	--	--	--	--
Benzo(k)fluoranthene	207-08-9	µg/kg	2300	--	--	--	--	--	--	--
bis(2-Ethylhexyl) phthalate	117-81-7	µg/kg	390	--	--	--	--	--	--	--
Carbazole	86-74-8	µg/kg	740	--	--	--	--	--	--	--
Chrysene	218-01-9	µg/kg	2400	--	--	--	--	--	--	--
Dibenzofuran	132-64-9	µg/kg	310	--	--	--	--	--	--	--
Di-n-butyl phthalate	84-74-2	µg/kg	350	8700 UJ	360 U	220 J	39 J	6100 UJ	37 J	350 J
Dibenz(a,h)anthracene	53-70-3	µg/kg	280	--	--	--	--	--	--	--
Fluoranthene	206-44-0	µg/kg	5400	1600 J	360 U	2200 UJ	390 U	6100 UJ	390 U	2800 UJ
Fluorene	86-73-7	µg/kg	650	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	650	--	--	--	--	--	--	--
2-Methylnaphthalene	91-57-6	µg/kg	230	--	--	--	--	--	--	--
Naphthalene	91-20-3	µg/kg	300	--	--	--	--	--	--	--
Phenanthrene	85-01-8	µg/kg	5800	900 J	360 U	2200 UJ	390 U	6100 UJ	390 U	2800 UJ
Pyrene	129-00-0	µg/kg	3600	1300 J	360 U	2200 UJ	390 U	6100 UJ	390 U	2800 UJ
PESTICIDES/PCBS										
beta-BHC	319-85-7	µg/kg	4.5	11 UJ	1.9 U	5.6 UJ	2 U	4.5 JN	2 U	7.2 UJ
delta-BHC	319-86-8	µg/kg	3.2	11 UJ	1.9 UJ	5.6 UJ	2 UJ	7.8 UJ	2 UJ	7.2 UJ
gamma-BHC (Lindane)	58-89-9	µg/kg	1.5	11 UJ	1.9 U	5.6 UJ	2 U	7.8 UJ	2 U	7.2 UJ
Endosulfan I	959-98-8	µg/kg	3.6	3.6 J	1.9 U	0.78 JN	0.2 J	0.88 JN	2 U	7.2 UJ
Endrin	72-20-8	µg/kg	0.23	11 UJ	1.9 U	5.6 UJ	0.23 JN	7.8 UJ	2 U	7.2 UJ
Endosulfan II	33213-65-9	µg/kg	0.31	11 UJ	1.9 U	5.6 UJ	2 U	7.8 UJ	0.31 JN	7.2 UJ
4,4'-DDE	72-55-9	µg/kg	540	60 J	0.68 JN	46 J	1.8 JN	35 JN	1.5 J	9.9 JN
4,4'-DDD	72-54-8	µg/kg	2400	63 J	2 J	21 J	2.3	22 J	1.7 J	8.4 J
4,4'-DDT	50-29-3	µg/kg	630	11 UJ	1.9 U	28 J	1.4 J	33 J	2 U	7.6 J
alpha-Chlordane	5103-71-9	µg/kg	1.1	11 UJ	1.9 U	5.6 UJ	2 U	1.1 JN	2 U	7.2 UJ
Aroclor 1254	11097-69-1	µg/kg	290	--	--	--	--	--	--	--
METALS										
Aluminum	7429-90-5	mg/kg	16400	9940 J	11100	5830 J	11100	7100 J	10000	8070 J
Antimony	7440-36-0	mg/kg	7.9	2.2 J	0.35 U	1.4 J	0.38 U	2.8 J	0.38 U	1.7 J
Arsenic	7440-38-2	mg/kg	9.5	5.1 J	5.4	3.1 J	5.9	4.3 J	4.9	3.4 J
Barium	7440-39-3	mg/kg	258	125 J	56.7	84.8 J	57.9	112 J	47	106 J
Beryllium	7440-41-7	mg/kg	7.6	1.4 J	0.78	0.67 J	0.83	0.93 J	0.71	0.93 J
Cadmium	7440-43-9	mg/kg	1.2	0.91 J	0.23 J	0.44 J	0.26 J	0.74 J	0.26 J	0.52 J
Calcium	7440-70-2	mg/kg		139000 J	14600	112000 J	16100	156000 J	16100	134000 J
Chromium	7440-47-3	mg/kg	359	23.6 J	15.4	11.8 J	16	17 J	14.4	15.2 J
Cobalt	7440-48-4	mg/kg	47.4	12.7 J	9.4	6.7 J	10.8	8.7 J	9.2	9.2 J
Copper	7440-50-8	mg/kg	491	123 J	26.3	46 J	32	75.3 J	28.3	47.7 J
Iron	7439-89-6	mg/kg		26900 J	23400	14700 J	26200	18800 J	22800	20300 J
Lead	7439-92-1	mg/kg	2440	109 J	9	36.1 J	12.1	65.5 J	11.9	40.8 J
Magnesium	7439-95-4	mg/kg		7230 J	6830	5220 J	6750	6460 J	6470	6900 J
Manganese	7439-96-5	mg/kg	4800	978 J	438	981 J	542	1120 J	541	1530 J
Mercury	7439-97-6	mg/kg	0.11	0.078 UJ	0.023 J	0.039 UJ	0.018 J	0.054 UJ	0.029 J	0.05 UJ
Nickel	7440-02-0	mg/kg	124	42.1 J	21.6	23.8 J	25.8	30.3 J	21.4	27.5 J
Potassium	7440-09-7	mg/kg		1880 J	1440	989 J	1350	1340 J	1180	1370 J
Selenium	7782-49-2	mg/kg	1.5	--	--	--	--	--	--	--
Silver	7440-22-4	mg/kg	0.66	0.44 J	0.098 J	0.3 J	0.091 J	0.39 J	0.12 J	0.43 J
Sodium	7440-23-5	mg/kg		1470 J	144 J	628 J	149 J	890 J	139 J	813 J
Thallium	7440-28-0	mg/kg	0.58	--	--	--	--	--	--	--
Vanadium	7440-62-2	mg/kg	97	81.4 J	21.8	45.6 J	21.6	61.2 J	19.8	53.3 J
Zinc	7440-66-6	mg/kg	2960	378 J	54.2	152 J	69.4	256 J	68.7	178 J

A - Concentration exceeds Lowest Effort Level (NYSDEC Technical Guidance for Screening Contaminated Sediments, 1993).
U = Analyte not detected; the number is the analytical reporting limit.
J = Estimated Value
UJ = Analyte not detected: the number is the estimated analytical reporting limit.
ND = Not Detected
a) The highest result between samples SD-SD10-0-0.2-AOC-1 and SD-SD110-0-0.2-AOC-1 (duplicate) is reported.
b) The highest result between samples R35SL-002-011 and R35SL-002-011 (duplicate) is reported.

Table J.7.4
Detected Chemicals in Sediment
SADVA - AOCs 1 and 7

		SAMPLE ID: DEPTH: SAMPLED:	SD-SD11-0.5-0.75-AOC-1 0.5-0.75 7/19/2004	SD-SD12-0-0.2-AOC-1 0-0.2 7/20/2004	SD-SD12-0.5-0.75-AOC-1 0.5-0.75 7/19/2004	AOC1-SD04 0.2' 7/13/2000	AOC1-SD05 0.2' 7/13/2000	AOC1-SD06 0.2' 7/13/2000	AOC1-SD07 0.2' 7/13/2000	AOC1-SD08 0.2' 7/13/2000
PARAMETER	CAS NUMBER	UNITS:								
VOLATILES										
Acetone	67-64-1	µg/kg	--	--	--	7.5	30 U	89 UJ	5.1	6.6
SEMIVOLATILES										
Acenaphthene	83-32-9	µg/kg	--	--	--	700	490 U	1500 UJ	570 U	660
Anthracene	120-12-7	µg/kg	--	--	--	1200	490 U	1500 UJ	570 U	1500
Benzo(a)anthracene	56-55-3	µg/kg	--	--	--	2400	17	94	570 U	2400
Benzo(a)pyrene	50-32-8	µg/kg	--	--	--	2200	18	110	570 U	2100
Benzo(b)fluoranthene	205-99-2	µg/kg	--	--	--	1900	19	160	570 U	1900
Benzo(ghi)perylene	191-24-2	µg/kg	--	--	--	570	490 U	1500 UJ	570 U	500
Benzo(k)fluoranthene	207-08-9	µg/kg	--	--	--	2300	22	130	570 U	2300
bis(2-Ethylhexyl) phthalate	117-81-7	µg/kg	--	--	--	390	15	100	25	290
Carbazole	86-74-8	µg/kg	--	--	--	740	490 U	1500 UJ	570 U	690
Chrysene	218-01-9	µg/kg	--	--	--	2400	23	140	570 U	2300
Dibenzofuran	132-64-9	µg/kg	--	--	--	300	490 U	1500 UJ	570 U	310
Di-n-butyl phthalate	84-74-2	µg/kg	49 J	11000 UJ	59 J	580 U	490 U	1500 UJ	570 U	630 U
Dibenz(a,h)anthracene	53-70-3	µg/kg	--	--	--	280	490 U	1500 UJ	570 U	260
Fluoranthene	206-44-0	µg/kg	390 U	11000 UJ	46 J	4700	490 U	300	570 U	5400
Fluorene	86-73-7	µg/kg	--	--	--	590	490 U	1500 UJ	570 U	650
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	--	--	--	650	490 U	1500 UJ	570 U	580
2-Methylnaphthalene	91-57-6	µg/kg	--	--	--	130	490 U	230	570 U	90
Naphthalene	91-20-3	µg/kg	--	--	--	300	490 U	190	570 U	150
Phenanthrene	85-01-8	µg/kg	390 U	11000 UJ	390 U	5200	490 U	160	570 U	5800
Pyrene	129-00-0	µg/kg	390 U	11000 UJ	390 U	3500	24	180	570 U	3600
PESTICIDES/PCBS										
beta-BHC	319-85-7	µg/kg	2 U	14 UJ	2 U	30 U	2.5 U	150 UJ	2.9 U	33 U
delta-BHC	319-86-8	µg/kg	2 UJ	3.2 JN	2 UJ	30 U	2.5 U	150 UJ	2.9 U	33 U
gamma-BHC (Lindane)	58-89-9	µg/kg	2 U	1.5 JN	2 U	30 U	2.5 U	150 UJ	2.9 U	33 U
Endosulfan I	959-98-8	µg/kg	2 U	14 UJ	2 U	30 U	2.5 U	150 UJ	2.9 U	33 U
Endrin	72-20-8	µg/kg	2 U	14 UJ	2 U	30 U	2.5 U	150 UJ	2.9 U	33 U
Endosulfan II	33213-65-9	µg/kg	2 U	14 UJ	2 U	30 U	2.5 U	150 UJ	2.9 U	33 U
4,4'-DDE	72-55-9	µg/kg	3.2	34 JN	12	21	0.22	540	18	32
4,4'-DDD	72-54-8	µg/kg	3.1	29 J	22	42	2.5 U	2400	2	54
4,4'-DDT	50-29-3	µg/kg	0.96 JN	14 UJ	2 U	130	2.5 U	630	1.3	110
alpha-Chlordane	5103-71-9	µg/kg	2 U	14 UJ	2 U	30 U	2.5 U	150 UJ	2.9 U	33 U
Aroclor 1254	11097-69-1	µg/kg	--	--	--	69	2.5 U	150 UJ	57 U	290
METALS										
Aluminum	7429-90-5	mg/kg	6940	9650 J	11400	15300	16400	9440	12600	12600
Antimony	7440-36-0	mg/kg	0.37 U	2.6 UJ	0.38 U	7.9	0.22 UJ	2.1	0.25 UJ	6.8
Arsenic	7440-38-2	mg/kg	6	4.6 J	6.6	9.5	2.5	9.1	7.6	7
Barium	7440-39-3	mg/kg	90.7	87.5 J	63	205	128	71.6	258	216
Beryllium	7440-41-7	mg/kg	0.7	1.4 J	0.88	7.6	0.89	3.2	0.81	7
Cadmium	7440-43-9	mg/kg	0.34 J	0.87 J	0.34 J	1.2	0.55	1.1	1.1	0.96
Calcium	7440-70-2	mg/kg	53300	54900 J	22600	29900	5070	4850	2230	20200
Chromium	7440-47-3	mg/kg	11.1	17.3 J	17	359	15.3	60.3	16.9	193
Cobalt	7440-48-4	mg/kg	7.8	10.7 J	12.5	47.4	6.2	12.7	22.3	38.5
Copper	7440-50-8	mg/kg	29.3	53.7 J	33.2	478	17.2	298	24.1	491
Iron	7439-89-6	mg/kg	19800	25300 J	26700	86800	15200	22900	31200	54800
Lead	7439-92-1	mg/kg	10.8	43.2 J	14.2	2440	23.1	442	16.3	1300
Magnesium	7439-95-4	mg/kg	6160	5880 J	7650	6080	3240	4300	3940	3500
Manganese	7439-96-5	mg/kg	654	573 J	802	918	98	209	4800	553
Mercury	7439-97-6	mg/kg	0.018 J	0.097 UJ	0.019 J	0.038	0.083	0.11	0.029	0.036
Nickel	7440-02-0	mg/kg	18	31.6 J	27.8	124	17.4	47.5	25.1	114
Potassium	7440-09-7	mg/kg	968	1600 J	1500	1330	1150	1440	956	1230
Selenium	7782-49-2	mg/kg	--	--	--	0.37 U	0.65	1.5	1.8 U	0.4 U
Silver	7440-22-4	mg/kg	0.15 J	0.48 J	0.14 J	0.49	0.14 U	0.66	0.47	0.42
Sodium	7440-23-5	mg/kg	149 J	1410 J	171 J	630	108	680	84.5	677
Thallium	7440-28-0	mg/kg	--	--	--	0.68 U	0.58	1.7 UJ	3.3 U	0.74 U
Vanadium	7440-62-2	mg/kg	15.7	57.5 J	23.1	97	22.8	49.4	25.6	89.9
Zinc	7440-66-6	mg/kg	61.6	170 J	78.1	2960	76.5	979	87.1	2630

A - Concentration exceeds Lowest Effort Level (NYSDEC Technical Guidance for Screening Contaminated Sediments, 1993).

U = Analyte not detected; the number is the analytical reporting limit.

J = Estimated Value

UJ = Analyte not detected: the number is the estimated analytical reporting limit.

ND = Not Detected

a) The highest result between samples SD-SD10-0-0.2-AOC-1 and SD-SD110-0-0.2-AOC-1 (duplicate) is reported.

b) The highest result between samples R35SL-002-011 and R35SL-002-011 (duplicate) is reported.

Table J.7.4
Detected Chemicals in Sediment
SADVA - AOCs 1 and 7

PARAMETER	CAS NUMBER	SAMPLE ID: DEPTH: SAMPLED:	SED-1	SED-2	SED-3	SED-4	R35SL-001-001	R35SL-002-001 ^a
		UNITS:	1990	1990	1990	1990	11/14/90	11/14/90
VOLATILES								
Acetone	67-64-1	µg/kg	--	--	--	--	--	--
SEMIVOLATILES								
Acenaphthene	83-32-9	µg/kg	--	--	--	--	--	--
Anthracene	120-12-7	µg/kg	--	--	--	--	--	--
Benzo(a)anthracene	56-55-3	µg/kg	--	--	--	--	0.161 U	0.108
Benzo(a)pyrene	50-32-8	µg/kg	--	--	--	--	0.241 U	0.108 J
Benzo(b)fluoranthene	205-99-2	µg/kg	--	--	--	--	0.193 U	0.161
Benzo(ghi)perylene	191-24-2	µg/kg	--	--	--	--	0.804 U	1.048
Benzo(k)fluoranthene	207-08-9	µg/kg	--	--	--	--	0.193 U	0.056 J
bis(2-Ethylhexyl) phthalate	117-81-7	µg/kg	--	--	--	--	--	--
Carbazole	86-74-8	µg/kg	--	--	--	--	--	--
Chrysene	218-01-9	µg/kg	--	--	--	--	--	--
Dibenzofuran	132-64-9	µg/kg	--	--	--	--	--	--
Di-n-butyl phthalate	84-74-2	µg/kg	--	--	--	--	--	--
Dibenz(a,h)anthracene	53-70-3	µg/kg	--	--	--	--	--	--
Fluoranthene	206-44-0	µg/kg	--	--	--	--	2.412 U	0.507 J
Fluorene	86-73-7	µg/kg	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	--	--	--	--	--	--
2-Methylnaphthalene	91-57-6	µg/kg	--	--	--	--	--	--
Naphthalene	91-20-3	µg/kg	--	--	--	--	--	--
Phenanthrene	85-01-8	µg/kg	--	--	--	--	6.431 U	0.6 J
Pyrene	129-00-0	µg/kg	--	--	--	--	--	--
PESTICIDES/PCBS								
beta-BHC	319-85-7	µg/kg	--	--	--	--	--	--
delta-BHC	319-86-8	µg/kg	--	--	--	--	--	--
gamma-BHC (Lindane)	58-89-9	µg/kg	--	--	--	--	--	--
Endosulfan I	959-98-8	µg/kg	--	--	--	--	--	--
Endrin	72-20-8	µg/kg	--	--	--	--	--	--
Endosulfan II	33213-65-9	µg/kg	--	--	--	--	--	--
4,4'-DDE	72-55-9	µg/kg	ND	ND	24	ND	--	--
4,4'-DDD	72-54-8	µg/kg	ND	ND	120	ND	--	--
4,4'-DDT	50-29-3	µg/kg	ND	ND	20	ND	--	--
alpha-Chlordane	5103-71-9	µg/kg	--	--	--	--	--	--
Aroclor 1254	11097-69-1	µg/kg	--	--	--	--	--	--
METALS								
Aluminum	7429-90-5	mg/kg	--	--	--	--	--	--
Antimony	7440-36-0	mg/kg	--	--	--	--	--	--
Arsenic	7440-38-2	mg/kg	8.55	ND	2.51	ND	--	--
Barium	7440-39-3	mg/kg	--	--	--	--	71.4	45.0
Beryllium	7440-41-7	mg/kg	0.65	0.3	0.35	0.4	--	--
Cadmium	7440-43-9	mg/kg	0.15	0.1	0.53	0.3	--	--
Calcium	7440-70-2	mg/kg	--	--	--	--	--	--
Chromium	7440-47-3	mg/kg	13	4.7	11.8	7.98	9.8	7.9
Cobalt	7440-48-4	mg/kg	--	--	--	--	--	--
Copper	7440-50-8	mg/kg	17.4	14.3	22.6	29.3	--	--
Iron	7439-89-6	mg/kg	--	--	--	--	--	--
Lead	7439-92-1	mg/kg	6.1	3.7	28.6	20.9	6 U	9.7
Magnesium	7439-95-4	mg/kg	--	--	--	--	--	--
Manganese	7439-96-5	mg/kg	--	--	--	--	--	--
Mercury	7439-97-6	mg/kg	--	--	--	--	0.1 U	0.1 U
Nickel	7440-02-0	mg/kg	19	1	29	15	--	--
Potassium	7440-09-7	mg/kg	--	--	--	--	--	--
Selenium	7782-49-2	mg/kg	--	--	--	--	--	--
Silver	7440-22-4	mg/kg	--	--	--	--	--	--
Sodium	7440-23-5	mg/kg	--	--	--	--	--	--
Thallium	7440-28-0	mg/kg	--	--	--	--	--	--
Vanadium	7440-62-2	mg/kg	--	--	--	--	--	--
Zinc	7440-66-6	mg/kg	58	31	80	94	--	--

A - Concentration exceeds Lowest Effort Level (NYSDEC Technical Guidance for Screening Contaminated Sediments, 1993).

U = Analyte not detected; the number is the analytical reporting limit.

J = Estimated Value

UJ = Analyte not detected: the number is the estimated analytical reporting limit.

ND = Not Detected

a) The highest result between samples SD-SD10-0-0.2-AOC-1 and SD-SD110-0-0.2-AOC-1 (duplicate) is reported.

b) The highest result between samples R35SL-002-011 and R35SL-002-011 (duplicate) is reported.

Table J.7.5
Detected Chemicals in Surface Water
SADVA - AOCs 1 and 7

			Dup of SW-04												
		SAMPLE ID: SAMPLED:		AOC1-SW04 13-Jul-00	AOC1-SW06 13-Jul-00	AOC1-SW07 13-Jul-00	AOC1-SW08 13-Jul-00	SW-1 30-Jul-96	SW-2 30-Jul-96	SW-4 ERM, 1990	SW-1 M&E, 1988	SW-2 M&E, 1988	SW-3 M&E, 1988	SW-4 M&E, 1988	SW-5 M&E, 1988
		UNITS:	MAX VALUE												
PARAMETER		CAS NUMBER													
VOLATILES															
Acetone	67-64-1	µg/L	10	10 U	2.5	2.2	10 U	5 U	5 U	--	10 J	10 UJ	10 U	10 UJ	10 U
Carbon disulfide	75-15-0	µg/L	0.99	1 U	0.99	0.36	1 U	5 U	5 U	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	µg/L	27	1 U	1 U	1 U	1 U	5 U	5 U	27	--	--	--	--	--
Toluene	108-88-3	µg/L	0.24	1 U	1 U	0.24	1 U	5 U	5 U	--	--	--	--	--	--
Trichloroethene	79-01-6	µg/L	10	1 U	1 U	1 U	1 U	5 U	5 U	10	--	--	--	--	--
SEMIVOLATILES															
bis(2-Ethylhexyl) phthalate	117-81-7	µg/L	73	16	19	10 U	73	--	--	--	--	--	--	--	--
METALS															
Aluminum	7429-90-5	µg/L	313	27.7	313	61.2	24.9		--	--	--				
Arsenic	7440-38-2	µg/L	3.8	2.6 U	2.6 U	2.6 U	2.6 U	2 U	2 U	--	3.8	1.5 U	1.5 U	1.5 U	1.5 U
Barium	7440-39-3	µg/L	55	21.1	27.9	2.8	21.3	22	19	--	13	37	22	55	22
Beryllium	7440-41-7	µg/L	0.09	0.071 U	0.071 U	0.071 U	0.09	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	µg/L	30	0.49 U	0.49 U	0.49 U	0.49 U	--	--	30	--	--	--	--	--
Calcium	7440-70-2	µg/L		26000	30600	16800	27000	--	--	--	--	--	--	--	--
Chromium	7440-47-3	µg/L	18	1 U	1.3	1 U	1 U	4 U	4 U	--	18	5 U	5 U	5 U	5 U
Copper	7440-50-8	µg/L	3.7	2.2 U	3.7	2.2 U	2.2 U	--	--	--	--	--	--	--	--
Iron	7439-89-6	µg/L		109	734	919	101	--	--	--	--	--	--	--	--
Lead	7439-92-1	µg/L	42	1.9 U	3.7	1.9 U	1.9 U	4	3	--	39	16	27	42	2.5 U
Magnesium	7439-95-4	µg/L		17100	17300	4650	17700	--	--	--	--	--	--	--	--
Manganese	7439-96-5	µg/L	320	98.5	320	116	96.9	--	--	--	--	--	--	--	--
Mercury	7439-97-6	µg/L	0.058	0.047	0.058	0.045 U	0.05	--	--	--	--	--	--	--	--
Potassium	7440-09-7	µg/L		2380	2530	558	2720	--	--	--	--	--	--	--	--
Selenium	7782-49-2	µg/L	2.6	2.6	2.1 U	2.1 U	2.1 U	--	--	--	--	--	--	--	--
Sodium	7440-23-5	µg/L		83200	82800	1160	85400	--	--	--	--	--	--	--	--
Zinc	7440-66-6	µg/L	24.3	20.1	24.3	15.2	11.6	--	--	--	--	--	--	--	--

AOC1-SW08 is a field duplicate of AOC 1-SW04.
U = Analyte not detected; the number is the analytical reporting limit.
J = Estimated Value
ND = Not Detected

- a. < and J reported together indicate that the analyte was detected at a concentration lower than the instrument detection limit. The value reported is the instrument detection limit.
- b. < indicates that the analyte was not detected. The value reported is the detection limit.
- c. Sample aliquot warmed for 15 minutes at ambient air temperature (16C) before measuring temperature.

Table J.7.6
Comparison of Site Concentration to Background Surface Soils
SADVA - AOCs 1 and 7

CAS No.	Compound ¹	Exposure Point Concentration (units)	EPC Max or UCL?	Site Background Range (units)	EPC Exceeds Background?
Volatiles					
67-64-1	Acetone	2600 µg/kg	Max	ND - 3.1 µg/kg	yes
78-93-3	2-Butanone	170 µg/kg	Max		yes
100-41-4	Ethylbenzene	24 µg/kg	Max		yes
108-88-3	Toluene	4 µg/kg	Max		yes
79-01-6	Trichloroethene	4.4 µg/kg	UCL		yes
1330-20-7	Xylenes (total)	530 µg/kg	Max		yes
Semivolatiles					
86-74-8	Carbazole	1300 µg/kg	Max	ND - 54 µg/kg	yes
105-67-9	2,4-Dimethylphenol	150 µg/kg	Max		yes
84-74-2	Di-n-butyl phthalate	100 µg/kg	Max		yes
86-30-6	N-Nitrosodiphenylamine	68 µg/kg	Max		yes
CPAHs					
56-55-3	Benzo(a)anthracene	730 µg/kg	UCL	ND - 410 µg/kg	yes
50-32-8	Benzo(a)pyrene	700 µg/kg	UCL	ND - 550 µg/kg	yes
205-99-2	Benzo(b)fluoranthene	850 µg/kg	UCL	ND - 620 µg/kg	yes
207-08-9	Benzo(k)fluoranthene	330 µg/kg	UCL	ND - 550 µg/kg	no
218-01-9	Chrysene	2800 µg/kg	Max	ND - 680 µg/kg	yes
53-70-3	Dibenz(a,h)anthracene	230 µg/kg	UCL	ND - 55 µg/kg	yes
193-39-5	Indeno(1,2,3-cd)pyrene	460 µg/kg	UCL	ND - 230 µg/kg	yes
NPAH					
83-32-9	Acenaphthene	350 µg/kg	Max		yes
200-96-8	Acenaphthylene (as Acenaphthene)	120 µg/kg	Max		yes
120-12-7	Anthracene	730 µg/kg	Max	ND - 61 µg/kg	yes
132-64-9	Dibenzofuran	120 µg/kg	Max		yes
206-44-0	Fluoranthene	6100 µg/kg	Max	ND - 940 µg/kg	yes
86-73-7	Fluorene	220 µg/kg	Max	ND - 23 µg/kg	yes
91-57-6	2-Methylnaphthalene (as Naphthalene)	230 µg/kg	Max		yes
91-20-3	Naphthalene	410 µg/kg	Max		yes
85-01-8	Phenanthrene (as Pyrene)	3100 µg/kg	Max	ND - 480 µg/kg	yes
129-00-0	Pyrene	4200 µg/kg	Max	ND - 750 µg/kg	yes
PESTICIDE					
72-54-8	4,4'-DDD	2.7 µg/kg	Max	ND - 1.2 µg/kg	yes
72-55-9	4,4'-DDE	2.1 µg/kg	Max	ND - 9.4 µg/kg	no
50-29-3	4,4'-DDT	6.9 µg/kg	Max	0.61 - 15 µg/kg	no
72-20-8	Endrin	0.29 µg/kg	Max		yes
7421-93-4	Endrin aldehyde (based on endrin)	2.9 µg/kg	Max		yes
PCBs					
11096-82-5	Aroclor 1260	160 µg/kg	Max		yes
METALS					
7429-90-5	Aluminum	12100 mg/kg	Max	7,080 - 12,800 mg/kg	no
7440-36-0	Antimony	0.36 mg/kg	Max	0.2 - 0.59 mg/kg	no
7440-38-2	Arsenic	6.7 mg/kg	Max	4.3 - 16.4 mg/kg	no
7440-39-3	Barium	47.4 mg/kg	Max	33 - 104 mg/kg	no
7440-41-7	Beryllium	0.59 mg/kg	Max	0.38 - 0.67 mg/kg	no
7440-43-9	Cadmium	0.65 mg/kg	Max	0.21 - 0.52 mg/kg	yes
7440-47-3	Chromium (total)	110 mg/kg	UCL	9.3 - 17.5 mg/kg	yes
18540-29-9	Chromium VI	350 mg/kg	Max		yes
7440-48-4	Cobalt	13.3 mg/kg	Max	5.3 - 12.2 mg/kg	yes
7440-50-8	Copper	32.7 mg/kg	Max	13.4 - 26.9 mg/kg	yes
7439-92-1	Lead	35.4 mg/kg	Max	16.5 - 60.8 mg/kg	no
7439-96-5	Manganese	649 mg/kg	Max	197 - 875 mg/kg	no
7439-97-6	Mercury	0.064 mg/kg	Max	0.039 - 0.095 mg/kg	no
7440-02-0	Nickel	27.3 mg/kg	Max	10.6 - 24.8 mg/kg	yes
7782-49-2	Selenium	0 mg/kg	Max	0.44 - 1.2 mg/kg	no
7440-22-4	Silver	1.9 mg/kg	Max	0.16 - 0.17 mg/kg	yes
7440-28-0	Thallium	0.55 mg/kg	Max	ND - 0.67 mg/kg	no
7440-62-2	Vanadium	25.2 mg/kg	Max	13.7 - 24 mg/kg	yes
7440-66-6	Zinc	114 mg/kg	Max	46 - 134 mg/kg	no

¹ Compounds detected in previous studies, including Parsons RI (2005), Malcolm-Pirnie Limited RI (1997).

ND non-detect

UCL 95% Upper Confidence Limit

Table J.7.7
Comparison of Site Concentration to Background
Mixed Depth Soils
SADVA - AOCs 1 and 7

CAS No.	Compound ¹	Exposure Point Concentration (units)	EPC Max or UCL?	Site Background Range (units)	EPC Exceeds Background?
Volatiles					
67-64-1	Acetone	2600 µg/kg	Max	ND - 3.1 µg/kg	yes
78-93-3	2-Butanone	170 µg/kg	Max		yes
100-41-4	Ethylbenzene	24 µg/kg	Max		yes
108-88-3	Toluene	4 µg/kg	Max		yes
79-01-6	Trichloroethene	3.8 µg/kg	UCL		yes
1330-20-7	Xylenes (total)	530 µg/kg	Max		yes
Semivolatiles					
86-74-8	Carbazole	1300 µg/kg	Max	ND - 54 µg/kg	yes
105-67-9	2,4-Dimethylphenol	150 µg/kg	Max		yes
84-74-2	Di-n-butyl phthalate	100 µg/kg	Max		yes
86-30-6	N-Nitrosodiphenylamine	68 µg/kg	Max		yes
CPAHs					
56-55-3	Benzo(a)anthracene	510 µg/kg	UCL	ND - 410 µg/kg	yes
50-32-8	Benzo(a)pyrene	480 µg/kg	UCL	ND - 550 µg/kg	no
205-99-2	Benzo(b)fluoranthene	580 µg/kg	UCL	ND - 620 µg/kg	no
207-08-9	Benzo(k)fluoranthene	290 µg/kg	UCL	ND - 550 µg/kg	no
218-01-9	Chrysene	2800 µg/kg	Max	ND - 680 µg/kg	yes
53-70-3	Dibenz(a,h)anthracene	220 µg/kg	UCL	ND - 55 µg/kg	yes
193-39-5	Indeno(1,2,3-cd)pyrene	350 µg/kg	UCL	ND - 230 µg/kg	yes
NPAH					
83-32-9	Acenaphthene	350 µg/kg	Max		yes
200-96-8	Acenaphthylene	120 µg/kg	Max		yes
120-12-7	Anthracene	730 µg/kg	Max	ND - 61 µg/kg	yes
132-64-9	Dibenzofuran	110 µg/kg	Max		yes
206-44-0	Fluoranthene	6100 µg/kg	Max	ND - 940 µg/kg	yes
86-73-7	Fluorene	220 µg/kg	Max	ND - 23 µg/kg	yes
91-57-6	2-Methylnaphthalene	230 µg/kg	Max		yes
91-20-3	Naphthalene	410 µg/kg	Max		yes
85-01-8	Phenanthrene	3100 µg/kg	Max	ND - 480 µg/kg	yes
129-00-0	Pyrene	4200 µg/kg	Max	ND - 750 µg/kg	yes
PESTICIDE					
72-54-8	4,4'-DDD	2.7 µg/kg	Max	ND - 1.2 µg/kg	yes
72-55-9	4,4'-DDE	2.1 µg/kg	Max	ND - 9.4 µg/kg	no
50-29-3	4,4'-DDT	6.9 µg/kg	Max	0.61 - 15 µg/kg	no
72-20-8	Endrin	0.29 µg/kg	Max		yes
7421-93-4	Endrin aldehyde (based on endrin)	2.9 µg/kg	Max		yes
PCBs					
11096-82-5	Aroclor 1260	41 µg/kg	UCL		yes
METALS					
7429-90-5	Aluminum	12000 mg/kg	UCL	7,080 - 12,800 mg/kg	no
7440-36-0	Antimony	0.36 mg/kg	Max	0.2 - 0.59 mg/kg	no
7440-38-2	Arsenic	6.7 mg/kg	UCL	4.3 - 16.4 mg/kg	no
7440-39-3	Barium	140 mg/kg	Max	33 - 104 mg/kg	yes
7440-41-7	Beryllium	1.2 mg/kg	Max	0.38 - 0.67 mg/kg	yes
7440-43-9	Cadmium	0.65 mg/kg	Max	0.21 - 0.52 mg/kg	yes
7440-47-3	Chromium (total)	64 mg/kg	UCL	9.3 - 17.5 mg/kg	yes
18540-29-9	Chromium VI	350 mg/kg	Max		yes
7440-48-4	Cobalt	15 mg/kg	Max	5.3 - 12.2 mg/kg	yes
7440-50-8	Copper	32.7 mg/kg	Max	13.4 - 26.9 mg/kg	yes
7439-92-1	Lead	35.4 mg/kg	Max	16.5 - 60.8 mg/kg	no
7439-96-5	Manganese	649 mg/kg	Max	197 - 875 mg/kg	no
7439-97-6	Mercury	0.064 mg/kg	Max	0.039 - 0.095 mg/kg	no
7440-02-0	Nickel	27.3 mg/kg	Max	10.6 - 24.8 mg/kg	yes
7782-49-2	Selenium	1 mg/kg	Max	0.44 - 1.2 mg/kg	no
7440-22-4	Silver	1.9 mg/kg	Max	0.16 - 0.17 mg/kg	yes
7440-28-0	Thallium	0.57 mg/kg	UCL	ND - 0.67 mg/kg	no
7440-62-2	Vanadium	26 mg/kg	UCL	13.7 - 24 mg/kg	yes
7440-66-6	Zinc	114 mg/kg	Max	46 - 134 mg/kg	no

¹ Compounds detected in previous studies, including Parsons RI (2005), Malcolm-Pirie Limited RI (1997).

ND non-detect

UCL 95% Upper Confidence Limit

Table J.7.8
Comparison of Site Concentration to Background
Sediment
SADVA - AOCs 1 and 7

CAS No.	Compound	Exposure Point Concentration (units)	EPC Max or UCL?	Site-specific Background/upstream Ranges (units)	EPC Exceed Background?
Volatiles					
67-64-1	Acetone	7.5 µg/kg	MAX	ND - 14 µg/kg	no
Semivolatiles					
117-81-7	bis(2-Ethylhexyl) phthalate	390 µg/kg	MAX	ND	yes
86-74-8	Carbazole	740 µg/kg	MAX	ND - 50 µg/kg	yes
132-64-9	Dibenzofuran	310 µg/kg	MAX	ND - 50 µg/kg	yes
84-74-2	Di-n-butyl Phthalate	350 µg/kg	MAX		yes
CAPHs					
56-55-3	Benzo(a)anthracene	2400 µg/kg	MAX	ND - 310 µg/kg	yes
50-32-8	Benzo(a)pyrene	2200 µg/kg	MAX	ND - 330 µg/kg	yes
205-99-2	Benzo(b)fluoranthene	1900 µg/kg	MAX	ND - 440 µg/kg	yes
207-08-9	Benzo(k)fluoranthene	2300 µg/kg	MAX	ND - 360 µg/kg	yes
218-01-9	Chrysene	2400 µg/kg	MAX	ND - 730 µg/kg	yes
53-70-3	Dibenz(a,h)anthracene	280 µg/kg	MAX	ND	yes
193-39-5	Indeno(1,2,3-cd)pyrene	650 µg/kg	MAX	ND - 78 µg/kg	yes
NAPHs					
83-32-9	Acenaphthene	700 µg/kg	MAX	ND - 92 µg/kg	yes
120-12-7	Anthracene	1500 µg/kg	MAX	ND - 170 µg/kg	yes
191-24-2	Benzo(ghi)perylene	570 µg/kg	MAX	ND - 66 µg/kg	yes
206-44-0	Fluoranthene	5400 µg/kg	MAX	ND - 1,200 µg/kg	yes
86-73-7	Fluorene	650 µg/kg	MAX	ND - 100 µg/kg	yes
91-57-6	2-Methylnaphthalene	230 µg/kg	MAX	ND	yes
91-20-3	Naphthalene	300 µg/kg	MAX	ND - 210 µg/kg	yes
85-01-8	Phenanthrene	5800 µg/kg	MAX	ND - 400 µg/kg	yes
129-00-0	Pyrene	3600 µg/kg	MAX	ND - 920 µg/kg	yes
PCBs					
11097-69-1	Aroclor 1254	290 µg/kg	MAX	ND	yes
Pesticides					
319-85-7	beta-BHC	4.5 µg/kg	MAX		yes
319-86-8	delta-BHC	3.2 µg/kg	MAX	ND	yes
58-89-9	gamma-BHC (lindane)	1.5 µg/kg	MAX		yes
5103-71-9	alpha-Chlordane	1.1 µg/kg	MAX	ND	yes
72-54-8	4,4'-DDD	2400 µg/kg	MAX	ND	yes
72-55-9	4,4'-DDE	540 µg/kg	MAX	ND - 0.23 µg/kg	yes
50-29-3	4,4'-DDT	630 µg/kg	MAX	ND	yes
959-99-8	Endosulfan I	3.6 µg/kg	MAX		yes
33213-65-9	Endosulfan II	0.31 µg/kg	MAX		yes
72-20-8	Endrin	0.23 µg/kg	MAX	ND	yes
Metals					
7429-90-5	Aluminum	16400 mg/kg	Max	8040 - 17,900 mg/kg	no
7440-36-0	Antimony	7.9 mg/kg	MAX	ND - 0.44 mg/kg	yes
7440-38-2	Arsenic	9.5 mg/kg	MAX	3.1 - 5.1 mg/kg	yes
7440-39-3	Barium	258 mg/kg	MAX	53.9 - 141 mg/kg	yes
7440-41-7	Beryllium	2.5 mg/kg	UCL	0.62 - 0.92 mg/kg	yes
7440-43-9	Cadmium	1.2 mg/kg	MAX	ND - 0.75 mg/kg	yes
7440-47-3	Chromium	359 mg/kg	MAX	11.2 - 22 mg/kg	yes
7440-48-4	Cobalt	47.4 mg/kg	MAX	7.1 - 14 mg/kg	yes
7440-50-8	Copper	491 mg/kg	MAX	13 - 27.7 mg/kg	yes
7439-92-1	Lead	450 mg/kg	UCL	7.8 - 20.9 mg/kg	yes
7439-96-5	Manganese	1500 mg/kg	UCL	328 - 647 mg/kg	yes
7439-97-6	Mercury	0.11 mg/kg	MAX	0.027 - 0.091 mg/kg	yes
7440-02-0	Nickel	124 mg/kg	MAX	15.6 - 24.5 mg/kg	yes
7782-49-2	Selenium	1.5 mg/kg	MAX	ND - 0.81 mg/kg	yes
7440-22-4	Silver	0.66 mg/kg	MAX	ND - 0.5 mg/kg	yes
7440-28-0	Thallium	0.58 mg/kg	MAX	ND - 1.5 mg/kg	no
7440-62-2	Vanadium	57 mg/kg	UCL	14.6 - 28.4 mg/kg	yes
7440-66-6	Zinc	2960 mg/kg	MAX	47.7 - 118 mg/kg	yes

ND not detected
UCL 95% Upper Confidence Limit

Table J.7.9
Comparison of Site Concentration to Background
Surface Water
SADVA - AOCs 1 and 7

CAS No.	Compound ¹	Exposure Point Concentration (units)	EPC Max or UCL?	Site-specific Upstream Concentration Range (units)	Exceeds Background
	Volatiles				
67-64-1	Acetone	10 µg/L	MAX	ND - 2 µg/L	yes
75-15-0	Carbon disulfide	0.99 µg/L	MAX		yes
75-34-3	1,1-Dichloroethane	27 µg/L	MAX		yes
108-88-3	Toluene	0.24 µg/L	MAX		yes
79-01-6	Trichloroethene	6.42 µg/L	UCL		yes
	Semivolatiles				
117-81-7	bis(2-Ethylhexyl) phthalate	73 µg/L	MAX	ND - 26 µg/L	yes
	Metals				
7429-90-5	Aluminum	313 µg/L	MAX	23 - 346 µg/L	no
7440-38-2	Arsenic	1.75 µg/L	UCL		yes
7440-39-3	Barium	55 µg/L	MAX	23 - 44 µg/L	yes
7440-41-7	Beryllium	0.09 µg/L	MAX	0.14 - 0.96 µg/L	no
7440-43-9	Cadmium	30 µg/L	MAX		yes
7440-47-3	Chromium	6.09 µg/L	UCL	ND - 1.40 µg/L	yes
7440-50-8	Copper	3.7 µg/L	MAX	ND - 2.50 µg/L	yes
7439-92-1	Lead	20.6 µg/L	MAX		yes
7439-96-5	Manganese	320 µg/L	MAX	105 - 691 µg/L	no
7439-97-6	Mercury	0.058 µg/L	MAX	0.065 - 0.093 µg/L	no
7782-49-2	Selenium	2.6 µg/L	MAX	µg/L	yes
7440-66-6	Zinc	24.3 µg/L	MAX	3.90 - 22 µg/L	yes

¹ COCs detected in previous studies, including Parsons RI and Malcolm-Pirnie Limited RI, AOC 1.

Table J.7.10
Comparison to NYSDEC Screening Criteria
Surface Soil
SADVA - AOCs 1 and 7

CAS No.	Compound ¹	Exposure Point Concentration (units)	EPC Max or UCL?	NYSDEC Recommended Soil Cleanup Objective (units)	EPC Exceed NYSDEC?	Residential USEPA Region 6 Risk-Based Screening Level (units)	EPC Exceed USEPA Residential?	Industrial USEPA Region 6 Risk-Based Screening Level (units) ²	EPC Exceed USEPA Industrial?
Volatiles									
67-64-1	Acetone	2600 µg/kg	Max	200 µg/kg	yes	14,000,000 µg/kg	no	60,000,000 µg/kg	no
78-93-3	2-Butanone	170 µg/kg	Max	300 µg/kg	no	32,000,000 µg/kg	no	130,000,000 µg/kg	no
100-41-4	Ethylbenzene	24 µg/kg	Max	5,500 µg/kg	no	230,000 µg/kg	no	6,500,000 µg/kg	no
108-88-3	Toluene	4 µg/kg	Max	1,500 µg/kg	no	520,000 µg/kg	no	22,000,000 µg/kg	no
79-01-6	Trichloroethene	4.4 µg/kg	UCL	700 µg/kg	no	46 µg/kg	no	100 µg/kg	no
1330-20-7	Xylenes (total)	530 µg/kg	Max	1,200 µg/kg	no	210,000 µg/kg	no	710,000 µg/kg	no
Semivolatiles									
86-74-8	Carbazole	1300 µg/kg	Max	N/A	no	24000 µg/kg	no	96,000 µg/kg	no
105-67-9	2,4-Dimethylphenol	150 µg/kg	Max	N/A	no	1,200,000 µg/kg	no	14,000,000 µg/kg	no
84-74-2	Di-n-butyl phthalate	100 µg/kg	Max	8,100 µg/kg	no	6,100,000 µg/kg	no	68,000,000 µg/kg	no
86-30-6	N-Nitrosodiphenylamine	68 µg/kg	Max	N/A	no	99,000 µg/kg	no	390,000 µg/kg	no
CPAHs									
56-55-3	Benzo(a)anthracene	730 µg/kg	UCL	224 µg/kg	yes	620 µg/kg	yes	2,300 µg/kg	no
50-32-8	Benzo(a)pyrene	700 µg/kg	UCL	61 µg/kg	yes	62 µg/kg	yes	230 µg/kg	yes
205-99-2	Benzo(b)fluoranthene	850 µg/kg	UCL	1,100 µg/kg	no	620 µg/kg	yes	2,300 µg/kg	no
218-01-9	Chrysene	2800 µg/kg	Max	400 µg/kg	yes	62,000 µg/kg	no	230,000 µg/kg	no
53-70-3	Dibenz(a,h)anthracene	230 µg/kg	UCL	14 µg/kg	yes	62 µg/kg	yes	230 µg/kg	no
193-39-5	Indeno(1,2,3-cd)pyrene	460 µg/kg	UCL	3,200 µg/kg	no	620 µg/kg	no	2,300 µg/kg	no
NPAH									
83-32-9	Acenaphthene	350 µg/kg	Max	50,000 µg/kg	no	3,700,000 µg/kg	no	33,000,000 µg/kg	no
200-96-8	Acenaphthylene (as Acenaphthene)	120 µg/kg	Max	41,000 µg/kg	no	3,700,000 µg/kg	no	33,000,000 µg/kg	no
120-12-7	Anthracene	730 µg/kg	Max	50,000 µg/kg	no	22,000,000 µg/kg	no	260,000,000 µg/kg	no
132-64-9	Dibenzofuran	120 µg/kg	Max	6,200 µg/kg	no	150,000 µg/kg	no	1,700,000 µg/kg	no
206-44-0	Fluoranthene	6100 µg/kg	Max	50,000 µg/kg	no	2,300,000 µg/kg	no	24,000,000 µg/kg	no
86-73-7	Fluorene	220 µg/kg	Max	50,000 µg/kg	no	2,600,000 µg/kg	no	26,000,000 µg/kg	no
91-57-6	2-Methylnaphthalene (as Naphthalene)	230 µg/kg	Max	36,400 µg/kg	no	2,600,000 µg/kg	no	26,000,000 µg/kg	no
91-20-3	Naphthalene	410 µg/kg	Max	13,000 µg/kg	no	120,000 µg/kg	no	210,000 µg/kg	no
85-01-8	Phenanthrene (as Pyrene)	3100 µg/kg	Max	50,000 µg/kg	no	120,000 µg/kg	no	210,000 µg/kg	no
129-00-0	Pyrene	4200 µg/kg	Max	50,000 µg/kg	no	2,300,000 µg/kg	no	32,000,000 µg/kg	no
PESTICIDE									
72-54-8	4,4'-DDD	2.7 µg/kg	Max	2900 µg/kg	no	2,400 µg/kg	no	11,000 µg/kg	no
72-20-8	Endrin	0.29 µg/kg	Max	100 µg/kg	no	18,000 µg/kg	no	210,000 µg/kg	no
7421-93-4	Endrin aldehyde (based on endrin)	2.9 µg/kg	Max	100 µg/kg	no	18,000 µg/kg	no	210,000 µg/kg	no
PCBs									
11096-82-5	Aroclor 1260	160 µg/kg	Max	1,000 µg/kg	no	220 µg/kg	no	830 µg/kg	no
METALS									
7440-43-9	Cadmium	0.65 mg/kg	Max	1 mg/kg	no	39 mg/kg	no	560 mg/kg	no
7440-47-3	Chromium (total)	110 mg/kg	UCL	10 mg/kg	yes	210 mg/kg	no	500 mg/kg	no
18540-29-9	Chromium VI	350 mg/kg	Max	-- mg/kg	no	30 mg/kg	yes	71 mg/kg	yes
7440-48-4	Cobalt	13.3 mg/kg	Max	30 mg/kg	no	900 mg/kg	no	2,100 mg/kg	no
7440-50-8	Copper	32.7 mg/kg	Max	25 mg/kg	yes	2,900 mg/kg	no	42,000 mg/kg	no
7440-02-0	Nickel	27.3 mg/kg	Max	13 mg/kg	yes	1,600 mg/kg	no	23,000 mg/kg	no
7440-22-4	Silver	1.9 mg/kg	Max	-- mg/kg	no	290 mg/kg	no	5,700 mg/kg	no
7440-62-2	Vanadium	25.2 mg/kg	Max	150 mg/kg	no	78 mg/kg	no	1,100 mg/kg	no

¹ Compounds detected in previous studies, including Parsons RI (2005), Malcolm-Pirnie Limited RI (1997).

ND non-detect
UCL 95% Upper Confidence Limit

Table J.7.11
Comparison to NYSDEC Screening Criteria
Mixed Depth Soils
SADVA - AOCs 1 and 7

CAS No.	Compound ¹	Exposure Point Concentration (units)		EPC Max or UCL?	NYSDEC Recommended Soil Cleanup Objective (units)		EPC Exceed NYSDEC?	Residential USEPA Region 6 Risk-Based Screening Level (units)		EPC Exceed USEPA Residential?	Industrial USEPA Region 6 Risk-Based Screening Level (units)		EPC Exceed USEPA Industrial?
	Volatiles												
67-64-1	Acetone	2600	µg/kg	Max	200	µg/kg	yes	14,000,000	µg/kg	no	60,000,000	µg/kg	no
78-93-3	2-Butanone	170	µg/kg	Max	300	µg/kg	no	32,000,000	µg/kg	no	130,000,000	µg/kg	no
100-41-4	Ethylbenzene	24	µg/kg	Max	5,500	µg/kg	no	230,000	µg/kg	no	6,500,000	µg/kg	no
108-88-3	Toluene	4	µg/kg	Max	1,500	µg/kg	no	520,000	µg/kg	no	22,000,000	µg/kg	no
79-01-6	Trichloroethene	3.8	µg/kg	UCL	700	µg/kg	no	46	µg/kg	no	100	µg/kg	no
1330-20-7	Xylenes (total)	530	µg/kg	Max	1,200	µg/kg	no	210,000	µg/kg	no	710,000	µg/kg	no
	Semivolatiles												
86-74-8	Carbazole	1300	µg/kg	Max	N/A		no	24,000	µg/kg	no	96,000	µg/kg	no
105-67-9	2,4-Dimethylphenol	150	µg/kg	Max	N/A		no	1,200,000	µg/kg	no	14,000,000	µg/kg	no
84-74-2	Di-n-butyl phthalate	100	µg/kg	Max	8,100	µg/kg	no	6,100,000	µg/kg	no	68,000,000	µg/kg	no
86-30-6	N-Nitrosodiphenylamine	68	µg/kg	Max	N/A		no	99,000	µg/kg	no	390,000	µg/kg	no
	CPAHs												
56-55-3	Benzo(a)anthracene	510	µg/kg	UCL	224	µg/kg	yes	620	µg/kg	no	2,300	µg/kg	no
218-01-9	Chrysene	2800	µg/kg	Max	400	µg/kg	yes	62,000	µg/kg	no	230,000	µg/kg	no
53-70-3	Dibenz(a,h)anthracene	220	µg/kg	UCL	14	µg/kg	yes	62	µg/kg	yes	230	µg/kg	no
193-39-5	Indeno(1,2,3-cd)pyrene	350	µg/kg	UCL	3,200	µg/kg	no	620	µg/kg	no	2,300	µg/kg	no
	NPAH												
83-32-9	Acenaphthene	350	µg/kg	Max	50,000	µg/kg	no	3,700,000	µg/kg	no	33,000,000	µg/kg	no
200-96-8	Acenaphthylene	120	µg/kg	Max	41,000	µg/kg	no	3,700,000	µg/kg	no	33,000,000	µg/kg	no
120-12-7	Anthracene	730	µg/kg	Max	50,000	µg/kg	no	22,000,000	µg/kg	no	260,000,000	µg/kg	no
132-64-9	Dibenzofuran	110	µg/kg	Max	6,200	µg/kg	no	150,000	µg/kg	no	1,700,000	µg/kg	no
206-44-0	Fluoranthene	6100	µg/kg	Max	50,000	µg/kg	no	2,300,000	µg/kg	no	24,000,000	µg/kg	no
86-73-7	Fluorene	220	µg/kg	Max	50,000	µg/kg	no	2,600,000	µg/kg	no	26,000,000	µg/kg	no
91-57-6	2-Methylnaphthalene	230	µg/kg	Max	36,400	µg/kg	no	120,000	µg/kg	no	210,000	µg/kg	no
91-20-3	Naphthalene	410	µg/kg	Max	13,000	µg/kg	no	120,000	µg/kg	no	210,000	µg/kg	no
85-01-8	Phenanthrene	3100	µg/kg	Max	50,000	µg/kg	no	2,300,000	µg/kg	no	32,000,000	µg/kg	no
129-00-0	Pyrene	4200	µg/kg	Max	50,000	µg/kg	no	2,300,000	µg/kg	no	32,000,000	µg/kg	no
	PESTICIDE												
72-54-8	4,4'-DDD	2.7	µg/kg	Max	2900	µg/kg	no	2,400	µg/kg	no	11,000	µg/kg	no
72-20-8	Endrin	0.29	µg/kg	Max	100	µg/kg	no	18,000	µg/kg	no	210,000	µg/kg	no
7421-93-4	Endrin aldehyde (based on)	2.9	µg/kg	Max	100	µg/kg	no	18,000	µg/kg	no	210,000	µg/kg	no
	PCBs												
11096-82-5	Aroclor 1260	41	µg/kg	UCL	1,000	µg/kg	no	220	µg/kg	no	830	µg/kg	no
	METALS												
7440-39-3	Barium	140	mg/kg	Max	300	mg/kg	no	16,000	mg/kg	no	230,000	mg/kg	no
7440-41-7	Beryllium	1.2	mg/kg	Max	0.16	mg/kg	yes	150	mg/kg	no	2,200	mg/kg	no
7440-43-9	Cadmium	0.65	mg/kg	Max	1	mg/kg	no	39	mg/kg	no	560	mg/kg	no
7440-47-3	Chromium (total)	64	mg/kg	UCL	10	mg/kg	yes	210	mg/kg	no	500	mg/kg	no
18540-29-9	Chromium VI	350	mg/kg	Max	N/A	mg/kg	no	30	mg/kg	yes	71	mg/kg	yes
7440-48-4	Cobalt	15	mg/kg	Max	30	mg/kg	no	900	mg/kg	no	2,100	mg/kg	no
7440-50-8	Copper	32.7	mg/kg	Max	25	mg/kg	yes	2,900	mg/kg	no	42,000	mg/kg	no
7440-02-0	Nickel	27.3	mg/kg	Max	13	mg/kg	yes	1,600	mg/kg	no	23,000	mg/kg	no
7440-22-4	Silver	1.9	mg/kg	Max	--	mg/kg	no	290	mg/kg	no	5,700	mg/kg	no
7440-62-2	Vanadium	26	mg/kg	UCL	150	mg/kg	no	78	mg/kg	no	1,100	mg/kg	no

¹ Compounds detected in previous studies, including Parsons RI (2005), Malcolm-Pirnie Limited RI (1997).

UCL 95% Upper Confidence Limit
N/A Criterion not available

Table J.7.12
Comparison to NYSDEC Screening Criteria
Sediment
SADVA - AOCs 1 and 7

CAS No.	Compound	Exposure Point Concentration (units)		EPC Max or UCL?	NYSDEC Recommended Cleanup Objective (units)		EPC Exceed NYSDEC?	TRRP Sediment Protective Concentration Level (units)		EPC Exceed TRRP?
	Semivolatiles									
117-81-7	bis(2-Ethylhexyl) phthalate	390	µg/kg	MAX	2,925	C µg/kg	no	240,000	µg/kg	no
86-74-8	Carbazole	740	µg/kg	MAX	N/A		no	710,000	µg/kg	no
132-64-9	Dibenzofuran	310	µg/kg	MAX	N/A		no	610,000	µg/kg	no
84-74-2	Di-n-butyl Phthalate	350	µg/kg	MAX	N/A		no	15,000,000	µg/kg	no
	CAPHs									
56-55-3	Benzo(a)anthracene	2400	µg/kg	MAX	19	C µg/kg	yes	16,000	µg/kg	no
50-32-8	Benzo(a)pyrene	2200	µg/kg	MAX	19	H µg/kg	yes	16,000	µg/kg	no
205-99-2	Benzo(b)fluoranthene	1900	µg/kg	MAX	19	H µg/kg	yes	16,000	µg/kg	no
207-08-9	Benzo(k)fluoranthene	2300	µg/kg	MAX	19	H µg/kg	yes	16,000	µg/kg	no
218-01-9	Chrysene	2400	µg/kg	MAX	19	H µg/kg	yes	1,600,000	µg/kg	no
53-70-3	Dibenz(a,h)anthracene	280	µg/kg	MAX	88	LM µg/kg	yes	16,000	µg/kg	no
193-39-5	Indeno(1,2,3-cd)pyrene	650	µg/kg	MAX	19	H µg/kg	yes	16,000	µg/kg	no
	NAPHs									
83-32-9	Acenaphthene	700	µg/kg	MAX	2,058	C µg/kg	no	7,400,000	µg/kg	no
120-12-7	Anthracene	1500	µg/kg	MAX	1,573	C µg/kg	no	37,000,000	µg/kg	no
191-24-2	Benzo(ghi)perylene	570	µg/kg	MAX	N/A		no	3,700,000	µg/kg	no
206-44-0	Fluoranthene	5400	µg/kg	MAX	14,994	C µg/kg	no	4,900,000	µg/kg	no
86-73-7	Fluorene	650	µg/kg	MAX	118	C µg/kg	yes	4,900,000	µg/kg	no
91-57-6	2-Methylnaphthalene	230	µg/kg	MAX	500	C µg/kg	no	490,000	µg/kg	no
91-20-3	Naphthalene	300	µg/kg	MAX	441	C µg/kg	no	2,500,000	µg/kg	no
85-01-8	Phenanthrene	5800	µg/kg	MAX	1,764	C µg/kg	yes	3,700,000	µg/kg	no
129-00-0	Pyrene	3600	µg/kg	MAX	14,127	C µg/kg	no	3,700,000	µg/kg	no
	PCBs									
11097-69-1	Aroclor 1254	290	µg/kg	MAX	284	C µg/kg	yes	2,300	µg/kg	no
	Pesticides									
319-85-7	beta-BHC	4.5	µg/kg	MAX	N/A		no	14,000	µg/kg	no
319-86-8	delta-BHC	3.2	µg/kg	MAX	N/A		no	14,000	µg/kg	no
58-89-9	gamma-BHC (lindane)	1.5	µg/kg	MAX	N/A		no	20,000	µg/kg	no
5103-71-9	alpha-Chlordane	1.1	µg/kg	MAX	0.44	C µg/kg	yes	41,000	µg/kg	no
72-54-8	4,4'-DDD	2400	µg/kg	MAX	14.7	W µg/kg	yes	120,000	µg/kg	no
72-55-9	4,4'-DDE	540	µg/kg	MAX	14.7	W µg/kg	yes	87,000	µg/kg	no
50-29-3	4,4'-DDT	630	µg/kg	MAX	14.7	C µg/kg	yes	87,000	µg/kg	no
959-99-8	Endosulfan I	3.6	µg/kg	MAX	N/A		no	310,000	µg/kg	no
33213-65-9	Endosulfan II	0.31	µg/kg	MAX	N/A		no	920,000	µg/kg	no
72-20-8	Endrin	0.23	µg/kg	MAX	0.59	C µg/kg	no	46,000	µg/kg	no

Table J.7.12
Comparison to NYSDEC Screening Criteria
Sediment
SADVA - AOCs 1 and 7

CAS No.	Compound	Exposure Point Concentration (units)		EPC Max or UCL?	NYSDEC Recommended Cleanup Objective (units)		EPC Exceed NYSDEC?	TRRP Sediment Protective Concentration Level (units)		EPC Exceed TRRP?
	Metals									
7440-36-0	Antimony	7.9	mg/kg	MAX	2	L mg/kg	yes	83	mg/kg	no
7440-38-2	Arsenic	9.5	mg/kg	MAX	6	L mg/kg	yes	110	mg/kg	no
7440-39-3	Barium	258	mg/kg	MAX	N/A		no	23,000	mg/kg	no
7440-41-7	Beryllium	2.5	mg/kg	UCL	N/A		no	27	mg/kg	no
7440-43-9	Cadmium	1.2	mg/kg	MAX	0.6	L mg/kg	yes	1,100	mg/kg	no
7440-47-3	Chromium	359	mg/kg	MAX	26	L mg/kg	yes	36,000	mg/kg	no
7440-48-4	Cobalt	47.4	mg/kg	MAX	N/A		no	32,000	mg/kg	no
7440-50-8	Copper	491	mg/kg	MAX	16	L mg/kg	yes	21,000	mg/kg	no
7439-92-1	Lead	450	mg/kg	UCL	31	L mg/kg	yes	500	mg/kg	no
7439-96-5	Manganese	1500	mg/kg	UCL	460	L mg/kg	yes	14,000	mg/kg	no
7439-97-6	Mercury	0.11	mg/kg	MAX	0.15	L mg/kg	no	34	mg/kg	no
7440-02-0	Nickel	124	mg/kg	MAX	16	L mg/kg	yes	1,400	mg/kg	no
7782-49-2	Selenium	1.5	mg/kg	MAX	N/A		no	2,700	mg/kg	no
7440-22-4	Silver	0.66	mg/kg	MAX	1	L mg/kg	no	350	mg/kg	no
7440-62-2	Vanadium	57	mg/kg	UCL	N/A		no	330	mg/kg	no
7440-66-6	Zinc	2960	mg/kg	MAX	120	L mg/kg	yes	76,000	mg/kg	no

N/A screening criteria not available
 (C) Benthic Aquatic Chronic Criteria (TOC Adjusted) (NYSDEC, 1999)
 (H) Human health Bioaccumulation (TOC Adjusted), (NYSDEC, 1999)
 (LM) Medium effects level (TOC adjusted) (Long and Morgan 1990)
 (W) Wildlife Bioaccumulation criteria (TOC adjusted) (NYSDEC, 1999)
 (L) Lowest effect level (metals) (NYSDEC, 1999)
 UCL 95% Upper Confidence Limit

Table J.7.13
Comparison to NYSDEC Screening Criteria
Surface Water
SADVA - AOCs 1 and 7

CAS No.	Compound ¹	Exposure Point Concentration (units)	EPC Max or UCL?	NYSDEC Class A Surface Water (units)	Water Class A: Type	NYSDEC Class C Surface Water (units)	Water Class C: Type	EPC Exceed NYSDEC Class A?	EPC Exceed NYSDEC Class C?	USEPA Region 6 Risk-Based Screening Level (units)	EPC Exceed USEPA?
Volatiles											
67-64-1	Acetone	10 µg/L	MAX	N/A		N/A		no	no	5,400 µg/L	no
75-15-0	Carbon disulfide	0.99 µg/L	MAX	N/A		N/A		no	no	1,000 µg/L	no
75-34-3	1,1-Dichloroethane	27 µg/L	MAX	N/A		N/A		no	no	1,200 µg/L	no
108-88-3	Toluene	0.24 µg/L	MAX	5 µg/L	H(WS)	6,000 µg/L	H(FC)	no	no	2,300 µg/L	no
79-01-6	Trichloroethene	6.42 µg/L	UCL	5 µg/L	H(WS)	N/A		yes	no	0.028 µg/L	yes
Semivolatiles											
117-81-7	bis(2-Ethylhexyl) phthalate	73 µg/L	MAX	5 µg/L	H(WS)	N/A		yes	no	4.80 µg/L	yes
Metals											
7440-38-2	Arsenic	1.75 µg/L	UCL	50 µg/L	H(WS)	N/A		no	no	0.045 µg/L	yes
7440-39-3	Barium	55 µg/L	MAX	1,000 µg/L	H(WS)	N/A		no	no	7,300 µg/L	no
7440-43-9	Cadmium	30 µg/L	MAX	5 µg/L	H(WS)	N/A		yes	no	18 µg/L	yes
7440-47-3	Chromium	6.09 µg/L	UCL	50 µg/L	H(WS)	53 µg/L	A(C) ^{3*}	no	no	110 µg/L	no
7440-50-8	Copper	3.7 µg/L	MAX	200 µg/L	H(WS)	6 µg/L	A(C) ^{4*}	no	no	1,400 µg/L	no
7439-92-1	Lead	20.6 µg/L	MAX	50 µg/L	H(WS)	NC	A(C) ^{5*}	no	no	15 µg/L	yes
7782-49-2	Selenium	2.6 µg/L	MAX	10 µg/L	H(WS)	4.60 µg/L	A(C) [*]	no	no	180 µg/L	no
7440-66-6	Zinc	24.3 µg/L	MAX	N/A	A(C)	N/A	A(C) ⁶	no	no	11,000 µg/L	no

¹ COCs detected in previous studies, including Parsons RI and Malcolm-Pirnie Limited RI, AOC 1.

² Based on average hardness less than 75 ppm (mg/kg).

³ Calculated as: $(0.86)\exp(0.819[\ln \text{ppm hardness}]) + 0.6848$.

⁴ Calculated as: $(0.96)\exp(0.8545[\ln \text{ppm hardness}]) - 1.702$.

⁵ Calculated as: $\{1.46203 - [\ln \text{ppm hardness}] * 0.145712\}\exp[\ln \text{ppm hardness}] - 4.297$.

⁶ Calculated as: $\exp(0.85[\ln \text{ppm hardness}]) + 0.884$.

H(WS) Source of Drinking Water (surface water).

H(FC) Human consumption of Fish (fresh water).

A(C) Fish Propagation (fresh water).

E Aesthetic (fresh water).

N/A Screening value not available.

[^] Ionic form.

^{*} Dissolved form.

Table J.7.14
Risk Ratio Calculations
Surface Soil
SADVA - AOCs 1 and 7

CAS No.	Compound ¹	Exposure Point Concentration (units)	EPC Max or UCL?	Residential USEPA Region 6 Risk-Based Screening Level (units)	Industrial USEPA Region 6 Risk-Based Screening Level (units) ²	Carcinogenic?	Residential Non-Carc Risk Ratio (EPC/USEPA)	Residential Carc Risk Ratio (EPC/USEPA)	Industrial Non-Carc Risk Ratio (EPC/USEPA)	Industrial Carc Risk Ratio (EPC/USEPA)
Volatiles										
67-64-1	Acetone	2600 µg/kg	Max	14,000,000 µg/kg	60000000 µg/kg	no	1.9E-04	--	4.3E-05	--
78-93-3	2-Butanone	170 µg/kg	Max	32,000,000 µg/kg	130000000 µg/kg	no	5.3E-06	--	1.3E-06	--
100-41-4	Ethylbenzene	24 µg/kg	Max	230,000 µg/kg	6500000 µg/kg	no	1.0E-04	--	3.7E-06	--
108-88-3	Toluene	4 µg/kg	Max	520,000 µg/kg	22000000 µg/kg	no	7.7E-06	--	1.8E-07	--
79-01-6	Trichloroethene	4.4 µg/kg	UCL	46 µg/kg	100 µg/kg	yes	--	9.6E-08	--	4.4E-08
1330-20-7	Xylenes (total)	530 µg/kg	Max	210,000 µg/kg	710000 µg/kg	no	2.5E-03	--	7.5E-04	--
Semivolatiles										
86-74-8	Carbazole	1300 µg/kg	Max	24000 µg/kg	96000 µg/kg	yes	--	5.4E-08	--	1.4E-08
105-67-9	2,4-Dimethylphenol	150 µg/kg	Max	1,200,000 µg/kg	14000000 µg/kg	no	1.3E-04	--	1.1E-05	--
84-74-2	Di-n-butyl phthalate	100 µg/kg	Max	6,100,000 µg/kg	68000000 µg/kg	no	1.6E-05	--	1.5E-06	--
86-30-6	N-Nitrosodiphenylamine	68 µg/kg	Max	99,000 µg/kg	390000 µg/kg	yes	--	6.9E-10	--	1.7E-10
CPAHs										
56-55-3	Benzo(a)anthracene	730 µg/kg	UCL	620 µg/kg	2300 µg/kg	yes	--	1.2E-06	--	3.2E-07
50-32-8	Benzo(a)pyrene	700 µg/kg	UCL	62 µg/kg	230 µg/kg	yes	--	1.1E-05	--	3.0E-06
205-99-2	Benzo(b)fluoranthene	850 µg/kg	UCL	620 µg/kg	2300 µg/kg	yes	--	1.4E-06	--	3.7E-07
218-01-9	Chrysene	2800 µg/kg	Max	62,000 µg/kg	230000 µg/kg	yes	--	4.5E-08	--	1.2E-08
53-70-3	Dibenz(a,h)anthracene	230 µg/kg	UCL	62 µg/kg	230 µg/kg	yes	--	3.7E-06	--	1.0E-06
193-39-5	Indeno(1,2,3-cd)pyrene	460 µg/kg	UCL	620 µg/kg	2300 µg/kg	yes	--	7.4E-07	--	2.0E-07
NPAH										
83-32-9	Acenaphthene	350 µg/kg	Max	3,700,000 µg/kg	33000000 µg/kg	no	9.5E-05	--	1.1E-05	--
200-96-8	Acenaphthylene (as Acenaphthene)	120 µg/kg	Max	3,700,000 µg/kg	33000000 µg/kg	no	3.2E-05	--	3.6E-06	--
120-12-7	Anthracene	730 µg/kg	Max	22,000,000 µg/kg	260000000 µg/kg	no	3.3E-05	--	2.8E-06	--
132-64-9	Dibenzofuran	120 µg/kg	Max	150,000 µg/kg	1700000 µg/kg	no	8.0E-04	--	7.1E-05	--
206-44-0	Fluoranthene	6100 µg/kg	Max	2,300,000 µg/kg	24000000 µg/kg	no	2.7E-03	--	2.5E-04	--
86-73-7	Fluorene	220 µg/kg	Max	2,600,000 µg/kg	26000000 µg/kg	no	8.5E-05	--	8.5E-06	--
91-57-6	2-Methylnaphthalene (as Naphthalene)	230 µg/kg	Max	2,600,000 µg/kg	26000000 µg/kg	no	8.8E-05	--	8.8E-06	--
91-20-3	Naphthalene	410 µg/kg	Max	120,000 µg/kg	210000 µg/kg	no	3.4E-03	--	2.0E-03	--
85-01-8	Phenanthrene (as Pyrene)	3100 µg/kg	Max	120,000 µg/kg	210000 µg/kg	no	2.6E-02	--	1.5E-02	--
129-00-0	Pyrene	4200 µg/kg	Max	2,300,000 µg/kg	32000000 µg/kg	no	1.8E-03	--	1.3E-04	--
PESTICIDE										
72-54-8	4,4'-DDD	2.7 µg/kg	Max	2,400 µg/kg	11000 µg/kg	yes	--	1.1E-09	--	2.5E-10
72-20-8	Endrin	0.29 µg/kg	Max	18,000 µg/kg	210000 µg/kg	no	1.6E-05	--	1.4E-06	--
7421-93-4	Endrin aldehyde (based on endrin)	2.9 µg/kg	Max	18,000 µg/kg	210000 µg/kg	no	1.6E-04	--	1.4E-05	--
PCBs										
11096-82-5	Aroclor 1260	160 µg/kg	Max	220 µg/kg	830 µg/kg	yes	--	7.3E-07	--	1.9E-07
METALS										
7440-43-9	Cadmium	0.65 mg/kg	Max	39 mg/kg	560 mg/kg	no	1.7E-02	--	1.2E-03	--
7440-47-3	Chromium (total)	110 mg/kg	UCL	210 mg/kg	500 mg/kg	no	5.2E-01	--	2.2E-01	--
18540-29-9	Chromium VI	350 mg/kg	Max	30 mg/kg	71 mg/kg	yes	--	1.2E-05	--	4.9E-06
7440-48-4	Cobalt	13.3 mg/kg	Max	900 mg/kg	2100 mg/kg	yes	--	1.5E-08	--	6.3E-09
7440-50-8	Copper	32.7 mg/kg	Max	2,900 mg/kg	42000 mg/kg	no	1.1E-02	--	7.8E-04	--
7440-02-0	Nickel	27.3 mg/kg	Max	1,600 mg/kg	23000 mg/kg	no	1.7E-02	--	1.2E-03	--
7440-22-4	Silver	1.9 mg/kg	Max	290 mg/kg	5700 mg/kg	no	6.6E-03	--	3.3E-04	--
7440-62-2	Vanadium	25.2 mg/kg	Max	78 mg/kg	1100 mg/kg	no	3.2E-01	--	2.3E-02	--

¹ Compounds detected in previous studies, including Parsons RI (2005), Malcolm-Pirie Limited RI (1997).

0.94 3.1E-05 0.26 1.0E-05

UCL 95% Upper Confidence Limit

Table J.7.15
Risk Ratio Calculations
Mixed Depth Soils
SADVA - AOCs 1 and 7

					Residential USEPA Region 6 Risk-Based Screening Level (units)		Industrial USEPA Region 6 Risk-Based Screening Level (units)			Residenti al Non-Carc Risk Ratio (EPC/USE PA)	Residential Carc Risk Ratio (EPC/USEPA)	Industrial Non-Carc Risk Ratio (EPC/USEP A)	Industrial Carc Risk Ratio (EPC/USEPA)
CAS No.	Compound ¹	Exposure Point Concentration		EPC Max or UCL?					Carcino-genic?				
Volatiles													
67-64-1	Acetone	2600	µg/kg	Max	14,000,000	µg/kg	60000000	µg/kg	no	1.9E-04	--	4.3E-05	--
78-93-3	2-Butanone	170	µg/kg	Max	32,000,000	µg/kg	130000000	µg/kg	no	5.3E-06	--	1.3E-06	--
100-41-4	Ethylbenzene	24	µg/kg	Max	230,000	µg/kg	6500000	µg/kg	no	1.0E-04	--	3.7E-06	--
108-88-3	Toluene	4	µg/kg	Max	520,000	µg/kg	22000000	µg/kg	no	7.7E-06	--	1.8E-07	--
79-01-6	Trichloroethene	3.8	µg/kg	UCL	46	µg/kg	100	µg/kg	yes	--	8.3E-08	--	3.8E-08
1330-20-7	Xylenes (total)	530	µg/kg	Max	210,000	µg/kg	710000	µg/kg	no	2.5E-03	--	7.5E-04	--
Semivolatiles													
86-74-8	Carbazole	1300	µg/kg	Max	24000	µg/kg	96000	µg/kg	yes	--	5.4E-08	--	1.4E-08
105-67-9	2,4-Dimethylphenol	150	µg/kg	Max	1,200,000	µg/kg	14000000	µg/kg	no	1.3E-04	--	1.1E-05	--
84-74-2	Di-n-butyl phthalate	100	µg/kg	Max	6,100,000	µg/kg	68000000	µg/kg	no	1.6E-05	--	1.5E-06	--
86-30-6	N-Nitrosodiphenylamine	68	µg/kg	Max	99,000	µg/kg	390000	µg/kg	yes	--	6.9E-10	--	1.7E-10
CPAHs													
56-55-3	Benzo(a)anthracene	510	µg/kg	UCL	620	µg/kg	2300	µg/kg	yes	--	8.2E-07	--	2.2E-07
218-01-9	Chrysene	2800	µg/kg	Max	62,000	µg/kg	230000	µg/kg	yes	--	4.5E-08	--	1.2E-08
53-70-3	Dibenz(a,h)anthracene	220	µg/kg	UCL	62	µg/kg	230	µg/kg	yes	--	3.5E-06	--	9.6E-07
193-39-5	Indeno(1,2,3-cd)pyrene	350	µg/kg	UCL	620	µg/kg	2300	µg/kg	yes	--	5.6E-07	--	1.5E-07
NPAH													
83-32-9	Acenaphthene	350	µg/kg	Max	3,700,000	µg/kg	33000000	µg/kg	no	9.5E-05	--	1.1E-05	--
200-96-8	Acenaphthylene	120	µg/kg	Max	3,700,000	µg/kg	33000000	µg/kg	no	3.2E-05	--	3.6E-06	--
120-12-7	Anthracene	730	µg/kg	Max	22,000,000	µg/kg	260000000	µg/kg	no	3.3E-05	--	2.8E-06	--
132-64-9	Dibenzofuran	110	µg/kg	Max	150,000	µg/kg	1700000	µg/kg	no	7.3E-04	--	6.5E-05	--
206-44-0	Fluoranthene	6100	µg/kg	Max	2,300,000	µg/kg	24000000	µg/kg	no	2.7E-03	--	2.5E-04	--
86-73-7	Fluorene	220	µg/kg	Max	2,600,000	µg/kg	26000000	µg/kg	no	8.5E-05	--	8.5E-06	--
91-57-6	2-Methylnaphthalene	230	µg/kg	Max	120,000	µg/kg	210000	µg/kg	no	1.9E-03	--	1.1E-03	--
91-20-3	Naphthalene	410	µg/kg	Max	120,000	µg/kg	210000	µg/kg	no	3.4E-03	--	2.0E-03	--
85-01-8	Phenanthrene	3100	µg/kg	Max	2,300,000	µg/kg	32000000	µg/kg	no	1.3E-03	--	9.7E-05	--
129-00-0	Pyrene	4200	µg/kg	Max	2,300,000	µg/kg	32000000	µg/kg	no	1.8E-03	--	1.3E-04	--
PESTICIDE													
72-54-8	4,4'-DDD	2.7	µg/kg	Max	2,400	µg/kg	11000	µg/kg	yes	--	1.1E-09	--	2.5E-10
72-20-8	Endrin	0.29	µg/kg	Max	18,000	µg/kg	210000	µg/kg	no	1.6E-05	--	1.4E-06	--
7421-93-4	Endrin aldehyde (based on end	2.9	µg/kg	Max	18,000	µg/kg	210000	µg/kg	no	1.6E-04	--	1.4E-05	--
PCBs													
11096-82-5	Aroclor 1260	41	µg/kg	UCL	220	µg/kg	830	µg/kg	yes	--	1.9E-07	--	4.9E-08
METALS													
7440-39-3	Barium	140	mg/kg	Max	16,000	mg/kg	230000	mg/kg	no	8.8E-03	--	6.1E-04	--
7440-41-7	Beryllium	1.2	mg/kg	Max	150	mg/kg	2200	mg/kg	no	8.0E-03	--	5.5E-04	--
7440-43-9	Cadmium	0.65	mg/kg	Max	39	mg/kg	560	mg/kg	no	1.7E-02	--	1.2E-03	--
7440-47-3	Chromium (total)	64	mg/kg	UCL	210	mg/kg	500	mg/kg	no	3.0E-01	--	1.3E-01	--
18540-29-9	Chromium VI	350	mg/kg	Max	30	mg/kg	71	mg/kg	yes	--	1.2E-05	--	4.9E-06
7440-48-4	Cobalt	15	mg/kg	Max	900	mg/kg	2100	mg/kg	yes	--	1.7E-08	--	7.1E-09
7440-50-8	Copper	32.7	mg/kg	Max	2,900	mg/kg	42000	mg/kg	no	1.1E-02	--	7.8E-04	--
7440-02-0	Nickel	27.3	mg/kg	Max	1,600	mg/kg	23000	mg/kg	no	1.7E-02	--	1.2E-03	--
7440-22-4	Silver	1.9	mg/kg	Max	290	mg/kg	5700	mg/kg	no	6.6E-03	--	3.3E-04	--
7440-62-2	Vanadium	26	mg/kg	UCL	78	mg/kg	1100	mg/kg	no	3.3E-01	--	2.4E-02	--

¹ Compounds detected in previous studies, including Parsons RI (2005), Malcolm-Pirie Limited RI (1997).

Cummulative Risk Ratio 0.72 1.7E-05 0.16 6.4E-06

UCL 95% Upper Confidence Limit

Table J.7.16
Risk Ratio Calculations
Sediment
SADVA - AOCs 1 and 7

CAS No.	Compound ¹	Exposure Point Concentration (units)	EPC Max or UCL?	TRRPSediment Protective Concentration Level (units)	Carcino-genic?	Non-Carc Risk Ratio (EPC/TRRP)	Carc Risk Ratio (EPC/TRRP)
Semivolatiles							
117-81-7	bis(2-Ethylhexyl) phthalate	390 µg/kg	MAX	240,000 µg/kg	yes	--	1.63E-08
86-74-8	Carbazole	740 µg/kg	MAX	710,000 µg/kg	yes	--	1.04E-08
132-64-9	Dibenzofuran	310 µg/kg	MAX	610,000 µg/kg	no	5.08E-04	--
84-74-2	Di-n-butyl Phthalate	350 µg/kg	MAX	15,000,000 µg/kg	no	2.33E-05	--
CAPHs							
56-55-3	Benzo(a)anthracene	2400 µg/kg	MAX	16,000 µg/kg	yes	--	1.50E-06
50-32-8	Benzo(a)pyrene	2200 µg/kg	MAX	16,000 µg/kg	yes	--	1.38E-06
205-99-2	Benzo(b)fluoranthene	1900 µg/kg	MAX	16,000 µg/kg	yes	--	1.19E-06
207-08-9	Benzo(k)fluoranthene	2300 µg/kg	MAX	16,000 µg/kg	yes	--	1.44E-06
218-01-9	Chrysene	2400 µg/kg	MAX	1,600,000 µg/kg	yes	--	1.50E-08
53-70-3	Dibenz(a,h)anthracene	280 µg/kg	MAX	16,000 µg/kg	yes	--	1.75E-07
193-39-5	Indeno(1,2,3-cd)pyrene	650 µg/kg	MAX	16,000 µg/kg	yes	--	4.06E-07
NAPHs							
83-32-9	Acenaphthene	700 µg/kg	MAX	7,400,000 µg/kg	no	9.46E-05	--
120-12-7	Anthracene	1500 µg/kg	MAX	37,000,000 µg/kg	no	4.05E-05	--
191-24-2	Benzo(ghi)perylene	570 µg/kg	MAX	3,700,000 µg/kg	yes	--	1.54E-09
206-44-0	Fluoranthene	5400 µg/kg	MAX	4,900,000 µg/kg	no	1.10E-03	--
86-73-7	Fluorene	650 µg/kg	MAX	4,900,000 µg/kg	no	1.33E-04	--
91-57-6	2-Methylnaphthalene	230 µg/kg	MAX	490,000 µg/kg	no	4.69E-04	--
91-20-3	Naphthalene	300 µg/kg	MAX	2,500,000 µg/kg	no	1.20E-04	--
85-01-8	Phenanthrene	5800 µg/kg	MAX	3,700,000 µg/kg	no	1.57E-03	--
129-00-0	Pyrene	3600 µg/kg	MAX	3,700,000 µg/kg	no	9.73E-04	--
PCBs							
11097-69-1	Aroclor 1254	290 µg/kg	MAX	2,300 µg/kg	yes	--	1.26E-06
Pesticides							
319-85-7	beta-BHC	4.5 µg/kg	MAX	14,000 µg/kg	yes	--	3.21E-09
319-86-8	delta-BHC	3.2 µg/kg	MAX	14,000 µg/kg	yes	--	2.29E-09
58-89-9	gamma-BHC (lindane)	1.5 µg/kg	MAX	20,000 µg/kg	yes	--	7.50E-10
5103-71-9	alpha-Chlordane	1.1 µg/kg	MAX	41,000 µg/kg	yes	--	2.68E-10
72-54-8	4,4'-DDD	2400 µg/kg	MAX	120,000 µg/kg	yes	--	2.00E-07
72-55-9	4,4'-DDE	540 µg/kg	MAX	87,000 µg/kg	yes	--	6.21E-08
50-29-3	4,4'-DDT	630 µg/kg	MAX	87,000 µg/kg	yes	--	7.24E-08
959-99-8	Endosulfan I	3.6 µg/kg	MAX	310,000 µg/kg	no	1.16E-05	--
33213-65-9	Endosulfan II	0.31 µg/kg	MAX	920,000 µg/kg	no	3.37E-07	--
72-20-8	Endrin	0.23 µg/kg	MAX	46,000 µg/kg	no	5.00E-06	--
Metals							
7440-36-0	Antimony	7.9 mg/kg	MAX	83 mg/kg	no	9.52E-02	--
7440-38-2	Arsenic	9.5 mg/kg	MAX	110 mg/kg	no	8.64E-02	--
7440-39-3	Barium	258 mg/kg	MAX	23,000 mg/kg	no	1.12E-02	--
7440-41-7	Beryllium	2.5 mg/kg	UCL	27 mg/kg	no	9.26E-02	--
7440-43-9	Cadmium	1.2 mg/kg	MAX	1,100 mg/kg	no	1.09E-03	--
7440-47-3	Chromium	359 mg/kg	MAX	36,000 mg/kg	yes	--	9.97E-08
7440-48-4	Cobalt	47.4 mg/kg	MAX	32,000 mg/kg	yes	--	1.48E-08
7440-50-8	Copper	491 mg/kg	MAX	21,000 mg/kg	no	2.34E-02	--
7439-92-1	Lead	450 mg/kg	UCL	500 mg/kg	no	9.00E-01	--
7439-96-5	Manganese	1500 mg/kg	UCL	14,000 mg/kg	no	1.07E-01	--
7439-97-6	Mercury	0.11 mg/kg	MAX	34 mg/kg	no	3.24E-03	--
7440-02-0	Nickel	124 mg/kg	MAX	1,400 mg/kg	no	8.86E-02	--
7782-49-2	Selenium	1.5 mg/kg	MAX	2,700 mg/kg	no	5.56E-04	--
7440-22-4	Silver	0.66 mg/kg	MAX	350 mg/kg	no	1.89E-03	--
7440-62-2	Vanadium	57 mg/kg	UCL	330 mg/kg	no	1.73E-01	--
7440-66-6	Zinc	2960 mg/kg	MAX	76,000 mg/kg	no	3.89E-02	--

Cumulative Risk Ratio 0.73 7.8E-06

¹ COCs detected in previous studies, including Parsons RI and Malcolm-Pirnie Limited RI, AOC 1.

UCL 95% Upper Confidence Limit

Table J.7.17
Risk Ratio Calculations
Surface Water
SADVA - AOCs 1 and 7

CAS No.	Compound ¹	Exposure Point Concentration (units)	EPC Max or UCL?	USEPA Region 6 Risk-Based Screening Level (units)	Carcino- genic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
Volatiles							
67-64-1	Acetone	10 µg/L	MAX	5,400 µg/L	no	1.85E-03	--
75-15-0	Carbon disulfide	0.99 µg/L	MAX	1,000 µg/L	no	9.90E-04	--
75-34-3	1,1-Dichloroethane	27 µg/L	MAX	1,200 µg/L	no	2.25E-02	--
108-88-3	Toluene	0.24 µg/L	MAX	2,300 µg/L	no	1.04E-04	--
79-01-6	Trichloroethene	6.42 µg/L	UCL	0.028 µg/L	yes	--	2.29E-04
Semivolatiles							
117-81-7	bis(2-Ethylhexyl) phthalate	73 µg/L	MAX	4.80 µg/L	yes	--	1.52E-05
Metals							
7440-38-2	Arsenic	1.75 µg/L	UCL	0.045 µg/L	yes	--	3.89E-05
7440-39-3	Barium	55 µg/L	MAX	7,300 µg/L	no	7.53E-03	--
7440-43-9	Cadmium	30 µg/L	MAX	18 µg/L	no	1.67E+00	--
7440-47-3	Chromium	6.09 µg/L	UCL	110 µg/L	yes	--	5.54E-08
7440-50-8	Copper	3.7 µg/L	MAX	1,400 µg/L	no	2.64E-03	--
7439-92-1	Lead	20.6 µg/L	MAX	15 µg/L	no	1.37E+00	--
7782-49-2	Selenium	2.6 µg/L	MAX	180 µg/L	no	1.44E-02	--
7440-66-6	Zinc	24.3 µg/L	MAX	11,000 µg/L	no	2.21E-03	--

Not enough
samples to
calculate UCL

Not enough
samples to
calculate UCL

Cumulative Risk Ratio 1.7 2.8E-04

¹ COCs detected in previous studies, including Parsons RI and Malcolm-Pirnie Limited RI, AOC 1.

Table J.7.18
Risk Ratio Calculations
AOC 1/7 Well Number E4800
Groundwater Former SADVA

Residential Well E4800

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone	29	5,475.00	no	0.00530	--
75-09-2	Methylene chloride	2.4	4.28	yes	--	5.6E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium		54,750.00	no		
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	10	10,950.00	no	0.00091	--

Cumulative Risk Ratio

0.0062

5.6E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.19
Risk Ratio Calculations
AOC 1/7 Well Number E4801
Groundwater Former SADVA

Residential Well E4801

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone	21	5,475.00	no	0.0038	--
75-09-2	Methylene chloride	4.8	4.28	yes	--	1.1E-06
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	10	54,750.00	no	0.00018	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	20	10,950.00	no	0.0018	--

Cumulative Risk Ratio

0.0058

1.1E-06

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.20
Risk Ratio Calculations
AOC 1/7 Well Number E4802
Groundwater Former SADVA

Residential Well E4802

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone	20	5,475.00	no	0.0037	--
75-09-2	Methylene chloride	1.9	4.28	yes	--	4.4E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	10	54,750.00	no	0.00018	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	20	10,950.00	no	0.0018	--

Cumulative Risk Ratio

0.0057

4.4E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.21
Risk Ratio Calculations
AOC 1/7 Well Number E4803
Groundwater Former SADVA

Residential Well E4803

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride		4.28	yes		
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium	319	7,300.00	no	0.044	--
7440-47-3	Chromium	44	54,750.00	no	0.00080	--
7440-50-8	Copper	55	1,355.71	no	0.041	--
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel	3.4	730.00	no	0.0047	--
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc		10,950.00	no		

Cumulative Risk Ratio

0.090

0.0E+00

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.22
Risk Ratio Calculations
AOC 1/7 Well Number E4804
Groundwater Former SADVA

Residential Well E4804

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride	2.6	4.28	yes	--	6.1E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	30	54,750.00	no	0.00055	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	30	10,950.00	no	0.0027	--

Cumulative Risk Ratio

0.0033

6.1E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.23
Risk Ratio Calculations
AOC 1/7 Well Number E4806
Groundwater Former SADVA

Residential Well E4806

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride	1.6	4.28	yes	--	3.7E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium		54,750.00	no		
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	30	10,950.00	no	0.0027	--

Cumulative Risk Ratio

0.0027

3.7E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.24
Risk Ratio Calculations
AOC 1/7 Well Number E4807
Groundwater Former SADVA

Residential Well E4807

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride	1.2	4.28	yes	--	2.8E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	20	54,750.00	no		
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	30	10,950.00	no	0.0027	--

Cumulative Risk Ratio

0.0027

2.8E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.25
Risk Ratio Calculations
AOC 1/7 Well Number E4808
Groundwater Former SADVA

Residential Well E4808

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride	2.3	4.28	yes	--	5.4E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium		54,750.00	no		
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	20	10,950.00	no	0.0018	--

Cumulative Risk Ratio

0.0018

5.4E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.26
Risk Ratio Calculations
AOC 1/7 Well Number E4809
Groundwater Former SADVA

Residential Well E4809

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride	1.1	4.28	yes	--	2.6E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium		54,750.00	no		
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	10	10,950.00	no	0.00091	--

Cumulative Risk Ratio

0.00091

2.6E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.27
Risk Ratio Calculations
AOC 1/7 Well Number E4810
Groundwater Former SADVA

Residential Well E4810

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride	3.4	4.28	yes	--	8.0E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	20	54,750.00	no	0.00037	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	20	10,950.00	no	0.0018	--

Cumulative Risk Ratio

0.00219

8.0E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.28
Risk Ratio Calculations
AOC 1/7 Well Number E4811
Groundwater Former SADVA

Residential Well E4811

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone	22	5,475.00	no	0.0040	--
75-09-2	Methylene chloride	2.1	4.28	yes	--	4.9E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	10	54,750.00	no	0.00018	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	20	10,950.00	no	0.0018	--

Cumulative Risk Ratio

0.0060

4.9E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.29
Risk Ratio Calculations
AOC 1/7 Well Number E4812
Groundwater Former SADVA

Residential Well E4812

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride	1.1	4.28	yes	--	2.6E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium		54,750.00	no		
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	20	10,950.00	no	0.0018	--

Cumulative Risk Ratio

0.0018

2.6E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.30
Risk Ratio Calculations
AOC 1/7 Well Number E4813
Groundwater Former SADVA

Residential Well E4813

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone	15	5,475.00	no	0.0027	--
75-09-2	Methylene chloride	2.6	4.28	yes	--	6.1E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	50	54,750.00	no	0.00091	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	140	10,950.00	no	0.013	--

Cumulative Risk Ratio

0.01644

6.1E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.31
Risk Ratio Calculations
AOC 1/7 Well Number E4880
Groundwater Former SADVA

Residential Well E4880

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride		4.28	yes		
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium	63	7,300.00	no	0.0086	--
7440-47-3	Chromium	10	54,750.00	no	0.00018	--
7440-50-8	Copper	29	1,355.71	no	0.021	--
7439-92-1	Lead	49	15.00	no	3.3	--
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium	23	21,900.00	no	0.0011	--
7440-66-6	Zinc		10,950.00	no		

Cumulative Risk Ratio

0.031

0.0E+00

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.32
Risk Ratio Calculations
AOC 1/7 Well Number E4794
Groundwater Former SADVA

Residential Well E4794

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone	21	5,475.00	no	0.0038	--
75-09-2	Methylene chloride	1.6	4.28	yes	--	3.7E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	30	54,750.00	no	0.00055	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	30	10,950.00	no	0.0027	--

Cumulative Risk Ratio

0.0071

3.7E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.33
Risk Ratio Calculations
AOC 1/7 Well Number E4795
Groundwater Former SADVA

Residential Well E4795

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone	57	5,475.00	no	0.010	--
75-09-2	Methylene chloride	1.4	4.28	yes	--	3.3E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	20	54,750.00	no	0.00037	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	47	10,950.00	no	0.0043	--

Cumulative Risk Ratio

0.015

3.3E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.34
Risk Ratio Calculations
AOC 1/7 Well Number E4796
Groundwater Former SADVA

Residential Well E4796

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone	42	5,475.00	no	0.0077	--
75-09-2	Methylene chloride	2.4	4.28	yes	--	5.6E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	90	54,750.00	no	0.0016	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	80	10,950.00	no	0.0073	--

Cumulative Risk Ratio

0.01662

5.6E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.35
Risk Ratio Calculations
AOC 1/7 Well Number E5306
Groundwater Former SADVA

Residential Well E5306

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk- Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone		5,475.00	no		
75-09-2	Methylene chloride	1.2	4.28	yes	--	2.8E-07
	METALS					
7440-38-2	Arsenic	7.9	0.04	yes	--	1.8E-04
7440-39-3	Barium		7,300.00	no		
7440-47-3	Chromium	30	54,750.00	no	0.00055	--
7440-50-8	Copper		1,355.71	no		
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium		21,900.00	no		
7440-66-6	Zinc	10	10,950.00	no	0.00091	--

Cumulative Risk Ratio

0.00146

1.8E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.36
Risk Ratio Calculations
AOC 1/7 Well Number E4797
Groundwater Former SADVA

Residential Well E4797

CAS NUMBER	Compound	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
	VOLATILES					
67-64-1	Acetone	22	5,475.00	no	0.0040	--
75-09-2	Methylene chloride	2.8	4.28	yes	--	6.5E-07
	METALS					
7440-38-2	Arsenic		0.04	yes		
7440-39-3	Barium	73	7,300.00	no	0.010	--
7440-47-3	Chromium		54,750.00	no		
7440-50-8	Copper	107	1,355.71	no	0.079	--
7439-92-1	Lead		15.00	no		
7440-02-0	Nickel		730.00	no		
7440-24-6	Strontium	269	21,900.00	no	0.012	--
7440-66-6	Zinc		10,950.00	no		

Cumulative Risk Ratio

0.11

6.5E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.37
Risk Ratio Calculations
AOC 1/7 Well Number MW-ACE2
Groundwater Former SADVA

Nonresidential Well MW-ACE2

COMPOUND	CAS Number	Exposure Point Concentration (µg/L) ^a	EPC Maximum, Mean or Latest?	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES							
2-Butanone	78-93-3			7,100.00	no		
1,1-Dichloroethene	75-35-4	4	max	1,200.00	no	0.0033	--
1,2-Dichloroethane	107-06-2	5	max	0.12	yes	--	4.2E-05
1,2-Dichloroethene (total)	540-59-0	530	latest	n/a		--	--
cis-1,2-Dichloroethene	156-59-2			61	no		
trans-1,2-Dichloroethene	156-60-5			110	no		
Acetone	67-64-1			5,500.00	no		
Benzene	71-43-2	4	max	0.35	yes	--	1.1E-05
Chlorobenzene	108-90-7	2	max	91	no	0.022	--
Methylene chloride	75-09-2			4.3	yes		
Toluene	108-88-3	0.6	max	2,300.00	no	0.00026	--
Trichloroethene	79-01-6	168	mean	0.028	yes	--	6.0E-03
Vinyl chloride	75-01-4	160	latest	0.015	yes	--	1.1E-02
Xylenes (total)	1330-20-7	0.7	max	200	no	0.0035	--
SEMIVOLATILES							
bis(2-Ethylhexyl) phthalate	117-81-7			4.8	yes		
Butyl benzyl phthalate	85-68-7			7,300.00	no		
Carbazole	86-74-8			3.4	yes		
Di-n-butyl phthalate	84-74-2			3,700.00	no		
Diethyl phthalate	84-66-2			29,000.00	no		
Fluoranthene	206-44-0			1,500.00	no		
Pyrene	129-00-0			180	no		
PESTICIDES							
4,4'-DDE	72-55-9			0.2	yes		
4,4'-DDD	72-54-8			0.28	yes		
4,4'-DDT	50-29-3			0.2	yes		
METALS							
Aluminum	7429-90-5			37,000.00	no		
Antimony	7440-36-0			15	no		
Arsenic	7440-38-2	6	max	0.045	yes	--	1.3E-04
Barium	7440-39-3	131	max	7,300.00	no	0.018	--
Beryllium	7440-41-7			73	no		
Cadmium	7440-43-9			18	no		
Chromium	7440-47-3	18	max	54,750.00	no	0.00033	--
Chromium VI	18540-29-9			110	no		
Cobalt	7440-48-4			730	no		
Copper	7440-50-8			1,400.00	no		
Lead	7439-92-1	79	max	15	no	5.3	--
Manganese	7439-96-5			1,700.00	no		
Mercury	7439-97-6			11	no		
Nickel	7440-02-0			730	no		
Selenium	7782-49-2			180	no		
Silver	7440-22-4			180	no		
Strontium	7440-24-6			22,000.00	no		
Thallium	7440-28-0			2.6	no		
Vanadium	7440-62-2			180	no		
Zinc	7440-66-6			11,000.00	no		

Cumulative Risk Ratio

0.047

1.7E-02

max is the maximum detected concentration

mean is calculated as the mean of the detected concentrations and 1/2 the detection limit for non-detects

latest is the latest detected concentration

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

a - One of the wells used in this analysis had a duplicate sample, and the highest value of the primary sample and the duplicate sample at this well was used for calculations.

Table J.7.38
Risk Ratio Calculations
AOC 1/7 Well Number MW-AMW1
Groundwater Former SADVA

Nonresidential Well MW-AMW1

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	EPC Maximum, Average or Latest?	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES							
2-Butanone	78-93-3			7,100.00	no		
1,1-Dichloroethene	75-35-4			1,200.00	no		
1,2-Dichloroethane	107-06-2	2.2	mean	0.12	yes	--	1.8E-05
1,2-Dichloroethene (total)	540-59-0	99	mean	n/a		--	--
cis-1,2-Dichloroethene	156-59-2	87	max	61	no	1.4	--
trans-1,2-Dichloroethene	156-60-5	14	max	110	no	0.13	--
Acetone	67-64-1			5,500.00	no		
Benzene	71-43-2			0.35	yes		
Chlorobenzene	108-90-7			91	no		
Methylene chloride	75-09-2			4.3	yes		
Toluene	108-88-3			2,300.00	no		
Trichloroethene	79-01-6	2.5	latest	0.028	yes	--	8.9E-05
Vinyl chloride	75-01-4	21	latest	0.015	yes	--	1.4E-03
Xylenes (total)	1330-20-7			200	no		
SEMIVOLATILES							
bis(2-Ethylhexyl) phthalate	117-81-7			4.8	yes		
Butyl benzyl phthalate	85-68-7			7,300.00	no		
Carbazole	86-74-8			3.4	yes		
Di-n-butyl phthalate	84-74-2			3,700.00	no		
Diethyl phthalate	84-66-2			29,000.00	no		
Fluoranthene	206-44-0			1,500.00	no		
Pyrene	129-00-0			180	no		
PESTICIDES							
4,4'-DDE	72-55-9			0.2	yes		
4,4'-DDD	72-54-8			0.28	yes		
4,4'-DDT	50-29-3			0.2	yes		
METALS							
Aluminum	7429-90-5			37,000.00	no		
Antimony	7440-36-0			15	no		
Arsenic	7440-38-2			0.045	yes		
Barium	7440-39-3	44	max	7,300.00	no	0.0060	--
Beryllium	7440-41-7			73	no		
Cadmium	7440-43-9			18	no		
Chromium	7440-47-3			54,750.00	no		
Chromium VI	18540-29-9			110	no		
Cobalt	7440-48-4			730	no		
Copper	7440-50-8			1,400.00	no		
Lead	7439-92-1	2	max	15	no	0.13	--
Manganese	7439-96-5			1,700.00	no		
Mercury	7439-97-6			11	no		
Nickel	7440-02-0			730	no		
Selenium	7782-49-2			180	no		
Silver	7440-22-4			180	no		
Strontium	7440-24-6			22,000.00	no		
Thallium	7440-28-0			2.6	no		
Vanadium	7440-62-2			180	no		
Zinc	7440-66-6			11,000.00	no		

Cumulative Risk Ratio

1.6

1.5E-03

max is the maximum detected concentration

mean is calculated as the mean of the detected concentrations and 1/2 the detection limit for non-detects

latest is the latest detected concentration

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

Table J.7.39
Risk Ratio Calculations
AOC 1/7 Well Number MW-AMW2
Groundwater Former SADVA

Nonresidential Well MW-AMW2

COMPOUND	CAS Number	Exposure Point Concentration (µg/L) ^a	EPC Maximum, Average or Latest?	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES							
2-Butanone	78-93-3	2.3	max	7,100.00	no	0.00032	--
1,1-Dichloroethene	75-35-4			1,200.00	no		
1,2-Dichloroethane	107-06-2			0.12	yes		
1,2-Dichloroethene (total)	540-59-0			n/a			
cis-1,2-Dichloroethene	156-59-2			61	no		
trans-1,2-Dichloroethene	156-60-5			110	no		
Acetone	67-64-1			5,500.00	no		
Benzene	71-43-2			0.35	yes		
Chlorobenzene	108-90-7			91	no		
Methylene chloride	75-09-2			4.3	yes		
Toluene	108-88-3	0.28	max	2,300.00	no	0.00012	--
Trichloroethene	79-01-6			0.028	yes		
Vinyl chloride	75-01-4			0.015	yes		
Xylenes (total)	1330-20-7			200	no		
SEMIVOLATILES							
bis(2-Ethylhexyl) phthalate	117-81-7			4.8	yes		
Butyl benzyl phthalate	85-68-7			7,300.00	no		
Carbazole	86-74-8			3.4	yes		
Di-n-butyl phthalate	84-74-2			3,700.00	no		
Diethyl phthalate	84-66-2			29,000.00	no		
Fluoranthene	206-44-0			1,500.00	no		
Pyrene	129-00-0			180	no		
PESTICIDES							
4,4'-DDE	72-55-9			0.2	yes		
4,4'-DDD	72-54-8			0.28	yes		
4,4'-DDT	50-29-3			0.2	yes		
METALS							
Aluminum	7429-90-5			37,000.00	no		
Antimony	7440-36-0			15	no		
Arsenic	7440-38-2			0.045	yes		
Barium	7440-39-3	69	max	7,300.00	no	0.0095	--
Beryllium	7440-41-7			73	no		
Cadmium	7440-43-9			18	no		
Chromium	7440-47-3	7	max	54,750.00	no	0.00013	--
Chromium VI	18540-29-9			110	no		
Cobalt	7440-48-4			730	no		
Copper	7440-50-8			1,400.00	no		
Lead	7439-92-1	2	max	15	no	0.13	--
Manganese	7439-96-5			1,700.00	no		
Mercury	7439-97-6			11	no		
Nickel	7440-02-0			730	no		
Selenium	7782-49-2			180	no		
Silver	7440-22-4			180	no		
Strontium	7440-24-6			22,000.00	no		
Thallium	7440-28-0			2.6	no		
Vanadium	7440-62-2			180	no		
Zinc	7440-66-6			11,000.00	no		

Cumulative Risk Ratio

0.010

0.0E+00

max is the maximum detected concentration

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised

a - the highest value of the primary sample and the duplicate sample at this well is reported.

Table J.7.40
Risk Ratio Calculations
AOC 1/7 Well Number MW-AMW11
Groundwater Former SADVA

Nonresidential Well MW-AMW11 (or AOC1-GW-11R)

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	EPC Maximum, Average or Latest?	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES							
2-Butanone	78-93-3			7,100.00	no		
1,1-Dichloroethene	75-35-4			1,200.00	no		
1,2-Dichloroethane	107-06-2			0.12	yes		
1,2-Dichloroethene (total)	540-59-0			n/a			
cis-1,2-Dichloroethene	156-59-2			61	no		
trans-1,2-Dichloroethene	156-60-5			110	no		
Acetone	67-64-1	802.15	mean	5,500.00	no	0.15	--
Benzene	71-43-2			0.35	yes		
Chlorobenzene	108-90-7			91	no		
Methylene chloride	75-09-2			4.3	yes		
Toluene	108-88-3	25.15	mean	2,300.00	no	0.011	--
Trichloroethene	79-01-6			0.028	yes		
Vinyl chloride	75-01-4			0.015	yes		
Xylenes (total)	1330-20-7			200	no		
SEMI-VOLATILES							
bis(2-Ethylhexyl) phthalate	117-81-7	6.8	max	4.8	yes	--	1.4E-06
Butyl benzyl phthalate	85-68-7			7,300.00	no		
Carbazole	86-74-8			3.4	yes		
Di-n-butyl phthalate	84-74-2	5.4	max	3,700.00	no	0.0015	--
Diethyl phthalate	84-66-2			29,000.00	no		
Fluoranthene	206-44-0			1,500.00	no		
Pyrene	129-00-0			180	no		
PESTICIDES							
4,4'-DDE	72-55-9			0.2	yes		
4,4'-DDD	72-54-8			0.28	yes		
4,4'-DDT	50-29-3	0.0039	max	0.2	yes	--	2.0E-08
METALS							
Aluminum	7429-90-5	7330	mean	37,000.00	no	0.20	--
Antimony	7440-36-0	9	mean	15	no	0.60	--
Arsenic	7440-38-2	73.3	mean	0.045	yes	--	1.6E-03
Barium	7440-39-3	236.5	mean	7,300.00	no	0.032	--
Beryllium	7440-41-7	1	mean	73	no	0.014	--
Cadmium	7440-43-9			18	no		
Chromium	7440-47-3	12.15	mean	54,750.00	no	0.00022	--
Chromium VI	18540-29-9			110	no		
Cobalt	7440-48-4	3.35	mean	730	no	0.0046	--
Copper	7440-50-8	19.75	mean	1,400.00	no	0.014	--
Lead	7439-92-1	9	mean	15	no	0.60	--
Manganese	7439-96-5	75	mean	1,700.00	no	0.044	--
Mercury	7439-97-6	0.049	max	11	no	0.0045	--
Nickel	7440-02-0	12.15	mean	730	no	0.017	--
Selenium	7782-49-2	47.85	mean	180	no	0.27	--
Silver	7440-22-4			180	no		
Strontium	7440-24-6			22,000.00	no		
Thallium	7440-28-0			2.6	no		
Vanadium	7440-62-2	34.85	mean	180	no	0.19	--
Zinc	7440-66-6	180.1	mean	11,000.00	no	0.016	--

Cumulative Risk Ratio

1.6

1.6E-03

max is the maximum detected concentration

mean is calculated as the mean of the detected concentrations and 1/2 the detection limit for non-detects

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/bpd/rcra_c/pd-n/screen.htm.

Table J.7.41
Risk Ratio Calculations
AOC 1/7 Well Number AMW-3
Groundwater Former SADVA

Nonresidential Well AMW-3

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6	0.26	0.028	yes	--	9.3E-06
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3		7,300.00	no		
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.0

9.3E-06

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.42
Risk Ratio Calculations
AOC 1/7 Well Number AMW-4
Groundwater Former SADVA

Nonresidential Well AMW-4

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3	2	7,100.00	no	0.00028	--
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2	0.28	0.35	yes	--	8.0E-07
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3	0.23	2,300.00	no	0.00010	--
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4	1	0.015	yes	--	6.7E-05
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3		7,300.00	no		
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15			
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.00038

6.7E-05

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.43
Risk Ratio Calculations
AOC 1/7 Well Number AMW-104
Groundwater Former SADVA

Nonresidential Well AMW-104

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0	1	n/a		--	--
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2	0.81	0.35	yes	--	2.3E-06
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6	0.32	0.028	yes	--	1.1E-05
Vinyl chloride	75-01-4	3.4	0.015	yes	--	2.3E-04
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3		7,300.00	no		
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.0

2.4E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.44
Risk Ratio Calculations
AOC 1/7 Well Number SD-GW01-AOC7
Groundwater Former SADVA

Nonresidential Well SD-GW01-AOC7

COMPOUND	CAS Number	Exposure Point Concentration (µg/L) ^a	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7	2	4.8	yes	--	4.2E-07
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5	2	37,000.00	no	0.000054	--
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3	2	7,300.00	no	0.00027	--
Beryllium	7440-41-7	2	73	no	0.027	--
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5	2	1,700.00	no	0.0012	--
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4	2	180	no	0.011	--
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6	2	11,000.00	no	0.00018	--

Cumulative Risk Ratio

0.040

4.2E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

a - One of the wells used in this analysis had a duplicate sample, and the highest value of the primary sample and the duplicate sample at this well was used for calculations.

the detected concentration used as EPC

Table J.7.45
Risk Ratio Calculations
AOC 1/7 Well Number SD-GW03-AOC7
Groundwater Former SADVA

Nonresidential Well SD-GW03-AOC7

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	EPC Maximum, Average or Latest?	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES							
2-Butanone	78-93-3			7,100.00	no		
1,1-Dichloroethene	75-35-4			1,200.00	no		
1,2-Dichloroethane	107-06-2			0.12	yes		
1,2-Dichloroethene (total)	540-59-0			n/a			
cis-1,2-Dichloroethene	156-59-2			61	no		
trans-1,2-Dichloroethene	156-60-5			110	no		
Acetone	67-64-1			5,500.00	no		
Benzene	71-43-2			0.35	yes		
Chlorobenzene	108-90-7			91	no		
Methylene chloride	75-09-2			4.3	yes		
Toluene	108-88-3			2,300.00	no		
Trichloroethene	79-01-6			0.028	yes		
Vinyl chloride	75-01-4			0.015	yes		
Xylenes (total)	1330-20-7			200	no		
SEMIVOLATILES							
bis(2-Ethylhexyl) phthalate	117-81-7	7.6	max	4.8	yes	--	1.6E-06
Butyl benzyl phthalate	85-68-7			7,300.00	no		
Carbazole	86-74-8			3.4	yes		
Di-n-butyl phthalate	84-74-2			3,700.00	no		
Diethyl phthalate	84-66-2			29,000.00	no		
Fluoranthene	206-44-0			1,500.00	no		
Pyrene	129-00-0			180	no		
PESTICIDES							
4,4'-DDE	72-55-9			0.2	yes		
4,4'-DDD	72-54-8			0.28	yes		
4,4'-DDT	50-29-3			0.2	yes		
METALS							
Aluminum	7429-90-5	27.4	max	37,000.00	no	0.00074	--
Antimony	7440-36-0			15	no		
Arsenic	7440-38-2			0.045	yes		
Barium	7440-39-3	10.4	max	7,300.00	no	0.0014	--
Beryllium	7440-41-7			73	no		
Cadmium	7440-43-9			18	no		
Chromium	7440-47-3			54,750.00	no		
Chromium VI	18540-29-9			110	no		
Cobalt	7440-48-4			730	no		
Copper	7440-50-8	2	max	1,400.00	no	0.0014	--
Lead	7439-92-1			15	no		
Manganese	7439-96-5	59	max	1,700.00	no	0.035	--
Mercury	7439-97-6			11	no		
Nickel	7440-02-0			730	no		
Selenium	7782-49-2			180	no		
Silver	7440-22-4			180	no		
Strontium	7440-24-6			22,000.00	no		
Thallium	7440-28-0			2.6	no		
Vanadium	7440-62-2	1.1	max	180	no	0.0061	--
Zinc	7440-66-6	12.4	max	11,000.00	no	0.0011	--

Cumulative Risk Ratio

0.046

1.6E-06

max is the maximum detected concentration

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised

Table J.7.46
Risk Ratio Calculations
AOC 1/7 Well Number MW-ACE4
Groundwater Former SADVA

Nonresidential Well MW-ACE4

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	10	0.045	yes	--	2.2E-04
Barium	7440-39-3	104	7,300.00	no	0.014	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	22	54,750.00	no	0.00040	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.015

2.2E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.47
Risk Ratio Calculations
AOC 1/7 Well Number MW-ACE3
Groundwater Former SADVA

Nonresidential Well MW-ACE3

COMPOUND	CAS Number	Exposure Point Concentration (µg/L) ^a	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	5	0.045	yes	--	1.1E-04
Barium	7440-39-3	42	7,300.00	no	0.0058	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	17	54,750.00	no	0.00031	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.0061

1.1E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

a - the highest value of the primary sample and the duplicate sample at this well is reported.

the detected concentration used as EPC

Table J.7.48
Risk Ratio Calculations
AOC 1/7 Well Number MW-2-2
Groundwater Former SADVA

Nonresidential Well MW2-2

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	6	0.045	yes	--	1.3E-04
Barium	7440-39-3	79	7,300.00	no	0.011	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	18	54,750.00	no	0.00033	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.011

1.3E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.49
Risk Ratio Calculations
AOC 1/7 Well Number MW-ACE5
Groundwater Former SADVA

Nonresidential Well MW-ACE5

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3	13	7,300.00	no	0.0018	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15			
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.0018

0.0E+00

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.50
Risk Ratio Calculations
AOC 1/7 Well Number MW-2BMW9
Groundwater Former SADVA

Nonresidential Well MW-2BMW9

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3	28	7,300.00	no	0.0038	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.0038

0.0E+00

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.51
Risk Ratio Calculations
AOC 1/7 Well Number MW-2AMW6
Groundwater Former SADVA

Nonresidential Well MW-2AMW6

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3	14	7,300.00	no	0.0019	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.0019

0.0E+00

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.52
Risk Ratio Calculations
AOC 1/7 Well Number MW-2AMW8
Groundwater Former SADVA

Nonresidential Well MW-2AMW8

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	82	0.045	yes	--	1.8E-03
Barium	7440-39-3	51	7,300.00	no	0.0070	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	50	54,750.00	no	0.00091	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.0079

1.8E-03

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/trca_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.53
Risk Ratio Calculations
AOC 1/7 Well Number MW-2AMW3
Groundwater Former SADVA

Nonresidential Well MW-2AMW3

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	5	0.045	yes	--	1.1E-04
Barium	7440-39-3	107	7,300.00	no	0.015	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	34	54,750.00	no	0.00062	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1	13	15	no	0.87	--
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.015

1.1E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224

the detected concentration used as EPC

Table J.7.54
Risk Ratio Calculations
AOC 1/7 Well Number MW-1
Groundwater Former SADVA

Nonresidential Well MW-1

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	6.6	0.045	yes	--	1.5E-04
Barium	7440-39-3	82	7,300.00	no	0.011	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	19	54,750.00	no	0.00035	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1	14	15	no	0.93	--
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.012

1.5E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.55
Risk Ratio Calculations
AOC 1/7 Well Number MW-2
Groundwater Former SADVA

Nonresidential Well MW-2

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	31	0.045	yes	--	6.9E-04
Barium	7440-39-3	356	7,300.00	no	0.049	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	144	54,750.00	no	0.0026	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1	90	15	no	6.0	--
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.051

6.9E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.56
Risk Ratio Calculations
AOC 1/7 Well Number MW-3
Groundwater Former SADVA

Nonresidential Well MW-3

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	28	0.045	yes	--	6.2E-04
Barium	7440-39-3	187	7,300.00	no	0.026	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	83	54,750.00	no	0.0015	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1	66	15	no	4.4	--
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.027

6.2E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.57
Risk Ratio Calculations
AOC 1/7 Well Number MW-4
Groundwater Former SADVA

Nonresidential Well MW-4

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	23	0.045	yes	--	5.1E-04
Barium	7440-39-3	232	7,300.00	no	0.032	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	66	54,750.00	no	0.0012	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1	69	15	no	4.6	--
Manganese	7439-96-5		1,700.00	no		
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.033

5.1E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.58
Risk Ratio Calculations
AOC 1/7 Well Number AOC7-2AMW-7
Groundwater Former SADVA

Nonresidential Well AOC7-2AMW-7

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7	27	4.8	yes	--	5.6E-06
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5	3560	37,000.00	no	0.096	--
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3	33.8	7,300.00	no	0.0046	--
Beryllium	7440-41-7	0.12	73	no	0.0016	--
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	4	54,750.00	no	0.000073	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8	10.3	1,400.00	no	0.0074	--
Lead	7439-92-1	2	15	no	0.13	--
Manganese	7439-96-5	2700	1,700.00	no	1.6	--
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2	10.1	180	no	0.056	--
Zinc	7440-66-6	22.3	11,000.00	no	0.0020	--

Cumulative Risk Ratio

1.8

5.6E-06

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.59
Risk Ratio Calculations
AOC 1/7 Well Number AOC7-2AMW-5
Groundwater Former SADVA

Nonresidential Well AOC7-2AMW-5

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7	15	4.8	yes	--	3.1E-06
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5	1600	37,000.00	no	0.043	--
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	14.7	0.045	yes	--	3.3E-04
Barium	7440-39-3	44.6	7,300.00	no	0.0061	--
Beryllium	7440-41-7	0.071	73	no	0.00097	--
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	1.8	54,750.00	no	0.000033	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1	5.2	15	no	0.35	--
Manganese	7439-96-5	124	1,700.00	no	0.073	--
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2	2.3	180	no	0.013	--
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2	4.4	180	no	0.024	--
Zinc	7440-66-6	17.5	11,000.00	no	0.0016	--

Cumulative Risk Ratio

0.16

3.3E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.60
Risk Ratio Calculations
AOC 1/7 Well Number AOC7-HP01
Groundwater Former SADVA

Nonresidential Well AOC7-HP01

COMPOUND	CAS Number	Exposure Point Concentration (µg/L) ^a	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1	4.2	5,500.00	no	0.00076	--
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7	69	4.8	yes	--	1.4E-05
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5	5940	37,000.00	no	0.16	--
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	4.8	0.045	yes	--	1.1E-04
Barium	7440-39-3	85	7,300.00	no	0.012	--
Beryllium	7440-41-7	0.41	73	no	0.0056	--
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	11.9	54,750.00	no	0.00022	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4	3.8	730	no	0.0052	--
Copper	7440-50-8	13.8	1,400.00	no	0.0099	--
Lead	7439-92-1	4.9	15	no	0.33	--
Manganese	7439-96-5	461	1,700.00	no	0.27	--
Mercury	7439-97-6	0.069	11	no	0.0063	--
Nickel	7440-02-0	12.4	730	no	0.017	--
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2	15.8	180	no	0.088	--
Zinc	7440-66-6	56.9	11,000.00	no	0.0052	--

Cumulative Risk Ratio

0.58

1.2E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224

a - value is the highest of the primary sample or the duplicate sample at the well

Table J.7.61
Risk Ratio Calculations
AOC 1/7 Well Number AOC7-HP02
Groundwater Former SADVA

Nonresidential Well AOC7-HP02

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1	2.4	5,500.00	no	0.00044	--
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMI-VOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7	100	4.8	yes	--	2.1E-05
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5	389000	37,000.00	no	11	--
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	207	0.045	yes	--	4.6E-03
Barium	7440-39-3	1990	7,300.00	no	0.27	--
Beryllium	7440-41-7	20.7	73	no	0.28	--
Cadmium	7440-43-9	9.1	18	no	0.51	--
Chromium	7440-47-3	544	54,750.00	no	0.0099	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4	423	730	no	0.58	--
Copper	7440-50-8	989	1,400.00	no	0.71	--
Lead	7439-92-1	388	15	no	26	--
Manganese	7439-96-5	16200	1,700.00	no	9.5	--
Mercury	7439-97-6	0.97	11	no	0.088	--
Nickel	7440-02-0	857	730	no	1.2	--
Selenium	7782-49-2		180	no		
Silver	7440-22-4	4.1	180	no	0.023	--
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0	7.8	2.6	no	3.0	--
Vanadium	7440-62-2	704	180	no	3.9	--
Zinc	7440-66-6	2090	11,000.00	no	0.19	--

Cumulative Risk Ratio

31

4.6E-03

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.62
Risk Ratio Calculations
AOC 1/7 Well Number AOC7-HP03
Groundwater Former SADVA

Nonresidential Well AOC7-HP03

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7	13	4.8	yes	--	2.7E-06
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9	0.023	0.2	yes	--	1.2E-07
4,4'-DDD	72-54-8	0.035	0.28	yes	--	1.3E-07
4,4'-DDT	50-29-3	0.087	0.2	yes	--	4.4E-07
METALS						
Aluminum	7429-90-5	19600	37,000.00	no	0.53	--
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	10.2	0.045	yes	--	2.3E-04
Barium	7440-39-3	187	7,300.00	no	0.026	--
Beryllium	7440-41-7	1.2	73	no	0.016	--
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	31.1	54,750.00	no	0.00057	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4	15	730	no	0.021	--
Copper	7440-50-8	37.7	1,400.00	no	0.027	--
Lead	7439-92-1	12.1	15	no	0.81	--
Manganese	7439-96-5	989	1,700.00	no	0.58	--
Mercury	7439-97-6	0.067	11	no	0.0061	--
Nickel	7440-02-0	46.5	730	no	0.064	--
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2	41.5	180	no	0.23	--
Zinc	7440-66-6	109	11,000.00	no	0.0099	--

Cumulative Risk Ratio

1.5

2.3E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.63
Risk Ratio Calculations
AOC 1/7 Well Number SD-GW02-AOC7
Groundwater Former SADVA

Nonresidential Well SD-GW02-AOC7

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7	16	4.8	yes	--	3.3E-06
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2	1.7	29,000.00	no	0.000059	--
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5	59.9	37,000.00	no	0.0016	--
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3	197	7,300.00	no	0.027	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5	456	1,700.00	no	0.27	--
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2		180	no		
Zinc	7440-66-6		11,000.00	no		

Cumulative Risk Ratio

0.30

3.3E-06

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224

the detected concentration used as EPC

Table J.7.64
Risk Ratio Calculations
AOC 1/7 Well Number SD-2AMW5-AOC1
Groundwater Former SADVA

Nonresidential Well DE-2AMW5-AOC1

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7	27	4.8	yes	--	5.6E-06
Butyl benzyl phthalate	85-68-7	0.12	7,300.00	no	0.000016	--
Carbazole	86-74-8	0.13	3.4	yes	--	3.8E-08
Di-n-butyl phthalate	84-74-2	0.28	3,700.00	no	0.000076	--
Diethyl phthalate	84-66-2	0.35	29,000.00	no	0.000012	--
Fluoranthene	206-44-0	0.2	1,500.00	no	0.00013	--
Pyrene	129-00-0	0.17	180	no	0.00094	--
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5	79.4	37,000.00	no	0.0021	--
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	11.6	0.045	yes	--	2.6E-04
Barium	7440-39-3	41.6	7,300.00	no	0.0057	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8	4.6	1,400.00	no	0.0033	--
Lead	7439-92-1	1.6	15	no	0.11	--
Manganese	7439-96-5	810	1,700.00	no	0.48	--
Mercury	7439-97-6		11	no		
Nickel	7440-02-0	2	730	no	0.0027	--
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2	5.4	180	no	0.030	--
Zinc	7440-66-6	11.6	11,000.00	no	0.0011	--

Cumulative Risk Ratio

0.52

2.6E-04

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.65
Risk Ratio Calculations
AOC 1/7 Well Number SD-2AMW7-AOC1
Groundwater Former SADVA

Nonresidential Well SD-2AMW7-AOC1

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7	4.1	4.8	yes	--	8.5E-07
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2		3,700.00	no		
Diethyl phthalate	84-66-2	1.6	29,000.00	no	0.000055	--
Fluoranthene	206-44-0		1,500.00	no		
Pyrene	129-00-0		180	no		
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8		0.28	yes		
4,4'-DDT	50-29-3		0.2	yes		
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2		0.045	yes		
Barium	7440-39-3	16.3	7,300.00	no	0.0022	--
Beryllium	7440-41-7		73	no		
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3		54,750.00	no		
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8		1,400.00	no		
Lead	7439-92-1		15	no		
Manganese	7439-96-5	135	1,700.00	no	0.079	--
Mercury	7439-97-6		11	no		
Nickel	7440-02-0		730	no		
Selenium	7782-49-2		180	no		
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2	7.6	180	no	0.042	--
Zinc	7440-66-6	6.6	11,000.00	no	0.00060	--

Cumulative Risk Ratio

0.12

8.5E-07

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well
Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC

Table J.7.66
Risk Ratio Calculations
AOC 1/7 Well Number SD-GW13-AOC1
Groundwater Former SADVA

Nonresidential Wel SD-GW13-AOC1

COMPOUND	CAS Number	Exposure Point Concentration (µg/L)	USEPA Region 6 Risk-Based Screening Level (µg/L)	Carcinogenic?	Non-Carc Risk Ratio (EPC/USEPA)	Carc Risk Ratio (EPC/USEPA)
VOLATILES						
2-Butanone	78-93-3		7,100.00	no		
1,1-Dichloroethene	75-35-4		1,200.00	no		
1,2-Dichloroethane	107-06-2		0.12	yes		
1,2-Dichloroethene (total)**	540-59-0		n/a			
cis-1,2-Dichloroethene	156-59-2		61	no		
trans-1,2-Dichloroethene	156-60-5		110	no		
Acetone	67-64-1		5,500.00	no		
Benzene	71-43-2		0.35	yes		
Chlorobenzene	108-90-7		91	no		
Methylene chloride	75-09-2		4.3	yes		
Toluene	108-88-3		2,300.00	no		
Trichloroethene	79-01-6		0.028	yes		
Vinyl chloride	75-01-4		0.015	yes		
Xylenes (total)***	1330-20-7		200	no		
SEMIVOLATILES						
bis(2-Ethylhexyl) phthalate	117-81-7		4.8	yes		
Butyl benzyl phthalate	85-68-7		7,300.00	no		
Carbazole	86-74-8		3.4	yes		
Di-n-butyl phthalate	84-74-2	1.1	3,700.00	no	0.00030	--
Diethyl phthalate	84-66-2		29,000.00	no		
Fluoranthene	206-44-0	2.5	1,500.00	no	0.0017	--
Pyrene	129-00-0	0.95	180	no	0.0053	--
PESTICIDES						
4,4'-DDE	72-55-9		0.2	yes		
4,4'-DDD	72-54-8	0.027	0.28	yes	--	9.6E-08
4,4'-DDT	50-29-3	0.014	0.2	yes	--	7.0E-08
METALS						
Aluminum	7429-90-5		37,000.00	no		
Antimony	7440-36-0		15	no		
Arsenic	7440-38-2	3.3	0.045	yes	--	7.3E-05
Barium	7440-39-3	36.5	7,300.00	no	0.0050	--
Beryllium	7440-41-7	0.71	73	no	0.0097	--
Cadmium	7440-43-9		18	no		
Chromium	7440-47-3	7	54,750.00	no	0.00013	--
Chromium VI	18540-29-9		110	no		
Cobalt	7440-48-4		730	no		
Copper	7440-50-8	1.2	1,400.00	no	0.00086	--
Lead	7439-92-1		15	no		
Manganese	7439-96-5	90.2	1,700.00	no	0.053	--
Mercury	7439-97-6		11	no		
Nickel	7440-02-0	2.4	730	no	0.0033	--
Selenium	7782-49-2	8.4	180	no	0.047	--
Silver	7440-22-4		180	no		
Strontium	7440-24-6		22,000.00	no		
Thallium	7440-28-0		2.6	no		
Vanadium	7440-62-2	4.9	180	no	0.027	--
Zinc	7440-66-6	30.6	11,000.00	no	0.0028	--

Cumulative Risk Ratio

0.16

7.3E-05

blank cells for Exposure Point Concentration indicates the chemical was below detection limits in this well

Cumulative Risk Ratio does not include lead

USEPA Region 6 Risk-Based Screening Levels were obtained from the Downloadable Excel Spreadsheet (Excel format - 1224 kb) (revised 05/04/07) located at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm.

the detected concentration used as EPC