GEO/10-266
Final

U.S. Army Corps of Engineers
Kansas City District

Supplemental Remedial Investigation
Operable Unit-3
Former Nebraska Ordnance Plant
Mead, Nebraska

Prepared for
U.S. Army Corps of Engineers
Kansas City District
Contract No. W912DQ-10-D-3012
Delivery Order 0002

Prepared by
GEO Consultants, LLC
325 Kentucky Avenue
Kevil, Kentucky 42053

January 2012

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CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

GEO Consultants, LLC (GEO) completed the Final Supplemental Remedial Investigation for Operable Unit (OU)-3. Notice is hereby given that an independent technical review (ITR) was conducted that is appropriate to the level of risk and complexity inherent in the project. During the ITR, compliance with established policy principles and procedures was verified. This included review of procedures to be used to create a product that meets the customer's needs consistent with law and existing U.S. Army Corps of Engineers policy.

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Project Manager

1/17/12
Date

Olivia West, P.E., PhD
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1/17/12
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Significant concerns and the explanation of the resolution are as follows:

None

As noted above, all concerns resulting from the independent technical review of the project have been considered.

for Jeff Douthitt, P.E.
President, GEO Consultants, LLC

1/17/12
Date

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ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
AOP	Advanced Oxidation Process
ARAR	Applicable or Relevant and Appropriate Requirements
ARDC	Agricultural Research and Development Center
bgs	below ground surface
BLRA	Baseline Risk Assessment
BTV	background threshold value
CENWK	U. S. Army Corps of Engineers, Kansas City District
COPC	chemical of potential concern
CSEM	conceptual site exposure model
CSF	cancer slope factor
DCE	dichloroethene
DNB	dinitrobenzene
DNT	dinitrotoluene
DoD	Department of Defense
EB	equipment blank
ECC	Environmental Chemical Corporation
EPC	exposure point concentration
FD	field duplicate
FS	Feasibility Study
ft	foot/feet
GEO	GEO Consultants, LLC
gpm	gallons per minute
HI	hazard index
HMX	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
HQ	hazard quotient
IDW	Investigation-Derived Waste
ILCR	Incremental Lifetime Cancer Risk
in	inch(es)
kg	kilogram(s)
L	liter(s)
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LL	Load Line
m	meter(s)
MB	method blank
MCL	Maximum Contaminant Level
MDC	maximum detected concentration
MDL	method detection limit
mg	milligram(s)
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NCP	National Contingency Plan
NDEQ	Nebraska Department of Environmental Quality
NRD	Natural Resources District
NOP	Nebraska Ordnance Plant
OU	Operable Unit
PRG	Preliminary Remediation Goal

QC	Quality Control
QCSR	Quality Control Summary Report
QSM	Quality Systems Manual
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
RfD	reference dose
RI	Remedial Investigation
RL	reporting limit
RSL	Regional Screening Level
RPD	relative percent difference
SADA	Spatial Analysis and Decision Assistance
SRI	Supplemental Remedial Investigation
TAGA	Trace Atmospheric Gas Analyzer
TB	trip blank
TCE	trichloroethene
TNT	trinitrotoluene
UNL	University of Nebraska – Lincoln
UPL	Upper Prediction Limit
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound
WP	Work Plan
yd	yard
°C	degrees Celsius
°F	degrees Fahrenheit
µg	microgram
% REC	percent recovery

EXECUTIVE SUMMARY

The former Nebraska Ordnance Plant (NOP) is located in Saunders County, Nebraska, 0.5 miles south of Mead, Nebraska. Response actions at the former NOP have been organized into separate Operable Units (OUs) under an Interagency Agreement between the U.S. Department of the Army, the U.S. Environmental Protection Agency (USEPA), and the Nebraska Department of Environmental Quality (NDEQ). OU-1 consists of explosives-contaminated soil in the vicinity of former plant buildings. OU-2 consists of groundwater, as well as soils that could potentially impact groundwater with explosive contaminants and volatile organic compounds (VOCs). OU-3 consists of a former on-site landfill and areas of waste not previously identified. The OU-3 Supplemental Remedial Investigation (SRI) described in this report is part of a continuing effort to assess the potential risk from contaminated media at the former NOP site. The regulatory agencies involved in this project are the USEPA Region VII and the NDEQ. The U.S. Army Corps of Engineers (USACE), Kansas City District (CENWK) is the executing agency for this project. GEO Consultants, LLC conducted the OU-3 SRI field sampling and prepared this report for CENWK under Contract No. W912DQ-10-D-3012, Delivery Order 0002.

The overall objective of the OU-3 SRI is to complete an additional assessment on OU-3 and conduct a Supplemental Human Health Baseline Risk Assessment (BLRA) for investigation areas where potential concerns were identified after completion of the previous OU-3 Remedial Investigation (RI) activities (Woodward-Clyde 1997, URS 2000a). Specifically, the SRI focuses on the following OU-3 investigation areas.

The Burn Layer in the North Burning Grounds and Potential Landfill Area

A burn layer was found during removal actions by the University of Nebraska—Lincoln (UNL) at the former North Burning Grounds (MACTEC 2009) located within the former NOP site. The North Burning Ground is approximately 2 acres of land that was used for burning powder boxes and other combustible materials (Woodward-Clyde 1997). The area was also used by UNL for waste burial after it took over ownership of the area in the 1960s. During the removal action to locate and excavate the UNL waste, a burn layer containing elevated concentrations of antimony [258 milligrams (mg) per kilogram (kg)] and lead (709 mg/kg) was encountered and was attributed to previous military activities at the North Burning Ground (MACTEC 2009). Field observations during the previous OU-3 RI activities (Woodward-Clyde 1997, URS 2000a) indicated the Potential Landfill Area, an approximate 2 acre area adjacent to the former North Burning Ground, also contains buried ash. The objectives of the OU-3 SRI were (1) to determine the extent of burn layers/ash in North Burning Ground and Potential Landfill Area through soil core logging, (2) to determine whether soils adjacent to the burn layer/ash, if observed, had elevated metals concentrations, and (3) to evaluate any risks from exposure of site receptors to soil in these areas.

The OU-3 SRI field sampling conducted in September 2010 included the collection of soil cores to a maximum depth of 10 feet (ft) below ground surface (bgs) from 20 locations within the North Burning Grounds and Potential Landfill Area. Soil samples for metals analysis were collected from pre-determined depth intervals (0 to 0.5 ft bgs, 0.5 to 4 ft bgs, and 4 to 8 ft bgs). Visual inspections of the soil cores indicated that ash and burn layers were found in isolated areas within the Potential Landfill Area. Soil samples from the cores with a visible burn layer or ash were associated with metals concentrations that were higher than background. However, the presence of the burn layer/ash at the Potential Landfill Area was not pervasive and, overall metals concentrations in soil samples from these areas were not significantly different from background conditions. Nonetheless, a quantitative risk assessment was conducted using the metals data from the OU-3 SRI and the previous OU-3 RI.

For the purpose of the risk assessment, soils data were aggregated into two groups: surface soil consisting of samples collected from 0 to 0.5 ft bgs, and surface plus subsurface soil consisting of samples collected from 0 to 8 ft bgs. The soil data were aggregated in this manner because some site receptors considered in the risk analysis (e.g., construction workers) can potentially be exposed to surface and subsurface soil, while other site receptors (grounds maintenance workers and trespassers) would only likely be exposed to surface soil. As a first step in the risk calculations, the maximum detected concentration (MDC) for each metal in the surface soil and surface plus subsurface soil data sets were compared against the USEPA Regional Screening Level (RSLs) for Residential Soil (USEPA 2010). If the MDC for a given metal exceeded the Residential Soil RSL, the metal was considered a chemical of potential concern (COPCs) and was carried through the quantitative risk assessment unless it was found at a frequency of detection less than 5%. If no USEPA RSL for Residential Soil was available, the MDC was compared to the background threshold values (BTVs) calculated from the background soils data collected in the previous OU-3 RI (URS 2000a, URS 2000b). If the MDC exceeded the BTV, the metal was carried forward into the risk assessment as a COPC. Based on this screening process, the only COPCs for surface soil are antimony and arsenic, while the COPCs for surface plus subsurface soil include antimony, arsenic, cobalt, and iron. A general linear correlation between arsenic and iron in the site surface and subsurface soils that was comparable to the correlation demonstrated in the background data set suggests that the arsenic at the North Burning Ground and Potential Landfill Area is naturally occurring.

Using statistical software available from USEPA (ProUCL 4.1.00), exposure point concentrations (EPCs) for each of the COPCs were calculated from the data sets and were then used with standard equations to estimate chemical intakes for site receptors (construction worker, maintenance worker, adult trespasser, and child trespasser). The selection of site receptors is based on the current land use as a UNL wildlife habitat and the existence of a deed restriction for the North Burning Ground and Potential Landfill Area that restricts use of this property for any other purpose. Using available toxicity values, Incremental Lifetime Cancer Risks (ILCRs) and hazard indices (HIs) were calculated for viable exposure pathways for each site receptor (ingestion of soil, inhalation of dust, dermal contact). The calculated ILCR values from exposure to surface soil were $3x10^{-7}$ for the construction worker, $4x10^{-6}$ for the maintenance worker, $1x10^{-6}$ for the trespasser adult, and $3x10^{-6}$ for the trespasser juvenile. As such, the ILCR values for all site receptors are either below, or near, the lower limit of the target risk range 10^{-6} to 10^{-4} in the National Contingency Plan (NCP). It should be noted that the only contributor to this incremental carcinogenic risk is arsenic, which is present in the site surface soils at concentrations that are comparable to the background soil samples. Of the 40 arsenic surface soil data points, only three values (9.6 to 9.9 mg/kg) marginally exceeded the BTV of 9.5 mg/kg, which corresponds to the 95% Upper Prediction Limit (UPL) of the background arsenic data set. The ILCR values were calculated from an EPC of 7.32 mg/kg that was derived from the site surface soil data set using ProUCL 4.1.00. Given that the EPC value is below the BTV, the risks from exposure to arsenic in soil at the North Burning Ground and Potential Landfill Area are comparable to background risks. The only site receptor that is assumed to be potentially exposed to subsurface soil is the construction worker. The ILCR from exposure to surface and subsurface soils for a construction worker is $2x10^{-7}$, and the majority stems from arsenic with a negligible fraction of this risk contributed by cobalt. A larger number of subsurface soil samples show arsenic concentrations above the BTV. The BTV, however, is based on surface soil which may naturally be depleted in arsenic due to leaching when compared to subsurface soil. Nonetheless, the ILCR to the construction worker from exposure to surface plus subsurface soils is below the target range of 10^{-6} to 10^{-4}. HI values for soils ranged from 0.01 to 0.2 for all site receptors, which is below the target goal HI of 1.

In summary, the results of the OU-3 SRI at the North Burning Ground and Potential Landfill Area indicate that the burn layers and ash are present, but limited in extent and do not appear to have impacted soils in the area that would result in unacceptable risk to site users.

Surface Water

Johnson Creek, Clear Creek, and Silver Creek border the former NOP site. To determine the impact of trichloroethene (TCE) and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) contaminant plumes on these surface waters, they have been regularly sampled since 2004 as part of the OU-2 Groundwater Monitoring Program (e.g., ECC 2010a). The BLRA performed as part of the OU-3 RI (URS 2000b) included a quantitative risk assessment of these creeks; however, the assessment needs to be revised to incorporate the more recent surface water sampling results. To identify COPCs to be carried forward through the risk calculations, surface water sample data consisting of VOCs and explosives analyses from 23 quarterly monitoring events (December 2004 through May 2010) were compiled. All detected compounds with a frequency of detection greater than 5% were carried forward in the risk assessment. Using this screening process, the COPCs identified for Johnson Creek include acetone, chloroform, cis-1,2,-dichloroethene (DCE), toluene, TCE, 1,3-dinitrobenzene, 2,6-dinitrotoluene, 4-amino-2,6-dinitrotoluene, RDX, and octahydro-1,3,5,7-tetranitro-1,3,5,7-tetraozcine. The COPCs identified for Clear Creek include acetone, 2-butanone, TCE, and RDX. The COPCs identified for Silver Creek include acetone and 4-amino-2,6-dinitrotoluene. EPCs for COPCs for Johnson Creek and Clear Creek were calculated using ProUCL 4.1.00 from surface water sampling data from the locations that consistently exhibited the highest impact on these creeks during the 23 quarterly monitoring events from December 2004 through May 2010. At Johnson Creek, the sampling stations with the highest analyte detections were SW-08, SW-16, and SW-10. At Clear Creek, the sampling stations with the highest analyte detections were SW-12 and SW-13. Note that Johnson Creek merges into Clear Creek, and SW-12 and SW-13 are downstream of this confluence. Thus, the presence of analytes at the Clear Creek sampling stations is likely from Johnson Creek waters. The entire dataset for Silver Creek was used as input to ProUCL 4.1.00 to calculate EPCs, as no location of greatest impact was noted. The risk and hazard estimates for TCE are based on toxicity values that were in the most recent USEPA health assessment for this chemical published in September 2011 (USEPA 2011).

Using standard equations, chemical intakes were calculated using the EPCs and exposure parameters that represent viable exposure pathways for recreational fishermen (adult and child). These pathways include: ingestion of and dermal contact with water during fishing and ingestion of fish from the creeks. The total ILCR values calculated for the adult and child recreational fishermen for Johnson Creek are $2x10^{-6}$ and $5x10^{-7}$, respectively. The total ILCR values calculated for the adult and child recreational fishermen for Clear Creek are $2x10^{-7}$ and $5x10^{-8}$, respectively. All these values are within or below the target risk of 10^{-6} to 10^{-4}. The largest contributor to the risk at Johnson Creek and Clear Creek is TCE. ILCR values for Silver Creek could not be calculated because acetone is not classifiable as a carcinogen and the carcinogenicity of 4-amino-2,6-dinitrotoluene has not been evaluated. It should be noted, however, that the low frequency of detection (4 out of 71 samples) for 4-amino-2,6-dinitrotoluene suggests that this chemical is not posing a significant threat to users of Silver Creek.

The ILCR for TCE in Johnson Creek ($1.8x10^{-6}$) is based on an EPC of 20.6 micrograms per liter (μg/L). As of May 2010 (the latest date for which sampling data were available when the Draft SRI report was being prepared), the highest TCE concentration in surface water samples from Johnson Creek is 56.1 μg/L measured in November 2005. If this concentration were used in the risk calculations, the resulting ILCR ($5x10^{-6}$) would still be within the target risk range of 10^{-6} to 10^{-4} in the NCP. For Clear Creek, the largest contributor to carcinogenic risk is TCE ($1.7x10^{-7}$ for the adult recreational fisherman), while the risk from RDX is 2 orders of magnitude lower ($7.8x10^{-9}$ for the adult recreational fisherman). The ILCR for TCE in Clear Creek ($1.7x10^{-7}$) was based on an exposure concentration of 1.98 μg/L. As of May 2010, the highest TCE concentration in Clear Creek is 4.1 μg/L, which would result in a TCE ILCR of $3.6x10^{-7}$.

The total HI calculated for the adult and child recreational fisherman for Johnson Creek are 0.07 and 0.2, respectively. The total HI values calculated for Clear Creek was 0.006 and 0.02 for the recreational

adult and child fisherman, respectively. The total HI values for an adult and child recreational fisherman for Silver Creek were 0.0006 and 0.002, respectively. All these values are below the target risk HI of 1.

In summary, the risk calculations for Johnson Creek, Clear Creek, and Silver Creek indicate that incremental lifetime carcinogenic risks to recreational fishermen from exposure to surface water in these creeks are all either below or within the target risk range of 10^{-6} to 10^{-4} while all hazards are well below the target value of 1.

Vapor Intrusion

Buildings located above the TCE groundwater plumes may be impacted by vapor intrusion. In 2007, Lockheed Martin, on behalf of USEPA, investigated vapor intrusion using indoor air and sub-slab soil gas monitoring in several buildings at locations that overlie the TCE groundwater plumes (Lockheed Martin 2007). Based on a review of this previous study, it was determined that additional indoor air and sub-slab soil gas samples were needed to definitively assess the concerns regarding vapor intrusion from four of the 12 buildings included in the previous study. These buildings were: Unit 001 (Dairy Farm Manager Residence), Unit 003 (Feed Mill), Unit 006 (UNL Equipment Storage), and Unit 011 (Feed Mill Office).

The indoor air and sub-slab soil gas samples were collected in 6 L pre-cleaned evacuated Summa® canisters that were equipped with mass flow controllers that enabled filling of the canisters at a controlled rate over 24 hours. Indoor air and sub-slab soil gas samples at Unit 001, Unit 006, and Unit 011 were collected in September 2010. An indoor air sample was collected at Unit 003 in September 2010, but the sub-slab soil gas sample could not be collected at this time due to a defective port. The field crew returned to Unit 003 in November 2010, installed a new port, and collected a set of indoor air, sub-slab soil gas, and ambient air samples. The air samples were analyzed for TCE and daughter products [cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride (VC)]. To determine COPCs, the air sample analytical results were compared against the USEPA RSL for Residential Air. With the exception of Unit 006 (UNL Equipment Storage), none of the indoor air samples exhibited any detectable levels of the analytes. Note that the detection limits for the sample analyses are below the Residential Air screening levels. At Unit 001 (Dairy Farm Manager Residence), TCE was detected in one of the field duplicate pair of sub-slab soil gas samples [0.5 micrograms per cubic meter ($\mu g/m^3$)]. This detected value slightly exceeds the Residential Air screening level (0.43 $\mu g/m^3$). No analytes were detected in the sub-slab soil gas samples collected from Unit 003 or Unit 011. The combined results of indoor air sampling results from the Lockheed Martin (2007) study and the results of the OU-3 SRI sampling indicate that there are no unacceptable risks from vapor intrusion for both residential and industrial use scenarios at Unit 003 (Feed Mill), and Unit 011 (Feed Mill Office). At Unit 001 (Dairy Farm Manager Residence), although TCE was not detected in the indoor air samples collected as part of the SRI field sampling in September 2010, TCE was detected at 0.7 $\mu g/m^3$ in indoor samples collected in October 2007 as part of a previous sampling study (Lockheed Martin 2007). Using 0.7 $\mu g/m^3$ as the EPC for Unit 001, the ILCR for a Resident Adult and Child are $3x10^{-6}$ and $5x10^{-7}$, respectively, levels which are within and below the target risk range of 10^{-6} to 10^{-4}. The HI value for residential receptors at Unit 001 (0.3) did not exceed the target HI of 1. At Unit 006 (UNL Equipment Storage), TCE in the primary and duplicate indoor air samples (9.2 and 5.2 $\mu g/m^3$) exceeded the TCE screening level for Industrial Air (3 $\mu g/m^3$). A high concentration of TCE (150,000 $\mu g/m^3$) was measured in the sub-slab soil gas sample, which confirmed that the source of TCE in indoor air in this building is from the subsurface. Using 9.2 $\mu g/m^3$ as an EPC and exposure parameters for an industrial worker with limited exposure (1 hour per day) that reflects the use of the building for equipment storage, the calculated ILCR from exposure to TCE in indoor air in Unit 006 is $4x10^{-7}$, below the target range of 10^{-6} to 10^{-4} in the NCP. The HI at Unit 006 for an industrial worker in the limited exposure scenario is 0.1. If the exposure was increased to 8 hours per day, the ILCR increases to $3x10^{-6}$, which would still fall within the target NCP risk range. Unit 006, if converted to a residence, may result in an unacceptable risk to a resident adult with an ILCR of $4x10^{-5}$. HI values for Unit 006 under normal occupational (8 hour day) and residential scenarios are 1 and 4 respectively.

Summary

In summary, the results of the field sampling and risk calculations in the OU-3 SRI indicate that:

- There are no unacceptable carcinogenic risks or non-carcinogenic hazards from exposure to soils at the North Burning Ground and Potential Landfill Area; all calculated carcinogenic risks for site receptors are either below or near the lower limit of the target risk range of 10^{-6} to 10^{-4} in the NCP; HI values were below 1 for all site receptors;
- Carcinogenic risk for a recreational child fisherman ($5x10^{-7}$) at Johnson Creek is below the NCP target risk range of 10^{-6} to 10^{-4}, while carcinogenic risk for a recreational adult fisherman ($2x10^{-6}$) fell within the NCP target range. The chemical that contributed the most to this risk is TCE. There are no unacceptable non-carcinogenic hazards (HIs) for Johnson Creek for either the adult or child recreational fisherman;
- There are no unacceptable carcinogenic risks or non-carcinogenic hazards (ILCRs or HIs) from exposure to surface water in Clear Creek and Silver Creek;
- There are no unacceptable carcinogenic risks (ILCRs or HIs) from vapor intrusion for both residential and industrial use scenarios in Unit 003 (Feed Mill), and Unit 011 (Feed Mill Office);
- TCE was not detected in indoor air samples collected in September 2010 from Unit 001 (Dairy Farm Manager Residence). However, TCE was detected in indoor air samples collected in 2007 (Lockheed Martin 2007) at a concentration (0.7 $\mu g/m^3$) that exceeded the screening level for TCE (0.43 $\mu g/m^3$). Using 0.7 $\mu g/m^3$ as the EPC for Unit 001, the ILCR for a Resident Adult and Child are $3x10^{-6}$ and $5x10^{-7}$, respectively, levels which are within and below the target risk range of 10^{-6} to 10^{-4}; and
- There are no unacceptable carcinogenic risks or non-carcinogenic hazards (ILCRs or HIs) from vapor intrusion in Unit 006 (UNL Equipment Storage) under its current use as a storage building. If its use were expanded to where an industrial worker would be in the building for full 8-hour work day, carcinogenic risk is estimated at $3x10^{-6}$ which is within the target risk range of 10^{-6} to 10^{-4} while hazard is approximately equal to the target value of 1. There is an unacceptable ILCR and hazard if this building were to be converted to a residence.

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1. INTRODUCTION

The former Nebraska Ordnance Plant (NOP) is located in Saunders County, Nebraska, and is 0.5 miles south of Mead, Nebraska (Figure 1-1 and 1-2). Response actions at the former NOP have been organized into separate Operable Units (OUs) under the January 30, 1992 Interagency Agreement between the U.S. Department of the Army, the U.S. Environmental Protection Agency (USEPA), and the Nebraska Department of Environmental Quality (NDEQ). OU-1 consists of the upper 4 feet (ft) of explosives-contaminated soil. OU-2 consists of groundwater, as well as soils that could potentially impact groundwater with explosive contaminants and volatile organic compounds (VOCs). OU-3 consists of a former on-site landfill and areas of waste not previously identified [Environmental Chemical Corporation (ECC) 2009a; Interagency Agreement, USEPA et al. 1991]. The OU-3 Supplemental Remedial Investigation (SRI) described in this report is part of a continuing effort to assess the potential risk from contaminated media at the former NOP site.

The regulatory agencies involved in this project are the USEPA Region VII and the NDEQ. The U.S. Army Corps of Engineers (USACE), Kansas City District (CENWK) is the executing agency for this project. GEO Consultants, LLC (GEO) conducted the OU-3 SRI field sampling and prepared this report for CENWK under Contract No. W912DQ-10-D-3012, Delivery Order 0002.

1.1 PROJECT OBJECTIVES

The overall objective of the OU-3 SRI is to complete an additional assessment on OU-3 and conduct a Supplemental Baseline Risk Assessment (BLRA) for investigation areas where potential concerns were identified after completion of the previous OU-3 Remedial Investigation (RI) activities (Woodward-Clyde 1997, URS 2000a). Specifically, the OU-3 SRI focuses on the following OU-3 investigation areas:

- A burn layer was found during Removal Actions by the University of Nebraska—Lincoln (UNL) at the former North Burning Grounds (MACTEC 2009). The North Burning Ground (Feature 17 on Figures 1-3 and 1-4) is approximately 2 acres of land that was used for burning powder boxes and other combustible materials (Woodward-Clyde 1997). UNL records show that this area was used to bury unspecified bulked chemical waste in a trench, and the Removal Action was directed towards locating this trench and removing waste that UNL had buried. The burn layer found during the UNL excavation was not consistent with the type of waste UNL had disposed of at this area and was attributed to previous activities at the North Burning Ground. The Potential Landfill Area (Feature 20 on Figures 1-3 and 1-4) adjacent to the former North Burning Grounds also potentially contains buried ash.
- Johnson Creek, Clear Creek, and Silver Creek border the former NOP site and have been regularly sampled since 2004 as part of the OU-2 Groundwater Monitoring Program (e.g., ECC 2010a) to determine the impact of trichloroethene (TCE) and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) contaminant groundwater plumes on these surface waters. The BLRA performed as part of the OU-3 RI (URS 2000b) included a quantitative risk assessment of these creeks; however, the assessment needs to be updated to incorporate these more recent surface water sampling results.
- Buildings located above the TCE groundwater plumes may be impacted by vapor intrusion. In 2007, Lockheed Martin, on behalf of USEPA, investigated vapor intrusion utilizing indoor air and sub-slab soil gas monitoring in several buildings at locations that overlie the TCE groundwater plumes (Lockheed Martin 2007). Additional data are needed to supplement the Lockheed Martin/USEPA study to definitively assess the concerns regarding vapor intrusion in these buildings.

The Work Plan (WP) for the OU-3 SRI (GEO 2010, prepared under Delivery Order 0001) was approved by USEPA Region VII and NDEQ in August 2010. The field sampling activities were conducted in September and November 2010. This report documents the methods and results of the OU-3 SRI, including a quantitative human health risk assessment to evaluate risks at the OU-3 areas that were the focus of this investigation.

1.2 SITE HISTORY

The former NOP occupies approximately 17,250 acres and is located approximately 0.5 miles south of the town of Mead and 30 miles west of Omaha in Saunders County, Nebraska (Figure 1-1).

During World War II and the Korean Conflict, bombs, shells, and rockets were assembled at the site. Ordnance production was terminated in 1945 and the facility was placed on standby; decontamination and shutdown procedures were initiated. Between 1945 and 1949, the buildings were decontaminated and used primarily for storage and disposal of bulk explosives and munitions. In addition, ammonium nitrate was produced under an emergency fertilizer production program by Emergency Export Corporation from 1946 until 1949. Finished munitions, bulk explosives, and related ordnance materials and components were stored and demilitarized at the site. Following building decontamination, wastewater and residual explosives were removed from sumps, settling basins, pipelines, and drainage ditches and were reportedly taken to the Burning/Proving Grounds for disposal (ECC 2009a).

In 1950, the plant was temporarily reactivated and produced an assortment of weapons for use in the Korean Conflict. The plant was again placed on standby status in 1956. In 1959, the former NOP site was determined to be surplus and was transferred to the General Services Administration for disposal. Approximately 1000 acres were retained by the U.S. Army for National Guard and Army Reserve training. Twelve acres were retained by the Army for use as a Nike Missile Maintenance Area (Feature 16 on Figure 1-2), 2000 acres were transferred to the U.S. Air Force to build the Offutt Air Force Base Atlas Missile Site (Atlas Missile Area), and 40 acres were transferred to the Department of Commerce.

From 1959 to 1960, the Atlas Missile Area (Feature 2 on Figure 1-2) was built north of Load Line (LL) 4 (LL4) (Feature 15 on Figure 1-2). TCE was used during construction to degrease and clean pipelines used to carry liquid oxygen fuel for missiles. Historical information suggests that TCE was released as ground spills and/or discharged into surface drainage features during these construction activities. The missile facilities were deactivated in 1964 and the Atlas Missile Area and the Nike Missile Maintenance Area were transferred to the Nebraska National Guard.

In 1962, approximately 9600 acres of the site were purchased by UNL for use as an agricultural research farm. An additional 600 acres were obtained by UNL in 1964. The remaining 5250 acres were eventually purchased by private individuals and corporations. Currently, most of the site is owned by UNL for the operation of the Agricultural Research and Development Center [ARDC (Figure 1-1)]. Other portions are owned by the Nebraska Army National Guard, the U.S. Air Force, the U.S. Army Reserves, and the U.S. Department of Commerce. Private pastures and crop fields also exist on the site, with some private, light industry located near the northern end of the site. Adjacent land use is primarily agricultural, except for the town of Mead, which is located north of the site (ECC 2009a).

The former NOP site was placed on the USEPA National Priorities List of Superfund sites in August 1990 because contamination identified in the groundwater exceeded the final target groundwater cleanup goals determined by CENWK, USEPA, and the NDEQ (ECC 2009a). Response actions conducted by the U.S. Army at the former NOP were organized into the following OUs (USEPA et al. 1991, ECC 2009a):

- OU-1 encompasses the upper 4 ft of soil contaminated with explosive compounds.

- OU-2 includes contaminated groundwater, and explosive-contaminated soil not remediated as part of OU-1, which can potentially impact groundwater with explosive contaminants of concern and soil with VOCs.
- OU-3 includes a former on-site landfill and areas of waste not previously identified.

1.3 PREVIOUS INVESTIGATIONS AT OU-3

The following is a summary of investigations and removal actions that have been conducted in areas within OU-3 (locations shown in Figures 1-2 and 1-3). More details regarding these investigations can be found in the OU-3 SRI WP (GEO 2010) as well as in the referenced reports.

1.3.1 Envirodyne Engineers, Inc., Twin City Testing Corp. St. Louis – Preliminary Assessment of Ordnance Contamination

In 1991, a preliminary assessment was conducted to identify potential sources of explosives contamination and unexploded ordnance caused by past Department of Defense (DoD)-related activities (TCT 1991). Several areas were investigated including the North Burning Ground where trenching revealed "ash like material" in the vicinity of where the burn layer was later observed during the UNL removal action (Section 1.3.6). All areas investigated were subsequently included in the OU-3 RI by Woodward-Clyde/URS.

1.3.2 Woodward-Clyde/URS – OU-3 Remedial Investigation and Baseline Risk Assessment

Between 1995 and 1999, field activities for the OU-3 RI were conducted in three phases at the investigation areas shown in Figures 1-2 and 1-3 (Woodward-Clyde 1997; URS 2000a). Field activities included shallow and deep soil sampling, trenching, wipe sampling of buildings (most of which have since been demolished), groundwater sampling, geophysical surveys, and sampling of surface water, sediment, and fish. Tabulated summaries of the OU-3 RI field activities were included in the OU-3 SRI WP (GEO 2010) and are reproduced in Appendix A of this OU-3 SRI report.

Based on a comparison of soil sampling data collected during Phase I and II of the OU-3 RI against human health screening criteria, Woodward-Clyde (1997) recommended no further action for the following investigation areas (a summary of soil data collected during the OU-3 RI are included in Appendix B):

- Bermed Area southwest of LL1
- Demolition Ground
- Detonation Craters
- Former Ammonium Nitrate Plant
- Former Igloo Storage
- Former Tetryl Pelleting Area
- Geophysical Anomaly at LL3
- North Burning Ground
- Proving Grounds
- Potential Waste Disposal Area north of the former Nike Maintenance Area
- Potential Waste Disposal Area southeast of the former Bomb Booster Area
- Potential Waste Disposal Area north of the former Atlas Missile Area

- South Burning Ground

Screening level exceedances were observed in the Phase I and Phase II soil samples from the following investigation areas:

- LL1 through LL4, Bomb Production Buildings [surface soils, 0 to 0.5 ft and 0.5 to 2 ft below ground surface (bgs)]
- LL1 through LL4, Paint Operations Areas (surface soils, 0 to 0.5 ft and 0.5 to 2 ft bgs)
- Northeast Boundary Area (surface and subsurface soils)
- Proving Grounds (surface and subsurface soils)
- Potential Landfill Area (surface and subsurface soils)

Additional soil samples were subsequently collected from these areas during the Phase III OU-3 RI, and the data set from all three phases were combined and used in a BLRA (URS 2000b) to evaluate risks from exposure of likely site users to soils at these investigation areas. Details regarding the BLRA can be found in URS (2000b), while tabulated summaries of the BLRA results presented in the OU-3 SRI WP (GEO 2010) are also reproduced in Appendix A.

Incremental Lifetime Cancer Risks (ILCR) and hazard indices (HIs) calculated in the BLRA are below target levels (URS 2000b), indicating that there are no unacceptable risks and hazards to site receptors from exposure to soils at the investigation areas, with the exception of hazards for a hypothetical child resident from exposure to surface soil at LL2 Paint Storage Area, LL4 Paint Storage Area, and the Potential Landfill Area. These hazards were addressed during removal actions in 2007 to 2008 (Kingston 2008, summarized in Section 1.3.5 below).

In addition to evaluating risks from soils at the investigation areas, the BLRA also included risk calculations for Johnson Creek, Clear Creek, Silver Creek, and the Natural Resources District (NRD) Reservoir (Feature 19 on Figure 1-3) using surface water, sediment, and fish tissue samples collected during the OU-3 RI. The BLRA for Johnson Creek, Clear Creek, Silver Creek, and the NRD Reservoir indicated that there were no unacceptable hazards or risks from exposure of adult and child recreational fishermen to sediment, surface water, and ingestion of fish. However, surface water sampling data collected from Johnson Creek, Clear Creek, and Silver Creek, beginning in 2004 (Section 1.3.3 below) after the BLRA was completed, showed concentrations of TCE that were higher than the concentrations measured in surface water samples collected between 1995 to 1999 during the OU-3 RI. This observation suggested the need to update the BLRA (URS 2000b) with more recent surface water data.

An ecological risk assessment performed as part of the OU-3 RI indicated that none of the chemicals of potential ecological concern were found to be a hazard to aquatic or terrestrial receptors at the site (URS 2000b).

1.3.3 Environmental Chemical Corporation (ECC) – Surface Water Sampling

Beginning in December 2004, surface water samples have been collected quarterly from sampling locations along Johnson Creek, Clear Creek, and Silver Creek as part of the OU-2 Groundwater Monitoring Program (ECC 2006; ECC 2010a). The purpose of the surface water sampling was to monitor the impact of TCE and RDX contaminated groundwater on these creeks. Higher concentrations of TCE and RDX were measured in the recent data [maximum of 56.1 micrograms per liter (μg/L) and 6.8 μg/L, respectively] when compared to concentrations used in the 2000 BLRA (maximum of 6.9 μg/L and 1.8 μg/L for TCE and RDX, respectively). The results of this surface water sampling, which have been included in the OU-2 quarterly groundwater monitoring reports (e.g., ECC 2010a), are integrated into this OU-3 SRI and used to perform a revised BLRA for Johnson Creek, Clear Creek, and Silver Creek. The surface water sampling data and the revised BLRA are presented later in this report in Sections 4.2 and 7.2.

1.3.4 Lockheed Martin – Vapor Intrusion Assessment

Lockheed Martin (2007) conducted a vapor intrusion assessment on behalf of USEPA Region VII at 12 buildings that overlie the former NOP LL1 and Atlas Missile Area TCE plumes. The buildings sampled overlying the LL1 plume are listed below:

- Unit 001 – Building 103 – UNL Dairy Farm Manager Residence (LL1 plume)
- Unit 002 – Building 105 – UNL Swine Farm Manager Residence (LL1 plume)
- Unit 003 – UNL Feed Mill , 970 County Road-10 (LL1 plume)
- Unit 004 – Building 104 – UNL Entomology Building, 1033 County Road-H (LL1 plume)
- Unit 005 – Building 102 – UNL Dairy Science, 1159 CR-10 (LL1 plume)
- Unit 006 – Building 101 – UNL Equipment Storage (LL1 plume)
- Unit 007 – Building 403 – UNL, Agronomy Building 650 County Road-H (Atlas Missile Area plume)
- Unit 008 – Building 406 – Four Winds Winery (privately owned), 1033 County Road-5 (Atlas Missile Area plume)
- Unit 009 – Building 405 – Residence, 1041 County Road-5 (Atlas Missile Area plume)
- Unit 010 – Building 404 – Residence, 1061 County Road-5 (Atlas Missile Area plume)
- Unit 011 – Building 401 – Feed Mill Office [(mistakenly referred to as the AFE Fire Shop in Lockheed (2007), Atlas Missile Area plume]
- Unit 012 – Building 402 – UNL Building (Atlas Missile Area plume)

These buildings were selected for inclusion in the study because they were within 100 ft laterally of the LL1 and Atlas Missile Area TCE plumes, where concentrations were greater than or equal to 5 µg/L. At each of the 12 buildings, at least one of the following air sampling methods were performed:

- Real-time air monitoring of TCE, cis-1,2-dichloroethene (DCE), trans-1,2-DCE, and vinyl chloride (VC) using the Trace Atmospheric Gas Analyzer (TAGA) system.
- Collection of 24 hour indoor air and/or sub-slab soil gas samples in SUMMA® canisters which were analyzed for TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and VC. Analytical results from indoor air samples are considered more definitive than the TAGA real-time air monitoring.

The results of the sample analyses were summarized in the OU-3 SRI WP (GEO 2010) and compared against the USEPA Regional Screening Levels (RSLs) (May 2010) for Residential and Industrial indoor air to identify buildings where vapor intrusion is not a concern. Based on the results of this screening, vapor intrusion does not appear to be a concern in the following buildings (a tabulated summary from the OU-3 SRI WP is reproduced in Appendix A, Table A-4):

- Unit 002 (UNL Swine Farm Manager).
- Unit 004 (UNL Entomology Building).
- Unit 005 (UNL Dairy Science Building).
- Unit 007 (UNL Agronomy Building).
- Unit 008 (Four Winds Winery).

- Unit 009 (private residence).
- Unit 010 (private residence).
- Unit 012 (UNL Building 402).

Note that the buildings listed above were still considered not a concern when the data were evaluated against the November 2011 USEPA RSLs (see Table A-4) which incorporate the recently published health assessment for TCE (USEPA 2011).

The results of the Lockheed Martin/USEPA vapor intrusion study were less conclusive for the following buildings:

- Unit 001 (UNL Dairy Farm Manager Residence). Conflicting results were found between the TAGA results (which slightly exceeded the May 2010 Residential Screening Level) and concentrations in the indoor air samples (which were below the May 2010 Residential Screening Level but above the November 2011 Residential Screening Level).
- Unit 003 (UNL Feed Mill). TCE was not detected in the sub-slab soil gas sample. However, no indoor air monitoring (TAGA or SUMMA® canister samples) was conducted at this building location.
- Unit 006 (UNL Equipment Storage). TCE was detected during TAGA monitoring of indoor air at levels below the industrial screening level. However, no indoor air samples in Summa® canisters, considered to be more definitive than TAGA monitoring, were collected from this building. An estimate of indoor air concentration from TCE detected in a sub-slab soil gas sample exceeded the May 2010 Industrial Screening Level. This building is generally not occupied because it is currently used as a storage area and, as such, exposure duration will be less than in a typical industrial scenario. Nonetheless, definitive indoor air samples are needed such that a quantitative risk assessment can be conducted using exposure factors that are representative of the building's use as a storage area.
- Unit 011 (UNL Feed Mill Office). Only a sub-slab soil gas sample was collected and there are no indoor air samples from this location. An estimate of indoor air concentration from TCE detected in the sub-slab soil gas sample was below the May 2010 Industrial and Residential Screening Levels. Indoor air sampling is needed to confirm the results suggested by the sub-slab soil gas sample. Note that this unit was identified as the "AFE Fire Shop" in Lockheed Martin (2007) and the SRI WP (GEO 2010). During the OU-3 SRI field work, the building was confirmed to be the UNL Feed Mill Office based on the presence of the sub-sampling port that was previously installed by Lockheed Martin (2007).

Indoor air and sub-slab soil gas samples were collected from the four buildings listed above as part of the OU-3 SRI and were used to evaluate whether vapor intrusion is a concern at these locations.

1.3.5 Kingston Environmental Services, Inc. – Non-time Critical Removal Action for OU-3

In 2008, the contaminated soils from the Paint Operations Areas of LL2 and LL4 and the Potential Landfill Area (see Figure 1-2 and 1-3 for locations of these areas) were excavated during a Removal Action conducted by Kingston Environmental Services, Inc. (Kingston 2008). This Removal Action addressed the risks that were identified by the OU-3 RI BLRA (URS 2000b; summarized in Section 1.3.2). At the Potential Landfill Area, soil with antimony levels above a clean-up goal of 31 milligrams (mg) per kilograms (kg) was removed. A seam of debris ran through the excavation area in the Potential Landfill Area and was thought to be a former disposal trench. Much of the debris appeared to have been burned. During the OU-3 RI (summarized previously in Section 1.3.3), trenching was performed at the Potential Landfill Area and ash was also reported in the trench logs (URS 2000a). Thus, in addition to the

burn layer discovered at the North Burning Ground during the UNL Removal action (described below Section 1.3.6), burned material and ash appear to also be present at the Potential Landfill Area.

The approximate total volume of soil removed from the Potential Landfill Area was 575 cubic yards (yds^3) and an approximate area of 430 yds^2. The excavation was backfilled with soil from the Butler County Landfill borrow area (Kingston 2008).

1.3.6 MACTEC – UNL Removal Action – OU-5

In 2009, the removal actions conducted by UNL at the site were directed towards finding and excavating former UNL disposal trenches at various locations within the former NOP, including the North Burning Ground (referred to as "Burial Site A" in UNL records). UNL used these trenches for unspecified chemical waste disposal over a period of two years (sometime between 1962 and 1979). A series of test pits were dug while trying to find the exact location of "Burial Site A" at the North Burning Ground. During the excavation of one of the test pits (Figure 3-1 of the SRI WP, GEO 2010), a burn layer was identified between 1 ft to 2 ft bgs and thought to be related to previous military burning activities in the area. The North Burning Ground was historically used for burning powder boxes, combustibles, old powder, and similar materials (Woodward-Clyde 1997; see burn ramparts visible in a historical aerial photograph in Figure 1-3). A sample of the burn layer was collected and analyzed. The sample contained antimony at 258 mg/kg, lead at 709 mg/kg, and manganese at 805 mg/kg (MACTEC 2009). The levels of antimony in the burn layer indicated that a re-assessment of the North Burning Ground was needed.

The UNL trench/Burial Site A at the North Burning Ground was eventually located approximately 50 ft west of the test pit with the burn layer (Figure 3-1 of the SRI WP, GEO 2010). The UNL trench was approximately 25 ft wide by 50 ft long. Approximately 2000 pounds of waste was excavated from the UNL trench/Burial Site A, which consisted of encased sodium metal, pharmaceutical compounds, flammable liquids such as acetone and toluene, 1,4-dioxane, pesticides, corrosives, mercury, and mercury cyanide (MACTEC 2009). The excavated materials were disposed off-site and the trench was backfilled with clean soil.

1.3.7 GEO Consultants, LLC – Assessment of Previous Data and Preparation of OU-3 Supplemental Remedial Investigation Work Plan

In 2010, a review of OU-3 related documents was conducted to consolidate all previous OU-3 activities. The purpose of this review (summarized in the OU-3 SRI WP, GEO 2010) was to identify any potential data gaps and determine if additional assessment or characterization was required.

The OU-3 BLRA (URS 2000b) is based on data collected between 1995 and 1999 during the field sampling and analysis events at the OU-3 investigation areas (Woodward-Clyde 1997, URS 2000a). However, recent developments and data collection activities at the site indicate the need to revise the OU-3 BLRA for the following investigation areas:

- *Johnson Creek, Clear Creek, and Silver Creek*. Surface water samples that have been collected since 2004 as part of the OU-2 quarterly groundwater sampling (ECC 2006; ECC 2010a) need to be incorporated into the BLRA. These samples are being analyzed for VOCs and explosives. Analyte concentrations in surface water samples from 2004 through 2010 were compared to NDEQ Chronic Criteria for the protection of aquatic life, and no exceedances of the criteria were found for any surface water. No revision to the surface water section of previous ecological risk assessment (URS 2000b) was recommended.
- *The former North Burning Ground and Potential Landfill Area*. A burn layer was encountered during UNL Removal Actions at the North Burning Ground (MACTEC 2009,

summarized in Section 1.3.6). A sample of the burn layer contained antimony and lead concentrations that exceeded human health screening levels. Ash was reported in several trenches at the Potential Landfill Area excavated during OU-3 RI field sampling (URS 2000b). However, no samples for metals analysis were collected at the time. During the Removal Action at the Potential Landfill Area, ash was also observed during the excavation (Kingston 2008). Given the antimony and lead content in the burn layer sample from the North Burning Ground (MACTEC 2009), it is possible that the ash at the Potential Landfill Area contains similar levels of metals. Additional sampling at the former North Burning Ground and Potential Landfill Area was warranted to characterize the extent of the burn layer/ash identified in these investigation areas and to determine if adjacent soils have been impacted by elevated metals that appear to be associated with the burned materials. The data will be used to evaluate exposure potential and quantify risks for land users that may come in contact with soil in these areas.

- *Vapor Intrusion.* The OU-3 RI did not include assessments of vapor intrusion, which was recognized as an important exposure pathway only after the OU-3 RI field activities and BLRA were completed. A vapor intrusion assessment was conducted by Lockheed on behalf of USEPA (Lockheed 2007; summarized in Section 1.3.5) in 12 buildings overlying the TCE groundwater plumes. The results of the Lockheed Martin/USEPA study indicated that vapor intrusion was not a concern for eight of the 12 buildings (Section 1.3.4). Indoor air and sub-slab soil gas sampling conducted as part of the OU-3 SRI will determine if further action is needed to address concerns in the remaining four buildings.

1.4 SCOPE OF OU-3 SRI FIELD SAMPLING

1.4.1 Burn Layer and Ash in the Potential Landfill Area and North Burning Ground

The OU-3 SRI field work included the collection of surface and subsurface soils for metals analysis from 20 sampling locations in the North Burning Ground (9 locations) and Potential Landfill Area (11 locations) (shown in Figure 1-4). The samples were analyzed for metals analyzed for in the previous RI. The data collected was combined with data from the OU-3 RI (Woodward-Clyde 1997, URS 2000a) and was used in a revised BLRA for both areas.

1.4.2 Surface Water

As part of the OU-3 SRI, a revised BLRA is included for Johnson Creek, Clear Creek, and Silver Creek (shown in Figure 1-5) using VOC and explosives analysis of surface water samples collected from November 2004 through May 2010. Surface water sampling is being conducted as part of the OU-2 Groundwater Monitoring Program (ECC 2006; ECC 2010a). As such, surface water sampling was not included in scope of the OU-3 SRI because data from the OU-2 monitoring program was deemed adequate for a revised BLRA of the creeks. The surface water data can be found in Appendix C.

1.4.3 Vapor Intrusion

The OU-3 SRI field sampling included the collection of sub-slab soil gas and indoor air at the four buildings of potential concern (Units 001, 003, 006, and 011). Additionally, three ambient air samples (background) were collected outside of Units 001, 006, and 011 to monitor background conditions. Samples were analyzed for TCE and its degradation products (cis-1,2- DCE, trans-1,2-DCE, and VC). Indoor air concentrations collected during the OU-3 SRI field sampling were used to evaluate whether vapor intrusion is a concern for these buildings.

1.5 REPORT ORGANIZATION

The OU-3 SRI report is organized as follows:

- *Section 2*: *Field Investigation and Sample Analysis Methods* – An overview of sampling activities at each investigation area and field procedures are presented in this section.
- *Section 3: Physical Characteristics of the Site* – This section describes site topography, soils, surface water, geology, hydrogeology, climatology, and land use of the former NOP.
- *Section 4: Nature and Extent of Contamination* – An overview of the analytical results, findings, and data quality are presented in this section.
- *Section 5: Contaminant Fate and Transport* – This section summarizes what is known regarding the persistence and transport pathways for contaminants of potential concern that were identified in the screening of the analytical results in Section 4.
- *Section 6: OU-3 Supplemental Baseline Risk Assessment* – This section presents the methods and results of calculations that were performed to evaluate hazards and risks from exposure to soils/burned material at the North Burning Ground and Potential Landfill Area, to surface water at Johnson Creek, Clear Creek, and Silver Creek, and to potential intrusion of volatile groundwater contaminants into overlying buildings.
- *Section 7: Summary and Conclusions* – This section summarizes the findings of the OU-3 SRI.
- *Section 8: References* – A list of all resources referenced in this document is presented in this Section.

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2. FIELD INVESTIGATION AND SAMPLE ANALYSIS METHODS

This section summarizes the methods used to collect and analyze samples for the OU-3 SRI at the former NOP. Detailed procedures for soil and indoor air/sub-slab soil gas sampling can be found in the Field Sampling Plan and Quality Assurance Project Plan that were included as appendices to the WP (GEO 2010). Procedures used in the OU-2 Groundwater Monitoring Program, which includes surface water samples integrated into this OU-3 SRI, are described in the *Site-Wide Work Plan for Support Services* prepared by ECC (2009a).

Section 2.1 describes surface and subsurface soil sampling performed to characterize the impact of a burn layer and ash observed during previous investigations as well as Removal Actions at the North Burning Ground and the Potential Landfill Area. Surface water sampling conducted as part of the OU-2 Groundwater Monitoring Program is briefly described in Section 2.2. Section 2.3 describes the sampling locations and sampling methods for the indoor air and sub-slab soil gas sampling to assess vapor intrusion at buildings where further sampling was warranted based on the results of the previous study conducted by Lockheed Martin (2007) on behalf of USEPA Region VII. Management and disposal of Investigation-Derived Waste (IDW) are presented in Section 2.4. Section 2.5 describes the Quality Control (QC) procedures utilized in the field. Section 2.6 presents sample custody and handling, while Section 2.7 presents an assessment of data quality.

Photographs taken during the OU-3 SRI field sampling can be found in Appendix D.

2.1 BURN LAYER IN THE POTENTIAL LANDFILL AREA AND NORTH BURNING GROUND

A direct push drill rig was used to obtain continuous 1.25 inch (in.) diameter soil cores (in 5 ft intervals) to a maximum depth of 10 ft, or refusal (whichever was encountered first). Cores were collected from 11 locations in the Potential Landfill Area (PLA-01 to PLA-11; Figure 2-1) and nine locations in the North Burning Ground (NBG-12 to NBG-20; Figure 2-1). Soil sampling was conducted from September 13-15, 2010.

One of the soil cores (NBG-12) was collected near the approximate location of the "burn layer" from the UNL Removal Action (MACTEC 2009). Soil cores NBG-13 through NBG-15 were collected from the approximate location of the former burn ramparts (seen in the historical photograph in Figure 1-3). NBG-16 through NBG-20 were positioned between previously sampled locations from the OU-3 RI (Woodward-Clyde 1997; URS 2000a).Soil cores PLA-01 through 09 were collected in the vicinity of trenches excavated during the OU-3 RI, where ash was noted in the trench logs (URS 2000a). PLA-10 and PLA-11 were collected near the Removal Action excavation at the Potential Landfill Area (Kingston 2008) where buried burn materials were also observed.

Continuous cores were collected in acetate sleeves that were brought to the surface. The soil cores were photographed, logged for lithology (drilling logs located in Appendix F), and visually inspected for evidence of a burn layer or ash.

2.1.1 Surface Soil Sampling

Surface soil samples were taken from the top 0.5 ft of the soil cores. Although previous observations indicated that the burn layer and ash were present at greater depths, impacts on surface soil need to be evaluated because it is this soil horizon to which all site receptors can be exposed (see Section 6 for a conceptual site exposure model). To collect a representative sample of the top 0.5 ft of the soil cores, this core interval was transferred to a plastic bag and homogenized. An aliquot from the homogenized soil was then transferred to a sample container. The surface soil samples were analyzed using USEPA SW-

846 Method 6010B (Inductivity Coupled Plasma-Atomic Emission Spectrometry) for metals except mercury, which used Method 7471A (Mercury in Solid or Semisolid Waste: Manual Cold Vapor Technique). Prior to analysis by 6010B, the soil samples were digested following USEPA SW-846 Method 3050B (Acid Digestion of Sediment, Sludges, and Soils). A list of surface soil samples is shown in Table 2-1. Soil samples were packaged in accordance with the WP (GEO 2010) and sent to Test America in Burlington, Vermont for analysis. At the time of sample analyses (September 2010), Test America Burlington was going through the final steps required to qualify for DoD ELAP accreditation. The laboratory received ELAP accreditation in October 2010.

2.1.2 Subsurface Soil Sampling

Subsurface soil samples were collected from the 0.5 to 4 ft, and 4 to 8 ft bgs sections of the soil cores. Each depth interval of the core was transferred to a plastic bag and homogenized, and an aliquot from the homogenized soil was transferred to a sample container. Sample locations are shown in Figure 2-1. The subsurface soil samples were analyzed using the same methods as the surface soil samples. A list of subsurface soil samples is shown in Table 2-1. Subsurface soil samples were packaged in accordance with the WP (GEO 2010) and sent to Test America in Burlington, Vermont for analysis.

2.2 SURFACE WATER

Surface water sampling locations are shown in Figure 2-2. As mentioned previously, the purpose of this sampling under the OU-2 Groundwater Monitoring Program is to monitor impacts of the TCE and RDX groundwater plumes on Johnson Creek, Clear Creek, and Silver Creek. Tables 2-2, 2-3, and 2-4 show the dates when surface water samples were collected from these locations. Note that some of the locations have not been sampled during the more recent events (e.g., SW-01, SW-02, SW-03, and SW-04, along Johnson Creek, shown in Table 2-2; SW-07 at Clear Creek shown in Table 2-3; SCW-02 and SCW-03 at Silver Creek, shown in Table 2-4). An analysis of the sampling results from these locations (see Section 4) indicates minimal to no detections of site-related compounds. No data are available from SW-04 and SCW-02. At SW-04, this is due to the sporadic presence of surface water in the creek at this location.

Figure 2-2 shows an artesian well that is sampled under the OU-2 Groundwater Monitoring Program. Water from this artesian well flows into a ditch that discharges upstream of SW-08 on Johnson Creek. Data from this artesian well were not included when evaluating risks at Johnson Creek because data from this well is not considered representative of surface water conditions in the creek. SW-14 (taken from a ditch that flows into Clear Creek) and SKI-01 (taken from an artificial lake) shown in Figure 2-2 are not sampled regularly as part of the OU-2 Groundwater Monitoring Program. Figure 2-2 also shows the extraction wells and groundwater treatment plants that are part of the OU-2 Remedial Action. The treatment plants discharge to Clear Creek (in the vicinity of SW-12) and to Wahoo Creek (southwest of the former NOP site and Silver Creek). Additional information regarding the OU-2 groundwater treatment systems is presented in Section 3.6.

The surface water samples were analyzed for VOCs using Method 8260B (Volatile Organic Compounds by Gas Chromatograph/Mass Spectrometry) and for explosives using Method 8330 (Nitroaromatics, Nitramines, and Nitrate Esters by High Performance Liquid Chromatography). The samples were analyzed by Test America, Burlington, Vermont.

As mentioned previously, surface water analysis results (VOCs and explosives) are located in Appendix C and discussed in Section 4.

2.3 AIR AND SUB-SLAB SOIL GAS

2.3.1 Sampling Locations

Air and sub-slab soil gas sampling was conducted at four locations, as shown in Figure 2-3. The subs-slab gas samples (Figure 2-4, photograph A) were collected from sampling ports that were installed during the previous vapor intrusion assessment (Lockheed Martin 2007; see Figure 2-4 photograph B). These ports were leak-tested with helium to ensure their integrity before they were used to collect sub-slab gas samples (Figure 2-4 photograph C).

The air and sub-slab gas samples were collected in two sampling events. The first set of samples was collected on September 14-15, 2010. All samples outlined in the OU-3 SRI WP (GEO 2010) were successfully collected with the exception of the sub-slab soil gas sample from Unit 003 (Feed Mill). Due to a damaged port, this sample could not be collected. The port was found to have a rusted steel fitting; during an attempt to remove the cap, the entire fitting raised up from the port indicating that the seal was broken. The rusted steel fitting may have been caused by occasional flooding in the basement of the building; including flooding the day sampling was scheduled. The field crew returned to Unit 003 (Feed Mill) on November 2-3, 2010 to install a new sub-slab sampling port. During this second sampling event, the original port was repaired, a new port was installed, and a sub-slab soil gas sample was successfully collected from the original sampling location. In addition, two indoor air samples and a background/ambient air sample was collected at the same time.

At Unit 001 (UNL Dairy Farm Manager Residence, Figure 2-3), two sub-slab soil gas samples (making a duplicate pair), three basement indoor air samples (including one duplicate pair), and one ambient air (outdoor background) sample were collected (see photographs in Figure 2-4). An indoor air sample could not be collected from the first floor since a generator was running the previous night due to a power outage. At Unit 003 (the Feed Mill) two indoor air samples (one in the basement and another from the ground floor) were collected. As noted earlier, a sub-slab soil gas sample was not collected during the first sampling event in September 2010 because of a defective sampling port. After the port was repaired in November 2010, one sub-slab soil gas sample, two indoor air samples (one in the basement and another from the ground floor), and one ambient air sample (outdoor background) were collected from Unit 003 (UNL Feed Mill). Unit 006 (UNL Equipment Storage Building) is a single-story storage building on the north end of LL1. At this location, one sub-slab soil gas sample, two indoor air samples (northern and center sections of the building), and one ambient air sample (outdoor background) were collected. At Unit 011(UNL Feed Mill Office), one sub-slab soil gas sample and two indoor air samples (office and break room) were collected. A list of indoor air, sub-slab soil gas, and outdoor ambient air samples taken is located in Table 2-5. Photographs of the buildings and the sampling can be found in Appendix D.

2.3.2 Sampling Method

Indoor air, sub-slab soil gas, and outdoor ambient air samples were collected in pre-cleaned, evacuated, individually certified 6 L Summa® canisters equipped with mass flow controllers that enabled filling of the canisters at a controlled flow rate over 24 hours. Canisters were periodically monitored to ensure the vacuum in the canister did not fall below 5 in. of mercury. If the vacuum pressure in the canister fell below 5 in. of mercury, the time was noted on the field form (Appendix F) and the canister valve was closed prior to 24 hours. The filled canisters were then shipped for overnight delivery to Test America-Burlington and analyzed using air method TO-15 (Determination Of Volatile Organic Compounds in Air Collected in Specially-Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry) for VOCs: TCE, cis-1,2-DCE, trans-1,2-DCE, and VC.

2.3.2.1 Sub-slab soil gas samples

Sub-slab sampling ports were leak-tested with helium to ensure port integrity (Figure 2-4 photograph C). The canisters were then connected to the ports with Teflon® tubing and Swagelok® fittings (Figure 2-4a). A sub-slab soil gas sample was taken from a storage room in the basement at Unit 001 (UNL Dairy Farm Manager Residence). The Unit 003 (UNL Feed Mill) sub-slab soil gas sample was taken from the basement of the Feed Mill building. The Unit 006 (UNL Equipment Storage Building) sub-slab soil gas sample was taken from the northern most section of the building. The Unit 011 (UNL Feed Mill Office) sub-slab soil gas sample was taken from the locker room/bathroom near the center of the building.

2.3.2.2 Indoor air samples

Indoor air samples were taken from the breathing zone, 4 to 6 ft above the floor. Unit 001 (UNL Dairy Farm Manager Residence) indoor air samples were both taken in the basement since a power outage the previous night resulted in running a generator upstairs for several hours. Unit 003 (UNL Feed Mill) samples were taken in the basement and in the first floor break room. Unit 006 (UNL Equipment Storage) samples were taken from the northern and center sections of the building. Unit 011 (UNL Feed Mill Office) samples were taken from the break room and office area. Samples were collected for 24 hours or until the pressure in the canister fell below 5 in. of mercury. Samples removed before the 24 hour time limit include: U006-0910-AIR-002-01-IA (22 hours, 43 minutes) and U011-0910-AIR-002-01-IA (23 hours, 15 minutes).

2.3.2.3 Ambient air samples

Ambient air samples were taken outside of Unit 001, Unit 003, and Unit 006, as shown by the pink squares on Figure 2-3. They were placed in the breathing zone, approximately 4 to 6 ft above ground level. Samples were collected for 24 hours or until the pressure in the canister fell below 5 in. of mercury. One sample was removed before the 24 hour time limit UBKG-1110-AIR-001-01-AA (23 hours, 27 minutes).

2.4 MANAGEMENT AND DISPOSAL OF INVESTIGATION-DERIVED WASTE

All decontamination procedures were performed in accordance with the OU-3 SRI WP (GEO 2010). All IDW was managed according to the Site-Wide Sampling and Analysis Plan (ECC 2009d). All IDW was collected, containerized as non-hazardous waste in 55 gallon drums, and hauled to the Douglas County Landfill for disposal by ICR Services, Inc. along with waste from another project. Appendix M includes information on the management and disposal of IDW.

2.5 FIELD QUALITY CONTROL PROCEDURES AND DOCUMENTATION

The field activities were conducted in accordance with all field and QC procedures presented in the OU-3 SRI WP (GEO 2010). Field work documentation is located in Appendix F.

2.6 SAMPLE CUSTODY, HANDLING, AND HOLDING TIMES

Soil samples were stored in 4 ounce glass jars and preserved in coolers and shipped on ice at 4 degrees Celsius (°C) ± 2°C. The maximum holding time was 180 days for metals (not including mercury) and 28 days for mercury. All samples were received by the laboratory in good condition and analyzed within specified holding times. One sample (NBG-16-SB-48-01-0910) was received with a cracked lid, however the plastic liner was intact and the sample did not appear compromised; the lid was replaced by laboratory management. Sample chain of custody forms for the soil samples are located in Appendix L. Several instances were found in which the sample time on the sample label and chain of custody were not

identical due to errors in transcribing the sampling times from the label onto the chain of custody forms; the time listed on the chain of custody was used by the laboratory. Note that the discrepancies for sampling times were on the order of a few minutes and do not impact the usability of the soil sample data.

Air/soil gas samples were taken in 6 L Summa® canisters with a maximum holding time of 30 days. No preservation techniques were required. The samples arrived at the laboratory in good condition. During a pressure check, Sample U001-0910-AIR-001-02-SG was received at an elevated residual vacuum; the analysis of the sample continued. At the start of sampling, the vacuum in the canister was at 30 in. of mercury. After 24 hours, the vacuum had dropped to 12 in. of mercury, which indicated that a sufficient volume of sample had been collected. Sample chain of custody forms for the air samples are located in Appendix L.

2.7 DATA ASSESSMENT

The analytical data collected during the OU-3 SRI (located in Appendix G) were evaluated for quality, accuracy, precision, comparability, sensitivity, representativeness, and completeness. Field QC samples analyzed include field duplicates (FDs) and Matrix Spike (MS)/Matrix Spike Duplicate (MSD) sample pairs. Laboratory QC samples include laboratory control samples (LCSs), laboratory control sample duplicates (LCSDs), and method blanks (MB). Results of the field and laboratory QC sample analysis are provided in the project Quality Control Summary Report (QCSR, GEO 2011).

Previous data from the RI (Woodward-Clyde 1997, URS 2000a) and surface water sampling (e.g., ECC 2010a) were also assessed for quality. Relevant QCSRs for these data sets were reviewed and analyzed. No issues with the quality of previous data were found. The data assessment focuses on the metals, explosives, and VOCs that exceeded screening criteria and were carried through the risk assessment.

The following summarizes the QC results for the soil and air samples that were collected as part of the OU-3 SRI field activities; additional details can be found in the project QCSR (GEO 2011). The results of the laboratory and field QC sample analyses presented in the section indicate that, overall, the laboratory conducted the field analyses with acceptable accuracy, precision, comparability, sensitivity, representativeness, and completeness for the chemicals that were most frequently detected above screening levels in this site data.

All of the analytical data were validated by a third party; the data validation report can be found in Appendix G. Twelve non-detected antimony values were rejected due to low recoveries in the MS and post-digestion spike samples. There were no other major issues identified by the third-party validation. The rejected data were not included in the risk calculations (Section 6). Exclusion of the rejected data did not have a significant impact on the OU-3 SRI because there were still an adequate number of valid antimony data points that were used in evaluating contamination (Section 4) and in the risk calculations (Section 6).

2.7.1 Accuracy

Analytical accuracy can be monitored through analysis of LCSs, which are QC samples prepared by the laboratory and consist of clean matrices spiked with known quantities of analytes. LCS recoveries (%REC) are calculated with Equation 1 where C_m and C_{spike} are the measured and spiked concentrations, respectively. The recoveries for VOCs in indoor air/sub-slab gas samples were within the DoD Quality Systems Manual (QSM) range of 80 to 120%. The recoveries for metals in the solid samples analyzed by the laboratory were within the DoD QSM range of 80 to 120%.

$$\%REC = 100 \times \frac{C_m}{C_{spike}} \quad (1)$$

Recoveries in MS samples are calculated using Equation (2) where C_{sample} is the concentration of the sample used as a MS and other terms defined previously. MS recoveries are influenced by sample heterogeneity and the magnitude of the spike concentration with respect to the sample concentration.

$$\%REC = 100 \times \frac{\left(C_m - C_{sample}\right)}{C_{spike}} \quad (2)$$

%REC values of antimony were consistently low in the MS samples, ranging from 16% to 33% (Table 13a, GEO 2011). The lowest %REC values were observed in samples NBG-18-SB-48-01-0910-MS/MSD (16 and 18%). Since %REC values for antimony in the LCS ranged from 87 to 92% (Table 10 in project QCSR), the poor recoveries in the MS/MSD samples suggest that matrix interferences exist. The low recovery in the MS/MSD samples suggests the possibility of a negative bias in the reported antimony concentrations for the field samples.

Three metals had anomalous recoveries in the MS/MSD samples, aluminum (652% to 1267%), iron (820% to 1798%), and manganese (2% to 978%) due to the spike amounts being significantly lower than the sample concentrations (Table 13a, GEO 2011). For example, the manganese concentration in PLA-06-SB-54-01-0910 is 662 mg/kg. The MS/MSD samples were spiked with 58 mg/kg, which is ~9% of the native sample concentration and is within the variability observed in FDs [relative percent difference (RPD) ranged from 1.3% to 21.1%].

Two metals had recoveries outside the control limits in the MS/MSD samples (both high and low): barium (76% to 155%) and lead (49% to 164%). For these two metals, the spike concentrations were less than the native concentrations such that the calculated %REC in the MS/MSD samples may have also been influenced by field variability. For example, the lead concentration in PLA-06-SB-54-01-0910 is 15.6 mg/kg. The MS/MSD samples were spiked with 2.34 mg/kg, which is 15% of the native concentration and less the maximum RPD in the FDs (28%). Thus, %REC calculations in the MS/MSD spikes may have been also been influenced by native sample concentration variability.

Several metals had %RECs ranging from below control limits to within the control limits of 80% to 120%:

- Arsenic with %RECs ranging from 74% to 113%.
- Beryllium with %RECs ranging from 68% to 93%.
- Cadmium with %RECs ranging from 64% to 91%.
- Cobalt with %RECs ranging from 72% to 82%.
- Copper with %RECs ranging from 70% to 91%.
- Nickel with %RECs ranging from 70% to 83%.
- Selenium with %RECs ranging from 52% to 81%
- Silver with %RECs ranging from 70% to 83%.
- Thallium with %RECs ranging from 79% to 91%.
- Zinc with %RECs ranging from 67% to 87%.

The following compounds had %RECs within the control range.

- Chromium with %RECs ranging from 87% to 101%.
- Mercury with %RECS ranging from 98% to 111%.

Post-digestion spike samples consisting of the digested MS samples spiked with known quantities of analytes were analyzed based on the low %REC values for antimony in MS samples. %REC values in the post-digestion spikes are used to gauge any matrix-related interferences remaining in the samples following digestion. %REC values for antimony in two of the three post-digestion spike samples were outside the control range (75-125%).

Based on the MS/MSD and post-digestion spike recoveries, the data validator assigned "J" qualifiers to results for metals for which %REC values for the MS/MSD samples were outside the control range. In Table 5b of the QCSR (GEO 2011), these results are indicated by an "MS/MSD" in the "Comments" column. Non-detect values for antimony in samples associated with NBG-18-SB-48-01-0910-MS/MSD were "R" qualified (deemed unusable) by the data validator based on the combined poor recovery of antimony in the MS/ MSD and the %REC post-digestion spike (72%) being below the QC range (75-125%). Note that "R"-qualified data were not included in the data set that was used in the risk calculations (Section 6).

Accuracy is impacted by both laboratory and field contamination. Laboratory contamination is monitored through MBs. Field contamination is monitored through equipment blanks (EBs) and trip blanks (TBs). No EBs or TBs were required during the SRI field work. For sample concentrations within five times the concentration in the MB, the analytical is reported with a "B" qualifier, indicating potential positive bias from laboratory contamination. No analytes were detected in the MBs associated with the air/sub-slab soil gas samples. Analytes detected in the soil MBs were below the screening levels used to evaluate the data (Section 4). As such, MB contamination was not significant and does not impact the overall results of the OU-3 SRI.

2.7.2 Precision

Standard deviations in the recoveries for the LCSs analyzed for this project can be used to gauge analytical precision. Standard deviations of the recoveries for metals are below the 20% criteria. The LCS RPD for VOCs in vapor intrusion was within the acceptable range of 0 to 4%.

The RPD between FD analyses is defined by Equation 3 where C_1 and C_2 are the measured concentrations for the duplicate samples.

$$RPD(\%) = 100 \times \frac{|C_1 - C_2|}{0.5(C_1 + C_2)} \tag{3}$$

No VOCs were detected in the indoor air FD samples, and only TCE was detected and in only one of a pair of duplicate sub-slab soil gas samples. An RPD could not be calculated for the latter pair of results where one of the results is a non-detected value. However, the detected concentration [0.5 J μg per cubic meter (m^3)] is relatively low and is qualitatively comparable to the non-detected value (1.1U μg/ m^3).

All the RPD values are below 50% for all FD pairs of soil metal samples except for PLA-02-SB-54-01-0910 and PLA-02-SB-54-02-0910, in which RPDs exceeded 50% for several metals. Concentrations were consistently higher in one sample (PLA-02-SB-54-02-0910), which suggests the influence of sample heterogeneity or less efficient extraction of metals in one sample when compared to the other.

2.7.3 Comparability

Comparability was assumed to have been achieved by following standard methods of analyses published by USEPA to generate data with known and documented quality. In addition, the laboratory adhered to other requirements specified in the DoD QSM (example, the use of traceable analytical standards).

2.7.4 Sensitivity

This objective was achieved by selecting analytical methods for which method detection limits (MDLs) were below screening levels used to evaluate site data for as many analytes as possible. In some cases (e.g., VC in water), the screening level (0.016 μg/L) is below what can be achieved with current instrument technology (e.g., MDLs ranged from 0.062 to 0.34 μg/L in the surface water samples). As such, although VC was not detected in any of the surface water samples (see Section 4 for presentation of data), it was included in the quantitative risk assessment (see Section 6 for the risk calculations and results).

2.7.5 Representativeness

Representativeness of the sampling was analyzed through evaluation of blank contamination, preservation, and holding time of samples. Trip blanks were not utilized during this sampling event, as no aqueous VOC samples were taken. There were several metals detected in the laboratory blanks (Initial Calibration Blank, Continuing Calibration Blanks, and Preparation Blanks) for Methods 6010B and 7471A; data were "J" or "U" qualified as appropriate. Samples were collected for metals in soils, and therefore, did not require chemical preservation. All soil samples were received at the laboratory on ice. Vapor intrusion samples did not require preservation. All extractions and analysis were performed within method-specific holding times.

2.7.6 Completeness

Field completeness for sample collection was assessed by comparing the number of samples properly collected to the number of samples planned for collection. A total of 72 samples (including primary and QC samples) from 20 borehole locations at the North Burning Ground and Potential Landfill Area were collected as planned (GEO 2010). The field completeness for metals analysis was 100%.

Sixteen air/soil gas samples were planned for the September 2010 sampling event. However, as noted in Section 2.3.1, a sub-slab soil gas sample at Unit 003 was not collected due to an unusable sub-slab soil gas sampling port. The field completeness for September 2010 air/soil gas samples was 93.8%. The field crew returned to Unit 003 in November 2010 and repaired the sub-slab sampling port. Four indoor air/sub-slab soil gas samples were planned for the November 2010 sampling event and all were collected as planned. The field completeness for the November 2010 air/soil gas samples was 100%.

Analytical completeness was assessed by comparing the number of accepted data to the total number of analysis results. The rejected data points consist of the 12 antimony non-detect concentrations that were deemed unusable by the third party data validator due to low recoveries in the associated MS/MSD and post-digestion spike samples. The resulting analytical completeness for metals in soil is 99.3% and 100% for VOCs in indoor air/sub-slab soil gas samples.

3. PHYSICAL CHARACTERISTICS OF THE SITE

3.1 PHYSIOGRAPHY AND TOPOGRAPHY

Elevations at the former NOP site range from 1210 ft above mean sea level (amsl) in the northeastern portion of the site to 1105 ft amsl in the southwestern corner near Silver Creek (USGS 1981).

At the Potential Landfill Area and North Burning Ground, elevations range from approximately 1130 to 1160 ft amsl (USGS 1981). The topography is gently rolling, with a downward slope in elevation across the site generally towards the east. On-site runoff is expected to flow towards the direction of the NRD reservoir, which is located on Johnson Creek. This creek flows towards the south/southeast and connects with Clear Creek approximately three miles south of the site.

3.2 SURFACE WATER

A number of streams are located within, and near, the former NOP site (Figure 1-5). The three largest streams are Johnson Creek, Clear Creek, and Silver Creek. Johnson Creek merges with Clear Creek southeast of the site and continues downstream as Clear Creek.

Silver Creek is located on the southwest corner of the site and drains into Wahoo Creek south of the former NOP and north of the city of Ashland (Figure 1-5). Historically, Silver Creek flowed into Memphis Lake and the outlet stream that drains Memphis Lake was the original channel of Silver Creek (URS 2009b). A diversion channel was built to redirect the upper portion of Silver Creek such that it flows into Wahoo Creek. The stream that drains Memphis Lake is called "Lower Silver Creek" (URS 2009b). Wahoo Creek flows into Salt Creek, which discharges into the Platte River near the southeastern corner of Saunders County.

The majority of surface runoff from the former NOP flows into Johnson Creek. The surface drainage area for Johnson Creek includes the former Raw Products Igloo Storage Area, the former Atlas Missile Area, the former Ammonium Nitrate Plant, LL2 through LL4, and the Burning/Proving Grounds (Woodward-Clyde 1997). Surface runoff from the western portion of the former NOP site drains southward and eventually enters Silver Creek. The surface drainage area for Silver Creek includes LL1, the former Administration Area, and the Bomb Booster Assembly Area (Woodward-Clyde 1997).

The Todd Valley aquifer discharges to Johnson Creek and Clear Creek southeast of the site, [see "gaining reach" in Figure 3-1 (Part A)], and to Silver and Wahoo Creeks south of the site [see "gaining reach" Figure 3-1, Part B] (URS 2009a). More details regarding hydrogeology are presented in Section 3.3 below.

3.3 GEOLOGY AND HYDROGEOLOGY

3.3.1 General Geology

The former NOP site is located in the Todd Valley, an abandoned alluvial valley of the ancestral Platte River (ECC 2009a). The unconsolidated sand and gravel deposits in the Todd Valley at the former NOP site ranges in thickness from approximately 81 ft to 157 ft, and are overlain by 4 ft to 23 ft of fine-grained Peoria Loess (URS 2008, ECC 2009a).

Todd Valley is bounded on the southwest by the Wahoo Valley Alluvium, on the southeast by the Platte Valley Alluvium, and northeast by the Till Uplands (URS 2008). Both the Platte and Wahoo Valley

alluvial deposits consist of sands and gravels overlain by fine-grained overbank deposits (URS 2008). The Till Uplands consist of silts and clays covered by Peoria Loess.

The uppermost bedrock unit is the Omadi Shale in the northwest and the Omadi Sandstone in the southeast portions of the former NOP site (ECC 2009a).

3.3.2 Site Hydrogeology

Three major alluvial aquifers are present at and in the vicinity the former NOP site: the Todd Valley aquifer, the Platte Valley aquifer, and the Wahoo Valley aquifer (ECC 2010b). The till Uplands aquifer is a minor aquifer also located in the vicinity (north) of the site. The alluvial aquifers are underlain by the Omadi Formation except near the Ashland well field (located southwest of the site) where the Omadi Formation is absent and Pennsylvanian strata comprise the sub-cropping bedrock (ECC 2010b). The Omadi Formation is a relatively impermeable base to the alluvial aquifer system. Three aquitards are located in the vicinity: the Pennsylvanian shales, the Omadi Shale, and the Platte River aquitards (ECC 2010b).

The water-bearing portions of the unconsolidated material in the Todd Valley Aquifer are divided into two units (ECC 2009a): an upper fine sand unit (12 ft to 77 ft thick) and a lower sand and gravel unit (17.5 ft to 72 ft thick). The upper fine sand unit is overlain by 4 ft to 23 ft of Peoria Loess based on boring logs collected from multiple locations throughout the former NOP site. The unconsolidated material in the Platte River Valley Aquifer (located east of the former NOP site) ranges in thickness from 39 ft to 49 ft, and is overlain by silts and clays ranging from 10 ft to 17 ft thick that overlie the Platte River alluvial sands and gravels (ECC 2009a).

The potentiometric surface in the Todd Valley Aquifer slopes towards the south/southeast. A zone of groundwater discharge is located in the southeast portion of the former NOP, along the western side of the Platte River floodplain. The local hydrology is also affected by the on-site groundwater treatment plants, which are further discussed in Section 3.6. The potentiometric surface of the Platte River alluvial aquifer slopes to the south paralleling the Platte River Valley. Artesian conditions exist in some areas.

As noted above, previous investigations (URS 2009a) have established that the Todd Valley aquifer discharges to Johnson Creek and Clear Creek southeast of the site (Figure 3-1, Part A) and to the Silver and Wahoo Creeks south of the site (Figure 3-1, Part B).

3.4 CLIMATOLOGY/METEOROLOGY

Saunders County, Nebraska is subjected to cold northerly winds in the winters and hot southerly winds in the summer. April and September are the wettest months, with annual precipitation averaging 28 in. per year. An average snowfall of 31 in. occurs annually, with January exhibiting the coldest temperatures [average low temperature of 13° Fahrenheit (F)]. An average high temperature of 88°F occurs in July (Woodward-Clyde 1997). Table 3-1 shows monthly average temperatures, precipitation, and snowfall for Mead, Nebraska.

3.5 SITE LAND USE

The majority of the former NOP site is currently owned by the UNL-ARDC (approximately 9536 acres, Figure 1-1). Approximately 2176 acres are owned by the U.S. government and used by the Nebraska National Guard, the U.S. Air Force, and the Army Reserves. Privately-owned crop and pasture land makes up the majority of the rest of the area with The Mead Cattle Company occupying approximately 2240 acres. Most of the adjacent land is used for agriculture, with the exception of the town of Mead (Woodward-Clyde 1997, URS 2009a).

The North Burning Grounds area is currently used by UNL as a wildlife plantings area for tall grasses and weeds. A deed restriction exists for the North Burning Ground and Potential Landfill Area that prohibits usage of the area in the following ways:

- The use of the property in any manner that would interfere with, or adversely affect, the implementation, integrity, or protectiveness of any response actions that have been, or may be, performed is prohibited.
- The use of the property for other than wildlife habitat is prohibited except for the maintenance of the remedy and further cleanup and other related land stewardship activities.
- The use of groundwater contaminated with any of the constituents listed in Appendix D of the Consent Decree for human consumption is prohibited unless it has been treated before use to standards acceptable to the USEPA and Nebraska Health and Human Services System consistent with the Safe Drinking Water Act and applicable Nebraska law (Permanent Deed Notation, U.S. 2005b).

3.6 GROUNDWATER TREATMENT PLANTS

Four groundwater treatment plants are located on-site: the Main Groundwater Treatment Plant, the LL1 Treatment Plant, the LL4 Treatment Plant, and the Advanced Oxidation Process (AOP) Treatment Plant. Groundwater treatment plants have been installed at the former NOP as part of the Response Action for OU-2. The water treatment plants and extraction wells that feed these plants are shown in Figure 2-2. These plants are fed by approximately 4.2 million gallons of groundwater per day extracted from the on-site TCE and RDX plumes and treated. Effluent from these plants is discharged to Clear Creek in the vicinity of SW-12 and Wahoo Creek located south of the former NOP site.

The Main Groundwater Treatment Plant utilizes an advanced oxidation process to destroy VOCs; it became operational in 1998 and was expanded in 2002. This plant is fed by extraction wells EW-01 through EW-10, EW-14, and EW-16. This plant also treats EW-11, after it is pre-treated by the AOP Treatment Plant which is positioned to cut off the highest levels of TCE in the Atlas Missile Area TCE plume. EW-11 pumping rates range from 545 to 570 gallons per minute (gpm).

The LL1 Treatment Plant (see Figure 2-2 for location) construction was completed on January 11, 2006. It is fed by EW-12. Treated water is discharged into Wahoo Creek. EW-12 pumping rates range from 317 to 327 gpm. This plant was planned to also treat groundwater from EW-13, but transmissivity in the vicinity of EW-13 was too low to sustain the designed flow rate.

The AOP Treatment Plant, which began operations on March 24, 2008 (see Figure 2-2 for location), is fed by EW-11, which was converted to a focused extraction well. The design flow rate is 550 gpm, with an adjusted average annual flow rate of 492 gpm in 2009. The effluent from the AOP Treatment Plant is routed to the Main Treatment Plant.

The LL4 Treatment Plant, which passed final inspection on August 26, 2010, is located near the AOP Treatment Plant (see Figure 2-2 for location). Groundwater from EW-15, which was converted into a focused extraction well, is treated through a six-tray air stripper. The effluent is then fed into the influent line of the Main Groundwater Treatment Plant for polishing. Contaminated air is transferred to the vapor-phase carbon vessel for treatment and is discharged through an exhaust stack. The plant is designed to treat an average daily flow of 500 gpm.

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4. NATURE AND EXTENT OF CONTAMINATION

The analytical data generated during the OU-3 SRI field sampling, along with previously collected data from the OU-3 RI (Woodward-Clyde 1997, URS 2000a, Lockheed Martin 2007, ECC 2010a), was used to interpret the nature and extent of the environmental contamination at the Potential Landfill Area/North Burning Ground where a burn layer and ash with elevated metals may be present and impacting adjacent soil (Section 4.1). Surface waters in, and adjacent to, the former NOP site (Section 4.2), and buildings overlying known TCE groundwater plumes may also be impacted by vapor intrusion (Section 4.3). This section presents the analytical results and compares the measured concentrations to USEPA RSLs (November 2010).

4.1 BURN LAYER AND ASH IN THE POTENTIAL LANDFILL AREA AND NORTH BURNING GROUND

4.1.1 Analytical Results

Soil metals data from the OU-3 RI (Woodward-Clyde 1997, URS 2000a) and OU-3 SRI for the Potential Landfill Area and North Burning Grounds are presented in Tables 4-1a and Table 4-1b, respectively. Data from the area that was excavated during the Removal Action at the Potential Landfill Area (Kingston 1998) are not included. In Tables 4-1a and 4-1b, each individual sample result was compared against the Residential Soil RSL. For reference, the Industrial Soil RSLs are also included in the tables. The measured concentrations are also compared with the site-specific background threshold values (BTVs) that were derived from the background surface soil data collected during the OU-3 RI are also included for reference (Woodward-Clyde 1997). The BTV for each metal was set to the 95% Upper Prediction Limit (UPL) for normal or non-parametric distributions calculated from the background soil data using ProUCL 4.1.00. The assumed distribution is based on goodness-of-fit analysis of the data by ProUCL. In general, the data were either normal or did not fit any of the available distributions in ProUCL. In the latter case, the non-parametric 95% UPL also calculated by ProUCL was used as the BTV. The list of BTVs and the assumed distributions are provided in Appendix E (Table E-1). Exceedances of RSLs are noted below:

- One antimony exceedance was found in sample location PLA-07 (0 to 0.5 ft, see Figure 4-1a) at 47.1 mg/kg, which exceeds the Residential Soil RSL of 31 mg/kg. The sample from NG-002 (1 to 2 ft, from the OU-3 RI) had a measured value of 31.6 mg/kg; however, this data point was rejected during the data validation based on recoveries in associated MS that were outside control limits (Woodward Clyde 1997b). No other exceedances were noted.
- One cobalt exceedance of 37.7 mg/kg was found at NG-002 (1 ft to 2 ft, see Figure 4-1a), which exceeded the Residential Soil RSL (23 mg/kg).
- One iron result exceeded the Residential Soil RSL (55,000 mg/kg) at location PLA-05 (113,000 mg/kg, see Figure 4-1a).
- Arsenic exceeded the Residential Soil RSL of 0.39 mg/kg in all samples taken. Figure 4-1b indicates sample locations where arsenic exceeded the calculated BTV. In surface soils, the three locations (9.6 to 9.9 mg/kg) that exceeded the BTV (9.5 mg/kg) were all located in a cluster in the southeastern corner of the area (Figure 4-1b). There are more subsurface sample locations where arsenic soil concentrations exceed the BTV. Higher arsenic values in subsurface soils, when compared to surface values, are frequently observed and is attributed to greater leaching in the surface soils. Figure 4-1c shows arsenic plotted against iron soil concentrations for surface and subsurface soils, as well as for the background soil data set. These figures indicate a comparable linear trend between arsenic and iron (and a constant

ratio) in the surface soil, subsurface soil, and background soil, which further supports the inference that the arsenic in the site soils are natural rather than from anthropogenic sources (Myers and Thorbjornsen 2004).

A comparison of the soils data with screening values indicates that past activities in the Potential Landfill Area and the North Burning Ground may have resulted in isolated occurrences of elevated metals, but overall metals concentrations in soil do not exceed screening levels. Nonetheless, because there are a few exceedances, a quantitative risk assessment was performed using these soil data to evaluate risks for potential land users (Section 6). Figures 4-2 and 4-3 show dot plots of concentrations for metals for which exceedances were noted above; these dot plots show that data that exceeded background values are limited in number.

4.1.2 Observations from Soil Core Logging

One of the objectives of the OU-3 SRI field effort was to locate burn layers or ash at the Potential Landfill Area and North Burning Ground. To achieve this objective, continuous cores were photographed (in Appendix D) and logged (Appendix F), specifically noting the presence of ash or other buried materials, as well as staining in the core. Of the 20 soil cores that were drilled during the OU-3 SRI, buried materials and staining were observed in the following cores (see Figure 4-1 for locations):

- PLA-02 –Yellow staining, broken glass, metal and rust, dark staining between 2 to 5 ft bgs (see Figure 4-4 for photographs of this core).
- PLA-03 – Metallic debris and rust were observed at 3 ft bgs.
- PLA-04 - A possible ash layer was observed between 2 to 5 ft bgs.
- PLA-05 – Debris, iron staining, broken glass, jar lids, and ceramics were observed at 4 ft bgs.
- PLA-07 – An ash layer was observed between 3 to 4 ft bgs (see Figure 4-4 for photographs of this core).
- NBG-12 - Decayed wood was observed at 6 ft bgs and sheet metal at 9 ft bgs. This was the core closest to the location where the burn layer was observed during the UNL Removal Action (MACTEC 2009). However, no burn layers were observed in this or any other core from the North Burning Ground.

To determine if these buried materials had impacted the surrounding soil, the metals data from these cores were compared against site-specific BTVs (listed in parentheses).

- PLA-02 – In soil samples from this core, the maximum values for the following metals exceeded site-specific BTVs:
  - 14.3 mg/kg for arsenic (9.5 mg/kg).
  - 322 mg/kg for barium (253 mg/kg),
  - 1.4 mg/kg for cadmium (0.35 mg/kg),
  - 150,000D mg/kg for calcium (3830 mg/kg),
  - 79.8 mg/kg for chromium (23.1 mg/kg),
  - 12.9 mg/kg for cobalt (10.29 mg/kg),
  - 199 mg/kg for copper (23.2 mg/kg),
  - 338 mg/kg for lead (15.9 mg/kg),

- 53,400B mg/kg for iron (21,000 mg/kg),
- 35,300 mg/kg for magnesium (4639 mg/kg),
- 920 mg/kg for manganese (659.8 mg/kg),
- 67.5 mg/kg for nickel (27.0 mg/kg), and
- 548 mg/kg for zinc (74.6 mg/kg),

(Note: with the exception of arsenic, all the metals concentrations noted in this core are below Residential Screening Levels.)

- PLA-03 – In soil samples from this core, site-specific BTVs were exceeded for the following metals:
  - 9.6 mg/kg for arsenic (9.5 mg/kg),
  - 0.57 mg/kg for cadmium (0.35 mg/kg),
  - 4740 mg/kg for calcium (3830 mg/kg),
  - 26.7 mg/kg for copper (23.1 mg/kg),
  - 36.2 mg/kg for lead (15.92 mg/kg), and
  - 98.2 B mg/kg for zinc (74.6 mg/kg).
- PLA-04 – In soil samples from this core, site-specific BTVs were exceeded for the following metals:
  - 1.1 mg/kg for cadmium (0.35 mg/kg),
  - 4090 mg/kg for calcium (3830 mg/kg),
  - 28 mg/kg for copper (23.15 mg/kg),
  - 62.9 mg/kg for lead (15.92 mg/kg), and
  - 110B mg/kg for zinc (74.6 mg/kg).
- PLA-05 – In soil samples from this core, the maximum values for the following metals exceeded site-specific BTVs:
  - 20.2 mg/kg for arsenic (9.5 mg/kg),
  - 377B mg/kg for barium (253 mg/kg),
  - 0.95 mg/kg for beryllium (0.86 mg/kg),
  - 3.9 mg/kg for cadmium (0.35 mg/kg),
  - 18,500 mg/kg for calcium (3830 mg/kg),
  - 57.6 mg/kg for chromium (23.1 mg/kg),
  - 11.5 mg/kg for cobalt (10.29 mg/kg),
  - 255 mg/kg for copper (23.2 mg/kg),
  - 113,000 mg/kg for iron (21,000 mg/kg),
  - 336 mg/kg for lead (15.92 mg/kg),
  - 7780 mg/kg for magnesium (4639 mg/kg),
  - 807 mg/kg for manganese (659.8 mg/kg),

- 53.7 mg/kg for nickel (27.02 mg/kg), and
- 772 mg/kg for zinc (74.6 mg/kg).

- PLA-07 – In this soil sample, the maximum values for the following metals exceeded site-specific BTVs [this location is also where antimony (47.1 mg/kg) exceeded the Residential Screening Level (31 mg/kg)]:
  - 10.7 mg/kg for arsenic (9.5 mg/kg),
  - 1 mg/kg for cadmium (0.35 mg/kg),
  - 81,400D mg/kg for calcium (3830 mg/kg),
  - 27.8 mg/kg for chromium (23.1 mg/kg),
  - 10.8 mg/kg for cobalt (10.29 mg/kg),
  - 26,200 mg/kg for iron (21,000 mg/kg),
  - 150 mg/kg for lead (15.92 mg/kg),
  - 7920 mg/kg for magnesium (4639 mg/kg), and
  - 111B mg/kg for zinc (74.6 mg/kg).
- NBG-12 – In soil samples from this core, the maximum values for the following metals exceeded site-specific BTVs:
  - 1.4 mg/kg for beryllium (0.86 mg/kg),
  - 0.46 mg/kg for cadmium (0.35 mg/kg),
  - 25,200 mg/kg for calcium (3830 mg/kg),
  - 23.7 mg/kg for copper (23.15 mg/kg), and
  - 27.7 mg/kg for lead (15.92 mg/kg).

The preceding correlative analysis of metal soil concentrations in the cores with visible buried material suggests that these buried materials have impacted adjacent soils. However, core logging during the OU-3 SRI also shows that the burn layer observed during the UNL Removal Action is far from pervasive in the North Burning Ground or in the Potential Landfill Area. Furthermore, as noted earlier, the buried materials have not resulted in widespread exceedances of screening levels in these areas.

4.2 SURFACE WATER

4.2.1 Analytical Results

A summary of the surface water data for site-specific VOCs and explosives are shown in Tables 4-2 and 4-3, respectively. The complete data set (December 2004 through May 2010) can be found in Appendix C. For reference, the tables also include the Nebraska Standards for Water Quality (Nebraska Administrative Code, Title 117, Chapter 4 (NDEQ 2009) for these chemicals. The site-related chemicals include the contaminants that were identified in the OU-2 Record of Decision (Woodward-Clyde 1996) and their degradation products:

- VOCs
  - TCE

- cis-1,2-DCE (degradation product of TCE)
- trans-1,2-DCE (degradation product of TCE)
- VC (degradation product of TCE)
- methylene chloride
- 1,2-dichloropropane

- Explosives
  - 1,3,5-trinitrobenzene
  - 2,4,6-trinitrotoluene (TNT)
  - 2-amino-2,6-dinitrotoluene (degradation product of 2,4,6-TNT)
  - 4-amino-2,6-dinitrotoluene (degradation product of 2,4,6-TNT)
  - RDX
  - 2,4-dinitrotoluene.

The data summaries in Tables 4-2 and 4-3 show the minimum and maximum detected concentrations (MDCs) of the site-related chemicals at each sampling station. Tables 4-4 and 4-5 include VOCs and explosives that are not listed in the OU-2 Record of Decision, but were detected in some of the surface water samples. These other analytes include:

- VOCs
  - 2-butanone
  - acetone
  - chloroform
  - chloromethane
  - naphthalene
  - tetrachloroethene
  - toluene
- Explosives
  - 1,3-dinitrobenzne
  - 2,6-dinitrotoluene
  - 3-nitrotoluene
  - 4-nitrotoluene
  - nitrobenzene
  - octahydro-1,35,7-tetranitro-1,3,5,7-tetrazocine (HMX)

4.2.1.1 Johnson Creek

Compounds detected in Johnson Creek at a frequency of greater than 5% include (data in Tables 4-2 and 4-3):

- acetone (MDC of 9.3 µg/L, 36% detection frequency)
- 4-amino-2,6-dinitrotoluene (MDC of 1.8 µg/L, 25% detection frequency)

- chloroform (MDC of 0.48 µg/L, 5.5% detection frequency)
- cis-1,2-DCE (MDC of 4.27 µg/L, 36% detection frequency)
- 1,3-dinitrobenzene (MDC of 0.3 µg/L, 6.4% detection frequency)
- 2,6-dinitrotoluene (MDC of 1.16 µg/L, 5.8% detection frequency)
- Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetraocine (HMX) (MDC of 0.962 µg/L, 36% detection frequency)
- RDX (MDC of 6.78 µg/L, 61% detection frequency)
- TCE (MDC of 56.1 µg/L, 60% detection frequency)
- toluene (MDC of 1.1 µg/L, 5.5% detection frequency)

Figure 4-5 (A) through (J) show the measured concentrations for these compounds plotted against the surface water sampling stations along Johnson Creek. Most of the detections occurred downstream of sampling station SW-05. Of the site-related analytes, TCE and RDX were detected at the highest frequencies in samples from Johnson Creek. For TCE, these detections occurred in sampling stations SW-06, SW-15, SW-08, SW-16 and SW-10, with SW-06 and SW-10 being the furthest upstream and furthest downstream locations, respectively (see Figure 4-5, Part I). For RDX, these detections occurred in sampling stations SW-05, SW-06, SW-15, SW-08, SW-16, and SW-10, with SW-05 and SW-10 being the furthest upstream and furthest downstream locations, respectively (see Figure 4-5, Part H). Note that SW-10 is the last sampling station before Johnson Creek merges into Clear Creek (discussed below).

4.2.1.2 Clear Creek

The data from Clear Creek sampling stations are also shown in Tables 4-2 and 4-3 for site-related VOCs and explosives, and Tables 4-4 and 4-5 for other detected analytes. Compounds detected in Clear Creek at a frequency of greater than 5% include:

- acetone (MDC of 9.3 µg/L, 30% detection frequency)
- 2-butanone (MDC of 4.9 µg/L, 5.2% detection frequency)
- TCE (MDC of 56.1 µg/L, 41% detection frequency)
- RDX (MDC of 6.78 µg/L, 29% detection frequency)

Figure 4-6 (A) through (D) show the measured concentrations for these compounds plotted against the surface water sampling stations along Clear Creek. Other than one detection of 12 µg/L at SW-11 (in December 2004), TCE has not been detected in any of the surface water locations upstream of the confluence with Johnson Creek (SW-7, SW-9 and SW-11, Figure 4-6, Part D). At SW-12 and SW-13 (downstream of where Johnson Creek merges with Clear Creek), TCE has been detected in most of the samples collected since December 2004; however, concentrations have been consistently below 5 µg/L.

4.2.1.3 Silver Creek

Compounds detected in Silver Creek (Figure 4-7) at a frequency of greater than 5% include:

- acetone (MDC of 8.1 µg/L, 23.1% detection frequency)
- 4-amino-2,6-dinitrotoluene (MDC of 1.8 µg/L, 5.6% detection frequency)

None of the site-related VOCs have been detected at the sampling stations on Silver Creek (Table 4-2). RDX was only detected in one surface sample from SCW-01 (Table 4-3); the rest of the samples

collected from this sampling station as well as the samples collected from the other sampling stations along Silver Creek did not have detectable levels of this RDX. Other explosives were either not detected, or detected infrequently and at low concentrations (e.g., on the order of 1 μg/L or less).

4.2.2 Spatial and Time Trends in Surface Water Concentrations

Figure 4-8 shows the distribution of TCE concentrations represented as a box plot at each sampling location on Johnson Creek where TCE has been detected. The largest increase in TCE concentrations occurs between SW-15 (median less than 1 μg/L) and SW-08 (median greater than 25 μg/L). The median concentration then drops to ~11 μg/L at SW-16 and remains virtually the same at SW-10. The primary source of the TCE between SW-06 and SW-08 has been previously established to be seeps and drain tiles discharging into Johnson Creek (URS 2009b). There is evidence for upwelling TCE-contaminated groundwater water in the vicinity of the artesian well east of SW-08 (Figure 4-5) (URS 2009b). Groundwater from the "artesian property" is either captured by drain tiles or is channeled by a ditch, both of which discharge to Johnson Creek at SW-08.

Figure 4-9 shows the distribution of TCE concentrations represented as a box plot at each sampling location on Clear Creek. There is an increase in median concentrations from SW-11 to SW-12; this increase is likely due to input from Johnson Creek. The drop in median concentration between SW-10 (the last station before Johnson Creek merges with Clear Creek) and SW-12 (from ~11 μg/L, to less than 2 μg/L) may be due to dilution.

Figures 4-10 and 4-11 show the distribution of RDX concentrations represented as box plots at each sampling location on Johnson Creek and Clear Creek, respectively. Similar to TCE, there is an increase in the RDX median concentration between SW-15 (~0.1 μg/L) and SW-08 (~0.8 μg/L). Figure 4-10 also shows that at all locations there are outlier concentrations at all sampling location. The time trends presented next will show that these outlier concentrations correspond to spikes that occurred in October 2006 and February 2008. At Clear Creek (Figure 4-11), the increase in RDX concentration at SW-12 corresponds to the influx of Johnson Creek. Between SW-10 and SW-12, the RDX concentration decreases, which is probably due to dilution.

Figure 4-12 shows TCE and RDX concentrations plotted versus time in the sampling stations with the highest detections at Johnson Creek (SW-08, SW-16, and SW-10). At SW-08, TCE concentrations remained above 30 μg/L from December 2004 through June 2006. Between October 2006 and May 2010, there is an overall decrease in TCE concentrations, but fluctuations are still observed with peaks occurring in February 2007, December 2007, August 2008, February 2009, and November 2009. There is no clear seasonal pattern to these fluctuations. Between December 2004 and October 2006, there is a larger drop between concentrations from SW-08 when compared with later dates. TCE concentrations in SW-10 have fluctuated, but to a lesser degree, and have generally stayed below 20 μg/L. The RDX time series plot in Figure 4-12 (Part B) shows that concentrations have stayed below 2 μg/L, except for two instances, in October-December 2006 and in February 2008.

Figure 4-13 show TCE and RDX concentrations plotted versus time in the sampling stations with the highest detections at Clear Creek (SW-12 and SW-13). This plot shows an apparent overall increase in TCE concentrations at SW-12 beginning in August 2008, though the concentrations remain below 4 μg/L. The RDX time plot also shows a spike in concentration that occurred in October 2008.

Of the non-site related compounds detected in the surface water samples, acetone was detected most frequently in all three creeks (23.1% to 36%). Another ketone (2-butanone) was also detected, but at a much reduced frequency (5% or less). Both acetone and 2-butanone are common laboratory contaminants; however, there is no evidence from the laboratory data (i.e., no "B"-qualifiers) that these

detections in the field samples are from laboratory contamination. The presence of acetone and 2-butanone in the surface water samples may be from natural and anthropogenic (but not site-related) sources, including decomposition of natural organic matter, forest fires, automotive exhaust, wood burning, refuse combustion, and consumer products (ATSDR 1992, 1994).

4.3 VAPOR INTRUSION ASSESSMENT

Previous screening-type measurements of indoor air using the TAGA and sub-slab soil gas collected in Tedlar® bags and analyzed on-site by Lockheed Martin (2007) are shown in Tables 4-6a and 4-6b, respectively. A summary of the OU-3 SRI data, combined with the Lockheed Martin (2007) indoor air/SUMMA® canister results, are located in Table 4-7 for the Units that were sampling in this OU-3 SRI.

For Unit 001 (Dairy Farm Manager Residence), the TAGA real time monitoring in December 2007 (Table 4-6a) showed TCE concentrations that exceeded the November 2011 Residential RSL. However, the sub-slab soil gas collected in 2007 in a Tedlar® bag (Table 4-6b) did not have any detectable levels of any of the analytes. TCE was detected in the indoor air SUMMA® canister results in 2007 above the November 2011 Residential RSL. It was not detected in 2010 (Table 4-7). The results of the previous indoor sampling at Unit 001 indicated further analysis was required through a quantitative risk assessment.

For Unit 003 (Feed Mill), no TAGA air monitoring was conducted at this location (Table 4-6a). The sub-slab soil gas sample collected in a Tedlar® bag did not show any detectable analytes (Table 4-6b). No indoor air Summa® canister samples were collected in 2007. However, indoor SUMMA® canister samples collected in September 2010 and November 2010 from Unit 003 did not have any detectable analytes. Overall, the results suggest that TCE and its daughter products are not present at levels of concern in Unit 003.

For Unit 006 (UNL Equipment Storage), TCE was detected by TAGA monitoring of indoor air in December 2007 at concentrations that exceeded that November 2011 Residential RSL, but below the Industrial Level. TCE in sub-slab soil gas samples collected in Tedlar® bags in October 2007 were measured as high 204,060 μg/kg (Table 4-6b). A comparable TCE concentration was measured in the sub-slab soil gas sample collected in September 2007 (Table 4-7). The indoor air TCE concentrations in the September 2010 samples are 5.2 $\mu g/m^3$ and 9.2 $\mu g/m^3$ (both samples exceeded the Industrial RSL of 3.0 $\mu g/m^3$). All remaining analytes for Unit 006 were non-detect values. The results of the indoor sampling at Unit 006 indicate further analysis is required through a quantitative risk assessment that factors in the limited use of the building for storage. It should be noted that the attenuation factor or ratio between the indoor air concentration and the sub-slab soil gas concentration is $6x10^{-5}$ and is on the low end of typical values (Dawson 2008). This low attenuation factor indicates that the building slab foundation significantly retards vapor flow into the building.

For Unit 011 (Feed Mill Office), there are no TAGA monitoring results but the sub-slab soil gas collected in October 2007 did not show any detectable analytes (Table 4-6b). However, the sub-slab soil gas sample also collected in October 2007 showed detectable TCE, though the concentration was low (below the November 2011 Residential RSL; Table 4-7). In the September 2010 results, no analytes were detected in the indoor air or the sub-slab gas samples. Overall, the results suggest that TCE and its daughter products are not present at levels of concern in Unit 011.

TCE was detected in ambient air samples from October 2007, but no analytes were detected in the ambient air samples collected during the September and November sampling events (Table 4-7).

5. CONTAMINANT FATE AND TRANSPORT

This section summarizes what is known regarding the persistence and transport pathways for contaminants of potential concern (COPCs) that were identified in the screening of the analytical results in Section 4.

5.1 MOBILITY OF METALS IN SOIL AT THE NORTH BURNING GROUND AND POTENTIAL LANDFILL AREA

The metals for which the MDC exceeded screening criteria in soil samples from the North Burning Ground and Potential Landfill Area are antimony, arsenic, cobalt, and iron.

Antimony is a natural constituent of soil and can be found in a natural aqueous system due to natural weathering processes. A regional study of metals in soil conducted by the U.S. Geological Survey (USGS, Shacklette and Boerngen 1984) found antimony concentrations ranging from less than 1 to 8.8 mg/kg. With the exception of two outliers that exceed 20 mg/kg [one of which was "R"-qualified or rejected based on MS recoveries that were outside QC limits (Woodward Clyde 1997b)], the range of antimony concentrations in surface and subsurface soil (see Figure 4-2 and Figure 4-3) is comparable to the range found in the regional USGS study. Of the possible oxidation states, the antimony (III) and antimony (V) are the most common in natural aqueous systems. Because antimony (V) is present primarily as the anionic hydrolytic species $Sb(OH)_6^-$, the adsorption of antimony (V) to hydroxide and oxide mineral surfaces should be limited to negligible at neutral pH and more significant at acidic pH (Krupka and Serne 2002). Dissolved antimony is considered to be relatively mobile, though it should be noted that antimony that is incorporated into the mineral lattice of soil can be relatively inert. The lability and bioavailability of antimony depends on the nature of antimony compounds that are present at a site. The latter information is not known for antimony in soils at the North Burning Ground and Potential Landfill Area. Given that, with the exception of a few outliers, the antimony soil concentrations in these areas are comparable to regional values (Shacklette and Boerngen 1984), environmental conditions with respect to antimony (e.g., the amount present in groundwater) are likely to be comparable to background conditions.

Site-specific BTVs are available for arsenic, cobalt, and iron (Section 4). Similar to antimony, the number of measured soil concentrations for cobalt and iron that exceed the BTV is limited to one or two occurrences (see Figures 4-2 and 4-3). Arsenic concentrations exceeded the Residential Soil RSL in all samples; however, arsenic concentrations are generally consistent with background soils, as noted in Section 4.1.1 and Figure 4-1c.

In addition to dissolution and migration as dissolved species, metals in soil can be transported off-site through erosion by surface runoff. The majority of the land surface at the North Burning Ground and Potential Landfill Area is covered by vegetation. As such, soil erosion is not expected to be a significant transport mechanism in these areas. Although vegetative cover can also minimize dust generation, the conceptual site exposure model includes inhalation of dust as a possible exposure pathway for site receptors (see Section 6).

5.2 PERSISTENCE OF VOCS AND EXPLOSIVES IN SURFACE WATER

The primary processes affecting the persistence of organic compounds in the environment includes abiotic reactions (hydrolysis, photolysis, oxidation/reduction reactions) as well as biological degradation processes. The potential for these processes to impact the persistence and mobility of VOCs and explosives in surface water are discussed below.

5.2.1 TCE (Trichloroethene)

TCE readily volatilizes to the atmosphere from surface water (ATSDR 1997b). Actual volatilization rates depend upon temperature, water movement, depth, associated air movement, and other factors. A modeling study showed that the half-life of TCE is 3.4 hours in a rapidly moving, shallow river (1 meter deep, flowing 1 meter per second and a wind velocity of 3 meters per second) (Thomas 1982, as cited in ATSDR 1997b). Once volatilized, TCE in the atmosphere can react with photochemically-produced hydroxyl radicals; the half-life for this reaction is estimated to be 6.8 days (ATSDR 1997b).

Abiotic oxidation (including photo-oxidation) and hydrolysis are not significant transformation processes for TCE in the aquatic environment. Biodegradation of TCE can occur, but the rates are relatively slow compared to volatilization (ATSDR 1997b) such that the latter is expected to be the primary process that influences the persistence of TCE in Johnson Creek, Clear Creek, and Silver Creek.

TCE sorption onto sediment and soil is a function of natural organic carbon (Allen-King et al. 1997). Bioconcentration factors range between 10 and 100 for TCE in fish (ATSDR 1997b); these numbers suggest a low tendency to bioaccumulate.

5.2.2 RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine)

RDX is susceptible to photochemical degradation. Photolysis in water leads to nitrate, formaldehyde, and methylenedinitramine (which can further degrade into formaldehyde and nitrous oxide). Photolysis of an aqueous solution of RDX in natural sunlight is fairly rapid with an experimental half-life of 9 to 13 hours (ATSDR 1995a). RDX has a low solubility, and aerobic transformation in surface waters is not considered significant. Volatilization is a slow process, and adsorption to sediment and particulate matter in the aquatic environment should not be significant (ATSDR 1995a). Thus, the transformation process that will most likely influence the persistence of RDX in Johnson Creek and Clear Creek is photochemical degradation.

Because of the low octanol/water partition coefficient measured for RDX, which is an indicator of solubility in lipids, this compound has a low potential for bioaccumulation (ATSDR 1995a).

5.2.3 Chloroform

Volatilization into the atmosphere is the primary transport process for chloroform in surface water systems (ATSDR 1997a). A half-life of 3.5 hours was calculated for volatilization from a model river 1 meter deep flowing at 1 meter/second, with a wind velocity of 3 meters per second, and neglecting adsorption to sediment (Lyman et al. 1982). Hydrolysis and direct photolysis are not significant degradation processes for chloroform.

Once volatilized in the atmosphere, chloroform will react with photochemically generated hydroxyl radicals (ATSDR 1997a). The estimated half-life for this reaction is 80 days.

Bioconcentration in fish is low based on measured bioconcentration factors ranging from 6 to 14 (ATSDR 1997a).

5.2.4 Acetone

Acetone volatilization from surface water into the atmosphere is significant with a Henry's Law constant of 4.26×10^{-5}. A half-life of 18 hours was calculated for volatilization from a model river 1 meter deep flowing at 1 meter/second, with a wind velocity of 3 meters per second; partitioning to sediments and suspended solids in water is not significant (ATSDR 1994).

In the atmosphere, acetone will react with hydroxyl radicals and photolysis. An estimated average lifetime of 44.5 days due to reaction with the hydroxyl radicals is expected, and lifetimes due to photolysis range from 19 to 83 days depending on the season (ATSDR 1994).

Bioconcentration of acetone in fish is not considered significant with a log K_{ow} value of -0.24.

5.2.5 Toluene

Toluene is sufficiently volatile and releases to surface water tend to volatilize quickly. The half-life of toluene in surface water ranges from five hours to 16 days depending on whether the water is static or turbulent. Toluene is expected to have a low tendency to bioaccumulate in aquatic organisms due to its lipophilic properties (ATSDR 2000).

5.2.6 cis-1,2-DCE (cis-1,2-dichloroethene)

Cis-1,2-DCE volatilization from surface water into the atmosphere is significant with a Henry's Law constant of 4.08×10^{-3}. A half-life of three to six hours was calculated for volatilization from a model river 1 meter deep flowing at 1 meter/second, with a wind velocity of 3 meters per second; partitioning to sediments and suspended solids in water is not significant (ATSDR 1996). Estimated bioconcentration factors suggest that 1,2-dichloroethene does not bioconcentrate significantly (ATSDR 1996).

5.2.7 2-butanone

2-butanone (or methyl ethyl ketone) released to water is expected to rapidly volatilize to the atmosphere. A half-life of 15 hours was calculated for volatilization from a model river 1 meter deep flowing at 1 meter/second, with a wind velocity of 3 meters per second; partitioning to sediments and suspended solids in water is not significant (ATSDR 1992). 2-butanone is not expected to significantly adsorb to sediment or suspended organic matter and is not expected to bioconcentrate in fish and aquatic organisms (ATSDR 1992).

5.2.8 HMX (Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine)

HMX is persistent in the environment and typically does not transport from water to other media (ATSDR 1997c). Photolysis is the primary transformation process with a half-life of 17 days in river water; biodegradation, volatilization, and adsorption are not considered significant in ambient waters (ATSDR 1997c). Bioaccumulation of HMX is not considered significant based on RDX studies (ATSDR 1997c).

5.2.9 1,3-DNB (1,3-dinitrobenzene)

1,3-dinitrobenzene (1,3-DNB) in the aquatic environment is expected to volatilize to the vapor phase (ATSDR 1995b). The octanol-water partition coefficient predicts that >99% of the 1,3-DNB will remain in the water column and <1% will be absorbed to suspended solids and sediments (ATSDR 1995b). The octanol-water partition coefficient suggests a low potential for bioaccumulation; the bioconcentration factor also suggests that it is not an important fate process (ATSDR 1995b).

5.2.10 2,6-DNT (2,6-dinitrotoluene)

The moderate water solubilities indicate a potential for transport of DNT by surface water (ATSDR 1998). DNT is expected to be degraded through photolysis, microbial biodegradation, ozonation and chlorination, and oxidation (ATSDR 1998). Low octanol-water partition coefficients of 2,4-DNT and 2,6-DNT suggest little, to no, bioaccumulation (ATSDR 1998).

5.2.11 4-amino-2,6-dinitrotolunene

No data could be found on the persistence of 4-amino-2,6-dinitrotoluene.

5.3 PERSISTENCE OF TCE IN INDOOR AIR

There are no known mechanisms for TCE degradation in indoor air at ambient conditions. Photochemically-produced hydroxyl radicals known to react with TCE in air (Section 1.2.1) are unlikely to be present within buildings. TCE can be removed from building atmospheres through natural diffusion or building ventilation systems.

6. OU-3 SUPPLEMENTAL BASELINE RISK ASSESSMENT

This section presents the Supplemental BLRA that was performed using data collected during the OU-3 SRI field sampling. Soil data for the North Burning Ground and Potential Landfill Area collected during the OU-3 RI (Woodward-Clyde 1997, URS 2000a), surface water data that was collected as part of the OU-2 Groundwater Monitoring Program (ECC 2006, ECC 2010a), and the vapor intrusion assessment conducted on behalf of USEPA Region VII is also discussed (Lockheed Martin 2007). Specifically, the OU-3 Supplemental BLRA focuses on quantifying risks and hazards of site receptors from exposure to soils at the North Burning Ground and Potential Landfill Area (due to elevated metals from burn layers and ash at these locations); from exposure to surface water at Johnson Creek, Clear Creek and Silver Creek; and from potential intrusion of volatile contaminants known to be present in groundwater into overlying buildings. The methods used in the Supplemental BLRA were outlined in the OU-3 SRI WP.

6.1 DATA EVALUATION AND SCREENING FOR CHEMICALS OF POTENTIAL CONCERN

Data evaluation is the process in which COPCs for each environmental medium are identified and carried forward in the risk calculations. This process eliminates chemicals for which no further risk evaluation is needed. Previously collected data and the OU-3 SRI data were screened against current USEPA RSLs (November 2010) for soils at the North Burning Ground and Potential Landfill Area and for the Vapor Intrusion Assessment. For surface waters, all chemicals that were detected at a frequency higher than 5% were identified as COPCs and carried forward in the risk calculations.

6.1.1 Burn Layer in the Potential Landfill Area and North Burning Grounds

For the purpose of evaluating risk, the exposure unit was assumed to encompass both the North Burning Ground and Potential Landfill Area. This is a reasonable assumption given that the entire area is part of a wildlife habitat maintained by UNL (Figure 6-1) and the ecological risk assessment performed in the previous OU-3 RI identified no unacceptable risks. The soil data collected from each of these areas during the OU-3 RI and this OU-3 SRI were combined, then segregated according to the following exposure media:

- surface soil (0 to 0.5 ft bgs), and
- surface and subsurface soil data (0 ft up to 8 ft bgs).

The data were segregated by soil depth because some site receptors being considered in this Supplemental BLRA (e.g., trespassers) are only likely to be exposed to surface soil whereas construction workers are likely to be exposed to surface and subsurface soil. In Tables 6-1 and 6-2, the MDC for each metal in surface soil and surface plus subsurface soil, respectively, is screened against USEPA Residential RSLs for Soil (USEPA 2010). For reference, Table 6-1 and 6-2 also show BTVs set to the calculated 95% Upper Prediction Limit using background samples collected by Woodward-Clyde (1997) and ProUCL 4.1.00. Although it is unlikely that the North Burning Ground or Potential Landfill Area will be used as residential areas given the deed restriction (Section 3.5) in Figure 6-1 (U.S. 2005b), use of Residential Screening Criteria is an effective point of departure for focusing the risk calculations (by eliminating metals from further consideration if there are minimal risks from these metals even under a conservative residential scenario).

Surface soil screening resulted in antimony and arsenic being carried forward through the risk calculations for which the surface soil MDC exceeded the Residential Regional Soil Screening Level (Table 6-1). The other metals in surface soils were eliminated from further consideration because the MDCs for these other metals were either less than the Residential RSLs for Soil or the site-specific BTV (if no RSL exists). The basis for the COPC status of each metal in surface soil is listed in Table 6-1.

The subsurface soil screening (including all data up to 8 ft bgs) resulted in five metals being carried forward through the risk calculations:

- antimony (MDC greater than the Residential RSL),
- arsenic (MDC greater than the Residential RSL),
- cobalt (MDC greater than the Residential RSL), and
- iron (MDC greater than the Residential RSL).

The basis for the COPC status of each metal in subsurface soil is listed in Table 6-2. As noted previously (Section 4.1.1), the arsenic soil concentrations at the North Burning Ground and Potential Landfill Area are comparable to background values (Figure 4-1c). Nonetheless, this metal was carried through the quantitative risk assessment in accordance with USEPA (2002c) guidance on considering background concentrations at CERCLA sites.

6.1.2 Surface Water

Tables 6-3, 6-4, and 6-5 present the MDCs of site-related and other VOCs and explosives for Johnson Creek, Clear Creek, and Silver Creek, respectively. These tables show the MDC for each analyte based on the surface water sample data (December 2004 through May 2010) from all sampling locations at each of the creeks. All compounds detected in surface water at a frequency of detection greater than 5% were considered COPCs. In addition to MDCs, the summary tables also show the NDEQ Surface Water Quality Criteria (NDEQ 2010), the range of the laboratory's reporting limits (RLs, functionally corresponding to the lowest calibration concentration) and MDLs (defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero). The tables show the range of RLs and MDLs for the analyses from June 2006 through May 2010 (includes 16 quarters of data). Beginning in June 2006, the laboratory began performing the analyses at lower RLs and MDLs and these lower limits reflect current sensitivity for the analyses.

6.1.2.1 Johnson Creek

Table 6-3 shows the results of the data screening for Johnson Creek. Ten compounds were detected at a frequency of greater than 5%: acetone, chloroform, cis-1,2-DCE, toluene, TCE, 1,3-DNB, 2,6-DNT, 4-amino-2,6-DNT, RDX, and HMX. The number of chloroform detections (6) is a small percentage of the total number of samples (110 samples) collected from Johnson Creek between December 2004 and December 2009. However, as noted previously (Section 4.2.2), these detections occurred in the last three quarters that this analyte was reported. As such, the presence of chloroform in Johnson Creek reflects a recent trend and its inclusion in the risk calculations is warranted. As noted in Section 4.2.2, the presence of this compound may be due to non-DoD activities at the site [e.g., chloroform was detected at high concentrations in UNL buried waste that was removed from the site during the UNL Removal Action (MACTEC 2009)].

Some of the compounds that were detected at a frequency below 5% potentially merit further evaluation for inclusion in the BLRA because these are either proven, or possible, human carcinogens, site-related compounds, or a degradation by-product. These include methylene chloride, naphthalene, tetrachloroethene, 1,3,5-trinitrobenzene, 2-amino-2,6-dinitrotoluene, 2-nitrotoluene, and 4-nitrotoluene (Table 6-3). However, for these compounds, the number of detections ranged from 1 to 4 out of 110 to 118 surface water samples that have been collected since 2004. A closer inspection of the detections shows that these were both spatially and temporally sporadic (i.e., the detections occurred in one or two sampling stations and only in one or two sampling events over multiple sampling events). Based on this observation, these chemicals were not brought forward through the risk calculations.

6.1.2.2 Clear Creek

Table 6-4 shows the results of the data screening for Clear Creek. Four compounds were detected at a frequency of greater than 5% and carried forward into the risk assessment: acetone, 2-butanone, TCE, and RDX.

Similar to Johnson Creek, some of the compounds that were detected at a frequency below 5% potentially merit further evaluation for possible inclusion in the BLRA because these are either proven, or possible, human carcinogens, site-related compounds, or a degradation by-product. For these compounds, the number of detections ranged from 1 to 4 out of 77 to 85 surface water samples that have been collected since 2004 (Table 6-4). These include methylene chloride, naphthalene, 1,3,5-trinitrobenzene, 2-nitrotoluene, 2,4,6-trinitrotoluene (TNT), 2,6-dinitrotoluene, 4-amino-2,6-dinitrotoluene, and 4-nitrotoluene. Similar to Johnson Creek, the detections were both spatially and temporally sporadic that occurred in one or two sampling stations and only in one or two sampling events over multiple sampling events. Based on this observation, these chemicals were not brought forward through the risk calculations.

6.1.2.3 Silver Creek

Table 6-5 shows the results for the data screening for Silver Creek. Two compounds were detected at a frequency of greater than 5% and carried forward into the risk assessment: acetone and 4-amino-2,6-DNT.

Similar to Johnson Creek and Clear Creek, some of the compounds that were detected at a frequency below 5% potentially merit further evaluation for possible inclusion in the BLRA because these are either proven, or possible, human carcinogens, site-related compounds or a degradation by-product. For these compounds, the number of detections ranged from 1 to 3 out of 65 to 71 surface water samples that have been collected since 2004 (Table 6-5). These include 1,3-dinitrobenzene, 1,3,5-trinitrobenzene, 2-nitrotoluene, 4-nitrotoluene, and nitrobenzene. Similar to Johnson Creek and Clear Creek, the detections were both spatially and temporally sporadic that occurred in one or two sampling stations and only in one or two sampling events over multiple sampling events. Based on this observation, these chemicals were not brought forward through the risk calculations.

6.1.3 Vapor Intrusion Assessment

Indoor air samples collected during supplemental field work were screened against USEPA RSLs (Residential Air, USEPA 2010, November update). Residential Air RSLs are used to identify COPCs in Unit 001 (Dairy Farm Manager Residence). Residential Air RSLs are also used for industrial buildings Units 003 (UNL Feed Mill), Unit 006 (UNL Equipment Storage), and Unit 011 (UNL Feed Mill Office) because the quantitative risk assessment needs to include an evaluation for unrestricted use of these buildings. Tables 6-6 through 6-9 show the results of the data screening for Units 001, 003, 006, and 011, respectively.

TCE was carried forward through the quantitative risk assessment for Unit 001 (Dairy Farm Manager's Residence, Table 6-6) due to an exceedance of the November 2011 Residential RSL in an indoor sample collected in September 2007. Because no VOCs were detected and the MDLs were below the Residential Air RSL, a quantitative risk assessment was not required for Unit 003 (Feed Mill, Table 6-7). Table 6-8 shows the screening results for Unit 006 (UNL Equipment Storage); TCE was carried forward through the quantitative risk assessment due to the exceedance of both the November 2011 Residential and Industrial RSLs. Table 6-9 shows the screening results for Unit 011 (Feed Mill Office) and no compounds exceeded screening levels; as such, a quantitative risk assessment was not required for this building.

The screening level, RL and MDL for VC in the indoor air samples are 0.16, 0.51, and 0.064 $\mu g/m^3$, respectively. Although the RL is greater than the screening level, the MDL is below the screening level such that it is unlikely this compound was present in the samples at concentrations above the screening level. Furthermore, as of May 2010 (last sampling date for which data were available during the preparation of the draft report), VC has never been detected in any of the groundwater monitoring samples collected from the site. Thus, it was considered reasonable to assume that VC is not a COPC for vapor intrusion.

6.1.4 Summary of COPC Screening

In summary, the COPCs that were carried forward through the risk calculations for the Potential Landfill Area and North Burning Ground include antimony, and arsenic for surface soils; and antimony, arsenic, cobalt, and iron for subsurface soils.

The COPCs for surface water are acetone, chloroform, cis-1,2-DCE, toluene, TCE, 1,3-DNB, 2,6-DNT, 4-amino-2,6-DNT, RDX, and HMX RDX for Johnson Creek. The COPCs for Clear Creek are acetone, 2-butanon, TCE, and RDX. The COPCs for Silver Creek are acetone and 4-amino-DNT.

With respect to the vapor intrusion assessment, evaluation of the indoor air samples indicated that risk calculations are warranted for Unit 001 (Dairy Farm Manager Residence) and Unit 006 (UNL Equipment Storage) because TCE in one or more indoor air samples collected from these buildings exceeded the screening levels for Residential (in Unit 001) and Industrial Air (in Unit 006). Risk calculations for residential and industrial use are unwarranted for the other buildings because indoor air samples had no detections that exceeded November 2011 Residential Air and Industrial Air RSLs.

6.2 EXPOSURE ASSESSMENT

6.2.1 Exposure Point Concentrations

Data were analyzed using ProUCL (Version 4.1.00) to determine Exposure Point Concentrations (EPCs) for soils at the North Burning Ground and Potential Landfill Area, and for surface water at Johnson Creek, Clear Creek, and Silver Creek.

Summary statistics and EPCs are shown in Table 6-10 for the following data sets: (1) surface soils and (2) surface plus subsurface soils for the North Burning Ground and Potential Landfill. The table also shows the method in which the EPCs were calculated.

Summary statistics and EPCs for Johnson Creek, Clear Creek, and Silver Creek are shown in Table 6-11. The EPCs are based on aggregated data collected from the sampling stations at each creek with consistent COPC detections (e.g., SW-08, SW-16, and SW-10 for Johnson Creek, SW-12 and SW-13 for Clear Creek). This approach was taken to impart a measure of conservatism on the risk calculations by assuming that site receptors will visit the most impacted reaches of the creeks. Figures 4-8 through 4-11, presented in Section 4, show calculated EPCs overlaid on box plots of TCE and RDX concentrations in the surface water samples.

Table 6-12 shows the EPC used for vapor intrusion risk calculations. The EPC for TCE in Unit 001 (Dairy Farm Manager Residence) and Unit 006 (UNL Equipment Storage) were set to 0.7 $\mu g/m^3$ and 9.2 $\mu g/m^3$, respectively, which were the highest concentrations of indoor samples collected from these locations. The other buildings were not carried forward into the risk assessment because analytes were not detected in any of the indoor air samples collected from these buildings.

6.2.2 Potentially Exposed Populations and Exposure Pathways

The current conceptual site exposure model (CSEM) shows potentially exposed populations, environmental media of concern, and exposure pathways and accounts for any existing deed restrictions (U.S. 2005b). Environmental media of concern are surface soil (0 to 0.5 ft bgs) and surface plus subsurface soil (0 to 8 ft bgs) at the North Burning Ground and Potential Landfill Area; surface water from Johnson Creek, Clear Creek and Silver Creek; and inhalation of VOCs via vapor intrusion in the buildings. Based on current land use at the North Burning Ground and Potential Landfill Area, surface soil exposure can occur through ingestion, inhalation, and dermal contact. Those affected may include construction workers, maintenance workers, adult trespassers, and juvenile trespassers. Subsurface soil exposure is limited to construction workers during excavation activities. The receptors for the North Burning Ground and Potential Landfill Area are based on site access limitations provided in the deed restriction for the property (U.S. 2005b), which states that the area described in the legal document (shown in Figure 6-1) shall only be used as a wildlife habitat. A surface and subsurface soil CSEM is shown in Figure 6-2. Surface water exposure consists of dermal contact with the surface waters, ingestion of the surface water, sediment, and food intake from eating contaminated fish for adult and child recreational fishing scenarios. A CSEM for Johnson Creek, Clear Creek, and Silver Creek are shown in Figure 6-3.

Based on current use of Unit 006 (UNL Equipment Storage), one of the receptors considered for this building is an industrial worker with limited daily use (i.e. 1 hour per day). The latter assumption regarding likely worker exposure is reasonable based on the limited occupancy of the building and its current use as a storage building rather than a workspace. This unit was also evaluated for the normal 8-hour work day to account for the possibility that building use will change in the future. Residential use of Unit 006 was included in the risk calculations to evaluate unrestricted use of this building.

6.2.3 Exposure Parameters

Standard intake equations from USEPA guidance (USEPA 1989, USEPA 2004, USEPA 2009b) for ingestion, dermal contact, and inhalation of chemicals (Appendix H) were used in the risk calculations. Exposure parameters were presented in the OU-3 SRI WP and are reproduced in Tables 6-13, 6-14, and 6-15 for receptors for North Burning Ground and Potential Landfill, surface waters, and indoor air in buildings, respectively. To be consistent with the OU-3 BLRA (URS 2000b), a 70-year exposure duration rather than the more typically used value of 30 years is assumed for the adult trespasser and recreational receptors. More details regarding the basis for the exposure parameters can be found in Tables 6-13 through 6-15.

6.3 TOXICITY ASSESSMENT

In accordance with guidance from USEPA (2003), toxicity values for the COPCs were obtained from the following three-tiered hierarchy:

- Tier 1 – USEPA's Integrated Risk Information System (USEPA 2009a);
- Tier 2 – USEPA Provisional Peer Reviewed Toxicity Values;
- Tier 3 – Other toxicity values from additional USEPA and non-USEPA sources, including California Environmental Protection Agency, Agency for Toxic Substances and Disease Registry minimum risk levels, and USEPA's Health Effects Assessment Summary Tables (USEPA 1997).

Toxicity values from this hierarchy of sources are presented in Tables 6-16a through Table 6-16c for COPCs in soils at the North Burning Ground and Potential Landfill Area, surface water, and indoor air, respectively.

6.4 RISK CHARACTERIZATION

The purpose of the risk characterization is to integrate the information obtained through the exposure and toxicity assessments to estimate potential risks and hazards. Potential carcinogenic effects were characterized by using estimated intakes and chemical-specific, dose-response data [i.e., cancer slope factors (CSFs)] to estimate the probability that an individual will develop cancer over a lifetime. Potential non-carcinogenic effects were characterized by comparing estimated intakes of contaminants to toxicity values [i.e., reference dose (RfDs)].

6.4.1 Method for Quantifying Potential Cancer Risks

For carcinogens, risk is expressed as the probability that an individual will develop cancer over a lifetime as a result of exposure to the carcinogen. Cancer risk from exposure to contamination is expressed as the ILCR, or the increased chance of cancer above the normal background rate of cancer. In the U.S., the background chance of contracting cancer will be a little more than three in 10, or 3×10^{-1}. The calculated ILCRs will be compared to the target goal of $1\text{x}10^{-6}$, the lowest of the range specified in the National Oil and Hazardous Substances Pollution Contingency Plan of 10^{-6} to 10^{-4}, or 1-in-1,000,000 to 1-in-10,000 exposed persons developing an excess cancer.

The ILCR for each medium/carcinogenic COPC was calculated using one of the equations below (USEPA 1989, USEPA 2009b):

$$ILCR = I_C \times CSF \tag{4}$$

$$ILCR = IUR \times EC \tag{5}$$

Where:

I_C	=	chronic daily intake or dermal adsorbed dose for carcinogenic effects calculated in the exposure assessment averaged over the receptor's lifetime (mg/kg-d)
EC	=	exposure concentration (mg/m^3)
IUR	=	inhalalation unit risk $(mg/m^3)^{-1}$
CSF	=	cancer slope factor $(mg/kg\text{-}d)^{-1}$

For a given exposure pathway from each investigation area, the total risk to a receptor exposed to several carcinogenic COPCs is the sum of the ILCRs for each carcinogen, as shown in equation 6 below:

$$ILCR_{total} = \Sigma ILCR_i \tag{6}$$

Where:

$ILCR_{total}$	=	total probability of cancer incidence associated with all carcinogenic COPCs
$ILCR_i$	=	ILCR for the ith COPC

In addition to summing risks across all carcinogenic COPCs, risks were summed across all exposure pathways for a given environmental medium (e.g., ingestion, inhalation, and dermal contact with surface soil). It should be noted that that ILCR is an upper bound estimate of the cancer risk that may occur as a

result of the exposure; the "true" cancer risk, especially for chemicals where the slope factor is based on animal data, is likely to be less and may even be zero.

Results for the carcinogenic risk analysis are presented in Section 6.4.3.

6.4.2 Method for Quantifying Non-carcinogenic Health Hazards

In addition to developing cancer from exposure to contaminants, an individual may experience other toxic effects. The term "toxic effects" is used here to describe a wide variety of systemic effects ranging from minor irritations, such as eye irritation and headaches, to more substantial effects, such as kidney or liver disease and neurological damage. The risks associated with toxic (i.e., non-carcinogenic) chemicals were evaluated by comparing an estimated exposure (i.e., intake or dose) from site media to an acceptable exposure expressed as an RfD. The RfD is the threshold level below which no toxic effects is expected to occur in a population, including sensitive subpopulations. The ratio of intake over the RfD is the hazard quotient (HQ) (USEPA 1989) and was calculated using one of the equations below:

$$HQ = {I_{NC}}/{RfD} \tag{7}$$

$$HQ = {EC}/{RfC} \tag{8}$$

Where:

I_{NC}	=	daily intake or dermally absorbed dose of a COPC for non-carcinogenic effects averaged over the exposure duration (mg/kg-d)
EC	=	exposure concentration (mg/m^3)
RfD	=	reference dose (mg/kg-d)
RfC	=	reference concentration (mg/m^3).

The HQs for each COPC will be summed to obtain an HI for an investigation area [(i.e., North Burning Ground and Potential Landfill, Johnson Creek, Clear Creek, and Unit 006 (UNL Equipment Storage)], as shown below:

$$HI = \Sigma HQ_i \tag{9}$$

Where:

HI	=	hazard index for all toxic effects
HQ_i	=	hazard quotient for the ith COPC

An HI greater than one has been defined as the level of concern for potential adverse non-carcinogenic health effects (USEPA 1989). This approach differs from the probabilistic approach used to evaluate carcinogens. An HQ of 0.01 does not imply a 1-in-100 chance of an adverse effect, but indicates only that the estimated intake will be 100 times less than the threshold level at which adverse health effects may occur. An HI of 1 or less indicates that adverse non-cancer health effects are considered to be extremely unlikely, even if the exposure occurs over a lifetime. In addition to summing hazards across all COPCs, hazards will be summed across all exposure pathways for a given environmental medium.

Note that HIs are determined by assuming dose additivity for those constituents acting by the same mechanism and inducing the same effects (USEPA 1989). If the HI (across all COPCs) is below 1, then all target organ-specific HIs will also be below 1. If the HI of all COPCs over all the exposure pathways

exceeds 1, then the chemicals may be sequestered based on target organ/systems they affect and target organ/system HIs may be calculated. For this assessment, since all the HI values were below 1 (results presented in Section 6.4.3), calculation of HI values for each target organ was not necessary. This approach provides a more accurate estimation of the potential systemic toxicity associated with exposure to the constituent mixture.

The results of the hazard calculations are presented below.

6.4.3 Results of Risk and Hazard Calculations

Tables 6-17 through 6-20 show the ILCR and HI values for each of the areas investigated in this area. The following observations can be made regarding these results.

6.4.3.1 North Burning Ground and Potential Landfill Area

The COPCs for surface soil are antimony and arsenic. Of these two COPCs, a carcinogenic toxicity value was only available for arsenic (Table 6-17a). The ILCR for the construction worker ($3x10^{-7}$) is below the National Contingency Plan (NCP) target range of 10^{-6} to 10^{-4}, while the ILCR values for the Maintenance Worker and Adult and Juvenile Trespassers ($4x10^{-6}$, $1x10^{-6}$, $3x10^{-6}$, respectively) are higher than the lower limit but still within the NCP target range. It should be noted that arsenic is the only COPC contributing to these carcinogenic risks and that the calculated risks are based on an EPC of 7.32 mg/kg, which is less than the BTV for this metal (9.5 mg/kg). As such, the calculated risks from exposure to surface soil at the North Burning Ground and Potential Landfill Area are comparable to risks from exposure to soil under background conditions. HI values for surface soil ranged from 0.01 for the adult trespasser to 0.2 for the construction worker (Table 6-17b). Since the total HI values are less than 1 for all receptors, there are no unacceptable hazards associated with surface soil at the North Burning Ground and Potential Landfill Area.

There were several COPCs identified for surface plus subsurface soils to which only the construction worker is assumed to be potentially exposed. These COPCs were antimony, arsenic, cobalt, and iron. Carcinogenic values are available for arsenic and cobalt and the calculated ILCR for the construction worker from exposure to subsurface soil is $2x10^{-7}$, less than the NCP target range of 10^{-6} to 10^{-4}. Non-carcinogenic toxicity values are available for the COPCs in subsurface soil and were used to calculate chemical-specific HI values (Table 6-17b). The highest hazard index was associated with arsenic (0.022). Summing together the HI values from all COPCs for surface plus subsurface soil, the total HI is 0.03. Since the total HI value is less than 1 and the total ILCR is below the target NCP risk range, there are no unacceptable risks and hazards associated with surface plus subsurface soil at the North Burning Ground and the Potential Landfill Area.

A point-by-point risk assessment of the North Burning Grounds and Potential Landfill Area was conducted using Spatial Analysis and Decision Assistance (SADA) software (UTRC 2008). Using analytical data (Table 4-1 and Table 4-2) and sample coordinates as input to SADA, two-dimensional maps of the ILCR for the construction worker were generated for the following depth intervals: 0-0.5 ft (surface soil), 0.5 to < 4 ft (surface soil), and 4 to < 8 ft (subsurface soil). The maps can be found in Appendix K). As noted previously, arsenic is the primary contributor to carcinogenic risk such that the risk maps primarily reflect the distribution of arsenic at the site. The maps show that the highest risk occurs at PLA-05 in the 4 to < 8 ft depth interval. PLA-05 is the borehole where debris, iron staining, broken glass, jar lids, and ceramics were observed (see Section 4.1.2) and an arsenic concentration of 20.5 mg/kg was measured in a soil sample from this borehole at 4 ft bgs. The risk map for the 4 to < 8 ft depth interval shows that this elevated arsenic concentration (possibly from the buried materials encountered in the boring log) to be an isolated occurrence.

In summary, the presence of ash and burn layers at the North Burning Ground and Potential Landfill Area has not resulted in unacceptable risks to current site users.

6.4.3.2 Surface Water

The total ILCR calculated for the adult and child recreational fishermen for Johnson Creek are $2x10^{-6}$ and $5x10^{-7}$, respectively (Table 6-18a). These values are either less than or within the NCP target range of 10^{-6} to 10^{-4}. Table 6-18b shows that the majority of the risk (75%) is from ingestion of fish caught in the stream. The total HI values for the adult and child recreational fishermen for Johnson Creek are negligible (0.07 and 0.2 respectively, Table 6-18c).

The total ILCR calculated for the adult and child recreational fishermen for Clear Creek are $2x10^{-7}$ and $5x10^{-8}$, respectively (Table 6-19a). These values are less than the NCP target range of 10^{-6} to 10^{-4}. The total HI values for the adult and child recreational fishermen for Johnson Creek are negligible (0.006 and 0.02 respectively, Table 6-19b).

The total ILCR for the adult and child recreational fishermen for Silver Creek could not be calculated due to the lack of carcinogenicity data for the COPCs (Table 6-20a). The total HI values for the adult and child recreational fisherman for Silver Creek are negligible (0.0006 and 0.002, respectively, Table 6-20b).

The risk calculations for Clear Creek and Silver Creek indicate that there are no unacceptable risks or hazards to recreational fishermen from exposure to surface water. The ILCR for adult recreational fisherman exposed to surface water at Johnson Creek is within the NCP target range of 10^{-6} to 10^{-4}, with the majority of the risk associated with ingestion of fish. There are no unacceptable hazards for an adult recreational fisherman, and there are no unacceptable risks or hazards to a child recreational fisherman at Johnson Creek. Uncertainties regarding the risk calculations are presented in Section 6.5.

6.4.3.3 Vapor Intrusion/Indoor Air

TCE was retained in the risk assessment for a Residential Adult and Child under a typical residential scenario in Unit 001 (Dairy Farm Manager Residence). The calculated ILCR was within or below the target risk range of 10^{-6} to 10^{-4} ($3x10^{-6}$ for a Residential Adult and $5x10^{-7}$ for a Residential Child, Table 6-21a). The HI (Table 6-21b) was below the target HI of 1 (0.3 for Residential Adult and Child receptors).

TCE was retained in the risk assessment for an Industrial Worker under limited exposure (1 hour per day) and a normal 8-hour work day for Unit 006 (UNL Equipment Storage); the calculated ILCR values for TCE are below and within the target risk range of 10^{-6} to 10^{-4} ($4x10^{-7}$ and $3x10^{-6}$ for the 1-hour and 8-hour work day scenarios, respectively, Table 6-21a). The HI (Table 6-21b) is 0.1 for the 1-hour work day scenario, and is approximately equal to 1 for the 8-hour work day scenario.

The ILCR values for residential receptors at Unit 006 are $4x10^{-5}$ and $6x10^{-6}$ for the Resident Adult and Resident Child; these values are within the target risk range of 10^{-6} to 10^{-4}. However, since the ILCR for the Resident Adult exceeds 10^{-5}, which is the recommended target risk in USEPA guidance (USEPA 2002), risks from exposure to TCE in Unit 006 may be unacceptable if the building were used as a residence. An HI value of 4 was calculated for residential receptors at Unit 006; this value exceeds the target HI of 1.

Thus, the COPC screening for Unit 003 (Feed Mill), and Unit 011 (Feed Mill Office) (i.e., no COPCs were identified, Section 6.1.3) indicate that there are no unacceptable risks from exposure to VOCs in indoor air in these buildings such that vapor intrusion does not appear to be a concern under both residential and industrial scenarios. Estimated risks for Unit 001 (Dairy Farm Manager Residence)

for residential receptors are either below or within the NCP target range of 10^{-6} to 10^{-4}. The risk calculations for Unit 006 (UNL Equipment Storage) indicate that there are no unacceptable risks under a limited industrial use scenario and the estimated carcinogenic risk to an industrial worker assuming an 8-hour work day is within the target NCP range. However, an unacceptable hazard may exist if the building were used in an 8-hour work day scenario. There are potential unacceptable risks and hazards for residential receptors if this building were converted to residential use in the future. Uncertainties regarding the risk calculations are presented in Section 6.5.

6.5 UNCERTAINTY ANALYSIS

6.5.1 Soils at North Burning Ground and Potential Landfill Area

Uncertainty in the COPC screening process for the North Burning Ground and Potential Landfill Area exists due to subsurface heterogeneity. However, this was addressed by using a soils data set in the screening that consisted of a soil sampling network that had adequate coverage of the area (see Figure 2-1). The soil sampling locations were also biased to increase the likelihood of encountering the burn layer/ash based on previous observations. To be conservative, the MDC for each metal was compared to the Residential Soil RSL or BTV (if an RSL was not available). Uncertainty in estimating exposure concentrations used in the risk calculations was also addressed by the ample areal coverage of the soil sampling network. Because of the poor recovery (<30%) in MS samples, exposure concentrations for antimony maybe be biased low. However, it should be noted that the HI calculated for the site receptors are sufficiently below 1 in that if the EPC were increased by a factor of three (e.g., to correct for poor recovery), the "corrected" HI for antimony would still be below the target goal of 1.

Uncertainty with respect to land use, i.e., future use as a residential or industrial/commercial area, is low because a deed restriction exists for the North Burning Ground and Potential Landfill Area that restricts its use as a wildlife habitat.

There is uncertainty in the toxicity assessment because there are no dermal absorbance values for antimony, cobalt, and iron. As such, dermal intakes were not included in the risk calculations. Carcinogenic toxicity values are not available for antimony or iron.

As noted earlier, the ILCR is an upper bound estimate of the cancer risk that may occur as a result of the exposure; the "true" cancer risk, especially for chemicals where the slope factor is based on animal data, is likely to be less and may even be zero.

6.5.2 Surface Waters

The COPC screening was conducted on a data set from 23 quarterly monitoring events from December 2004 through May 2010. However, uncertainty in COPC screening exists because of future short and long-term changes to ongoing groundwater pump-and-treat operations at the site. Changes to these operations (e.g., changes in extraction rates, installation of new extraction wells, shutting down existing extraction wells) may change the dynamics of the groundwater/surface water interaction and result in unexpected changes in surface water concentrations. Limited surface water monitoring while the groundwater treatment systems are active may be prudent to monitor for such changes and to address the uncertainty in the COPC screening.

Uncertainty with respect to the use of the surface water (for recreational fishing) is considered to be low because Johnson Creek and Clear Creek are not classified by NDEQ as drinking water sources. Johnson Creek and Clear Creek (in the vicinity of the former NOP) are classified for agricultural water supply. There is no evidence, however, that surface water from the most impacted reaches along Johnson

Creek/Clear Creek is being used on agricultural fields in the area. On the contrary, these reaches are receiving excess water from these fields (i.e., through drain tiles).

Uncertainty with respect to the exposure parameters governing ingestion of fish (i.e., the bioconcentration factor) exists because the factor is based on a model rather than fish tissue results. To compensate for this uncertainty, it was assumed that the bioconcentration factor applied to the entire fish instead of limiting the factor to lipid content. This approach results in higher fish ingestion intakes when compared to the application of a lipid fraction when calculating chemical intake.

6.5.3 Vapor Intrusion Assessment

Uncertainty in the COPC screening process for vapor intrusion exists because the data set consists of two sampling events (one in 2007 and another in 2010). However, the consistency in the results from the two sampling events provides confidence in the results. Future change with respect to building use is considered unlikely for Unit 001 (Dairy Farm Manager Residence), Unit 003 (Feed Mill), Unit 006 (UNL Equipment Storage) and Unit 011 (Feed Mill Office). If Unit 001 converts to an industrial building, exposure for building users will be reduced.

Uncertainty with respect to building use exists for Unit 006 (UNL Equipment Storage); the building is currently unoccupied and workers access the building irregularly and at short time intervals. To account for the possibility that Unit 006 (UNL Equipment Storage) may be used in the future as a work space for industrial workers, the risk calculations showed that even if building usage were increased to a normal 8-hour work day, there would be no unacceptable risk. However, if the building were to be converted to a residence, there may be unacceptable risk due to a calculated ILCR of $4x10^{-5}$ for a Resident Adult.

The Johnson-Ettinger model was used to evaluate whether vapor intrusion would be a problem if the currently undeveloped areas overlying the TCE groundwater plumes are developed as residential areas. The results of the Johnson-Ettinger modeling are described in Appendix J of this report.

As noted earlier, the ILCR is an upper bound estimate of the cancer risk that may occur as a result of the exposure; the “true” cancer risk, especially for chemicals where the slope factor is based on animal data, is likely to be less and may even be zero.

6.5.4 Exposure To Multiple Media

Risk estimates presented in Section 6.4.3 assume that a receptor is exposed to only one medium at each potential area of concern (soils at North Burning Ground/Potential Landfill Area, surface water at the site creeks, indoor air in the site buildings). It is possible carcinogenic risks and non-carcinogenic hazards have been underestimated for receptors exposed to multiple media at each of the potential areas of concern. However the contributions of other media to overall risk are considered to be minimal for the following reasons: the risk assessments are based on the most likely exposure pathways for the receptors, and/or there is no evidence that the other media at each potential area of concern are contaminated.

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7. SUMMARY AND CONCLUSIONS

The overall objective of the OU-3 SRI is to complete an additional assessment on OU-3 and conduct a Supplemental BLRA for investigation areas where potential concerns were identified after completion of the previous OU-3 RI activities (Woodward-Clyde 1997, URS 2000a). Summaries and conclusions of the OU-3 SRI for each of the investigation areas are presented in this section.

7.1 BURN LAYER/ASH AT THE NORTH BURNING GROUNDS AND POTENTIAL LANDFILL

The objectives of the OU-3 SRI at the North Burning Ground and Potential Landfill are:

- to determine the extent of burn layer/ash in North Burning Ground and Potential Landfill Area through core logging,
- to determine whether soils adjacent to the burn layer/ash, if observed, had elevated metals concentrations, and
- to evaluate any risks from exposure of site receptors to soil in these areas.

The OU-3 SRI field sampling conducted in September 2010 included the collection of soil cores to a maximum depth of 10 ft bgs from 20 locations within the North Burning Grounds and Potential Landfill Area. Visual inspections of the soil cores indicated that ash and burn layers were found in isolated areas within the Potential Landfill Area. Soil samples from the cores with a visible burn layer or ash were associated with metals concentrations that were higher than background. However, the presence of the burn layer/ash at the Potential Landfill Area was not pervasive such that overall, metals concentrations in soil samples from these areas were not significantly different from background conditions.

A quantitative risk assessment was conducted using the metals soil data from the OU-3 SRI and the previous OU-3 RI. The soils data were aggregated into two groups: surface soil consisting of samples collected from 0 to 0.5 ft bgs, and surface plus subsurface soil consisting of samples collected from 0 to 8 ft bgs. The soil data were aggregated in this manner because some site receptors considered in the risk analysis (e.g., construction workers) can potentially be exposed to surface and subsurface soil, while other site receptors (grounds maintenance workers and trespassers) would only likely be exposed to surface soil. The selection of site receptors is based on the current land use and the existence of a deed restriction for the North Burning Ground and Potential Landfill Area that restricts use of this property for any other purpose than a wildlife habitat.

As a first step in the risk calculations, the MDC for each metal in the surface soil and surface plus subsurface soil data sets were compared against the USEPA RSLs for Residential Soil (USEPA 2010). If the MDC for a given metal exceeded the Residential Soil RSL the metal was considered a COPC and was carried through the quantitative risk assessment.

Based on this screening process, the COPCs for surface soil are antimony and arsenic while the COPCs for surface plus subsurface soil include antimony, arsenic, cobalt, and iron. Using statistical software available from USEPA (ProUCL 4.1.00), EPCs for each of the COPCs were calculated from the data sets and were then used with standard equations to estimate chemical intakes for site receptors. Using available toxicity values, ILCR and HI were calculated for viable exposure pathways for each site receptor (ingestion of soil, inhalation of dust, dermal contact). The risk calculations show that the total ILCR and HI for all site receptors are within or below the target range of 10^{-6} to 10^{-4} for the ILCR and the target goal of 1 for the HI. The highest risk was from arsenic which, for a majority of the sampling locations, is present in the site soils at concentrations comparable to background conditions, which further

suggests that risks to applicable receptors (construction worker, maintenance worker, adult and juvenile trespassers) are also similar to background risks. Furthermore, the higher arsenic concentrations in the soil samples were not associated with the burn layers and ash observed in the soil cores. In summary, the results of the OU-3 SRI at the North Burning Ground and Potential Landfill Area indicate that the burn layers and ash are present but limited in extent and do not appear to have impacted soils in the area that would result in unacceptable risk to site users.

Based on previous investigation results and the results of the OU-3 SRI, constituents in soil do not pose an unacceptable risk to human health under the current site conditions and exposure scenarios present at the North Burning Ground and Potential Landfill Area. A site-specific FS will not be prepared since it has been determined in the BLRA that no potentially unacceptable risks may result from exposure to constituents in soil at the North Burning Ground and Potential Landfill Area. In summary, no chemicals are present at levels that pose a potentially unacceptable risk at the North Burning Ground and Potential Landfill Area.

7.2 SURFACE WATER

The objective of the OU-3 SRI for Johnson Creek, Clear Creek, and Silver Creek is to perform a revised BLRA that will evaluate risks using quarterly data collected since December 2004 as part of the OU-2 Groundwater Monitoring Program (e.g., ECC 2010a).

To identify COPCs to be carried forward through the risk calculations, surface water sample data consisting of VOC and explosives analyses from 23 quarterly monitoring events (December 2004 through May 2010) were screened and all detected compounds with a frequency of detection over 5% were carried forward. Using this screening process, the COPCs identified for Johnson Creek include acetone, chloroform, cis-1,2-dichloroethene, toluene, TCE, 1,3-DNB, 2,6-DNT, 4-amino-2,6-DNT, RDX and HMX. The COPCs identified for Clear Creek include acetone, 2-butanone, TCE, and RDX There were no analytes that exceeded screening levels in the surface water samples from Silver Creek. The COPCs identified for Silver Creek were acetone and 4-amino-2,6-DNT.

EPCs for TCE and RDX for Johnson Creek and Clear Creek were calculated using ProUCL 4.1.00 from surface water sampling data from the locations that consistently exhibited the highest impact on these creeks during the 23 quarterly monitoring events from December 2004 through May 2010. At Johnson Creek, the sampling stations with the highest analyte detections were SW-08, SW-16, and SW-10, while at Clear Creek, the sampling stations with the highest analyte detections were SW-12 and SW-13. Note that Johnson Creek merges into Clear Creek, and SW-12 and SW-13 are downstream of this confluence. Thus, the presence of analytes at the Clear Creek sampling stations is likely from Johnson Creek waters. The EPCs for COPCs were set to the ProUCL-recommended UCL or the maximum detected concentration, depending on the number of detections. Using standard equations, chemical intakes were calculated using the EPCs and exposure parameters that represent viable exposure pathways for recreational fishermen (adult and child). These pathways include: ingestion of and dermal contact with water during fishing and ingestion of fish from the creeks.

The total ILCR values calculated for the adult and child recreational fishermen for Johnson Creek are $2x10^{-6}$ and $5x10^{-7}$, respectively. The total ILCR values calculated for the adult and child recreational fishermen for Clear Creek are $2x10^{-7}$ and $5x10^{-8}$, respectively. All these values are below or within the target risk range of 10^{-6} to 10^{-4}. The ILCR for TCE in Johnson Creek ($1.8x10^{-6}$) is based on an exposure concentration of 20.61 µg/L. As of May 2010 (the latest date for which sampling data were available when the Draft SRI report was being prepared), the highest TCE concentration in surface water samples from Johnson Creek is 56.1 µg/L, as measured in November 2005. If this concentration were used in the risk calculations, the resulting ILCR ($5x10^{-6}$, for an adult recreational fisherman) would still be within the

target risk range of 10^{-6} to 10^{-4}. ILCR values could not be calculated for Silver Creek because acetone is not classifiable as a carcinogen and the carcinogenicity of 4-amino-2,6-DNT has not been evaluated. However, the frequency of detections for 4-amino-2,6-DNT (4 out of 71 samples) suggests that this chemical is not a concern. In summary, the risk calculations for Clear Creek and Silver Creek indicate that there are no unacceptable risks or hazards to recreational fishermen from exposure to surface water in Clear Creek, and Silver Creek. There are no unacceptable risks or hazards to a child recreational fisherman in Johnson Creek. For Johnson Creek, the ILCR for an adult recreational fisherman ($2x10^{-6}$) fell within the NCP target range of 10^{-6} to 10^{-4}.

Based on previous investigation results and results of the OU-3 SRI, constituents in Clear Creek and Silver Creek do not pose an unacceptable risk to human health under the current site conditions and exposure scenarios applicable to these surface water bodies. Constituents in Johnson Creek do not pose an unacceptable risk to a child recreational fisherman, while carcinogenic risk for the adult recreational fisherman from exposure to surface water at Johnson Creek fell within the NCP target range of 10^{-6} to 10^{-4}. A site-specific FS will not be prepared since it has been determined in the BLRA that risks for exposure to constituents in Johnson Creek, Clear Creek, and Silver Creek are either below or within the NCP target range.

7.3 VAPOR INTRUSION ASSESSMENT

The objective of the OU-3 SRI with respect to vapor intrusion is to supplement the previous study conducted by Lockheed Martin (2007) on behalf of USEPA Region VII with additional sampling in order to conduct a more definitive assessment of risks in four of the 12 buildings where results were less conclusive. These buildings were: Unit 001 (Dairy Farm Manager Residence), Unit 003 (Feed Mill), Unit 006 (UNL Equipment Storage), and Unit 011 (Feed Mill Office).

The indoor air and sub-slab soil gas samples were collected in 6 L pre-cleaned evacuated SUMMA® canisters that were equipped with mass flow controllers that enabled filling of the canisters at a controlled rate over 24 hours. Indoor air and sub-slab soil gas samples at Units 001 (Dairy Farm Manager Residence), Unit 006 (UNL Equipment Storage), and Unit 011 (Feed Mill Office) were collected in September 2010. An indoor air sample was collected at Unit 003 (Feed Mill) in September 2010, but the sub-slab soil gas sample could not be collected at this time due to a defective port. The field crew returned to Unit 003 (Feed Mill) in November 2010, installed a new port, and collected a set of indoor air, sub-slab soil gas, and ambient air samples. The air samples were analyzed for TCE and its daughter products (cis-1,2-DCE, trans-1,2-DCE, and VC).

In order to determine COPCs, the air sample analytical results were compared against the USEPA RSL for Residential Air. With the exception of Unit 006 (UNL Equipment Storage), none of the indoor air samples exhibited any detectable levels of the analytes. Note that the detection limits for the sample analyses are below the screening levels. At Unit 001 (Dairy Farm Manager Residence), TCE was detected in one of the FD pair of sub-slab soil gas samples (0.5 $\mu g/m^3$). This detected value exceeded the Residential Air screening level (0.43 $\mu g/m^3$) although TCE was not detected in any of the indoor air samples collected in September 2011 as part of the SRI field sampling. No analytes were detected in the sub-slab soil gas samples collected from Unit 003 (Feed Mill) and Unit 011 (Feed Mill Office). The combined results of indoor air sampling results from the Lockheed Martin (2007) study and the results of the OU-3 SRI sampling indicate that there are no unacceptable risks from vapor intrusion at Unit 003 (Feed Mill), and Unit 011 (Feed Mill Office). TCE in the indoor air samples (9.2 and 5.2 $\mu g/m^3$) exceeded the TCE screening level for Industrial Air (3.0 $\mu g/m^3$) at Unit 006 (UNL Equipment Storage). A high concentration of TCE (150,000 $\mu g/m^3$) was measured in the sub-slab soil gas sample, which confirmed that the source of TCE in indoor air in this building is from the subsurface.

At Unit 001 (Dairy Farm Manager Residence), although TCE was not detected in the indoor air samples collected as part of the SRI field sampling in September 2010, TCE was detected at 0.7 $\mu g/m^3$ in indoor samples collected in October 2007 as part of a previous sampling study (Lockheed Martin 2007). Using 0.7 $\mu g/m^3$ as an EPC and exposure parameters for a Residential Adult and Child, the calculated ILCRs from exposure to TCE were $3x10^{-6}$ and $5x10^{-7}$, respectively, which are within and below the NCP target range of 10^{-6} to 10^{-4}. The HI (0.3) for residential receptors at Unit 001 is below the target of 1. There are no unacceptable risks associated with TCE in a residential scenario in Unit 001.

Using 9.2 $\mu g/m^3$ as an EPC and exposure parameters for an industrial worker with limited exposure (1 hour per day) that reflects the use of the building for equipment storage, the calculated ILCR from exposure to TCE in indoor air in Unit 006 is $4x10^{-7}$, which is below the generally accepted target range of 10^{-5} for vapor intrusion assessments (USEPA 2002b). The HI is negligible (0.1). Thus, the quantitative risk assessment indicates that there are no unacceptable risks associated with vapor intrusion under current building use of Unit 006 for equipment storage. There are no unacceptable risks (ILCR = $3x10^{-6}$) if future building usage were upgraded to a normal 8-hour work day. However, there may be an unacceptable risk if the Unit 006 building was converted to a residence. Unacceptable hazards may exist in Unit 006 if the building usage were to change to an 8-hour work day or a residential scenario.

Based on the previous VI assessment by Lockheed Martin (2007), on behalf of USEPA Region VII and on the results of the OU-3 SRI, vapor intrusion in existing buildings overlying the TCE groundwater plumes are not posing unacceptable risk to human health under current site conditions and exposure scenarios applicable to these existing buildings. A site-specific FS will not be prepared since it has been determined in the BLRA that no potentially unacceptable VI risks were calculated in existing structures. In summary, under current exposure scenarios no chemicals were present at levels in indoor air that posed a potentially unacceptable risk.

7.4 RECOMMENDED PRELIMINARY REMEDIAL ACTION OBJECTIVES AND GOALS

Table 7-1 presents Preliminary Remedial Action Objectives and Preliminary Remediation Goals (PRGs) for the three OU-3 Supplemental RI investigation areas. For all three investigation areas, the remedial action goal was calculated based on a target risk of 10^{-6} to current site receptors from exposure to impacted media. Non-carcinogenic hazards were not incorporated into the Remedial Action Objectives because the HI values are below 1 for all investigation areas under baseline/current conditions (Table 6-17b through 6-21b). Based on the Remedial Action Objectives, PRGs were calculated for each COPC that contributed to the overall carcinogenic risk for each investigation area (Table 7-1). To ensure that all site receptors are protected, the PRGs were calculated for the site receptor that had the highest calculated risk in the BLRA. For example, the highest carcinogenic risk from exposure to arsenic in surface soil was calculated for the Maintenance Worker at the North Burning Ground/Potential Landfill Area (Table 6-17a). As such, the PRG for arsenic in surface soil was calculated using the Maintenance Worker as a target receptor and assuming a target risk of 10^{-6} (the lower limit of the target NCP range). For building indoor air/vapor intrusion, the PRG was calculated using a target risk of 10^{-5}, which is the generally recommended value in regulatory guidance for evaluating vapor intrusion (USEPA 2002b).

For surface soil, the calculated PRG for arsenic is 1.8 mg/kg, which is lower than the BTV of 9.5 mg/kg. In this case, a more realistic remediation goal would be the BTV of 9.5 mg/kg. The upper graph in Figure 4-1c shows that only three surface soil arsenic concentrations exceeded the BTV; all three measurements were associated with elevated iron concentrations which, as mentioned previously (Section 4.1.1), suggested arsenic is generally from natural, rather than anthropogenic sources at the North Burning Ground/Potential Landfill Area. Considering exposure to both surface and subsurface soil, the only applicable site receptor is the construction worker, with arsenic being the only COPC contributing to carcinogenic risk (Table 6-17a). The calculated PRG for arsenic, when considering exposure to both

surface and subsurface soil, is 38 mg/kg based on a target risk level of 10^{-6} (Table 7-1). The graphs in Figure 4-1c show that none of the arsenic concentrations measured exceeded 38 mg/kg. Thus, the comparison of the arsenic site data to the BTV (for surface soil) and PRG (for surface and subsurface soil) indicates that remedial action is not required to achieve the Preliminary Remedial Action Objective at North Burning Ground/Potential Landfill Area.

For surface water, TCE and RDX both contributed to carcinogenic risks in Johnson Creek (Table 6-18a) and Clear Creek (Table 6-18c); there are no COPCs that contributed to carcinogenic risk at Silver Creek. As of May 2010, measured concentrations of TCE in Johnson Creek [see graphs in Figure 4-12 Part (A)] have exceeded the calculated PRG of 12 μg/L (corresponding to a target risk of 10^{-6}) but have never exceeded 120 μg/L (PRG corresponding to a target risk of 10^{-5}). RDX in Johnson and Clear Creeks has not exceeded the calculated PRG of 44 μg/L [see Figures 4-12 Part (B) and 4-13 Part (B)]. These PRGs can also be used to evaluate TCE and RDX concentrations measured in surface water samples from future sampling events. If future TCE and RDX concentrations are below 10 times the PRGs (corresponding to a target risk of 10^{-5}), then it is reasonable to assume that risks to the adult and child recreational fishermen from exposure to surface water in these creeks are within, or below, the NCP target risk range of 10^{-6} to 10^{-4}.

For indoor air, candidate PRGs were calculated on a target hazard of 1 and a target risk of 10-5 (USEPA 2002). The candidate PRGs for the Industrial Worker (normal 8-hour per day exposure) and Resident Adult for a target hazard of 1 are 8.8 and 2 μg/m^3, respectively. The candidate PRGs for a target risk of 10^{-5} (USEPA 2002b) are 30 and 2.2 μg/m^3 for the Industrial Worker and Resident Adult/Child, respectively. The candidate PRGs based on a target hazard of 1 are lower than the PRGs based on a target risk of 10^{-5}, and were therefore selected as project PRGs as shown in Table 7-1. The indoor air TCE concentrations measured in non-residential buildings either did not exceed or were comparable to the PRG of 8.8 μg/m^3 for the Industrial Worker (normal 8-hour per day exposure; see data for Units 003, 006 and 011 in Table 4-6a and 4-7). Similarly, the indoor air TCE concentrations measured in Unit 001 (the Dairy Farm Manager Residence) are below the residential PRG of 2 μg/m^3 (see data in Table 4-6a and 4-7).

7.5 PRELIMINARY APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

A tentative set of preliminary Applicable or Relevant and Appropriate Requirements (ARARs), as defined in the NCP (40 CFR 300.5), was gathered and evaluated for use at the OU-3 SRI investigation areas should risks exceed NCP target levels and remedial actions are needed. However, based on the BLRA presented above, conditions at the investigation areas do not pose unacceptable risks to current site receptors. As such, no remedial actions appear to be required and further discussions regarding ARARs have not been included in this report.

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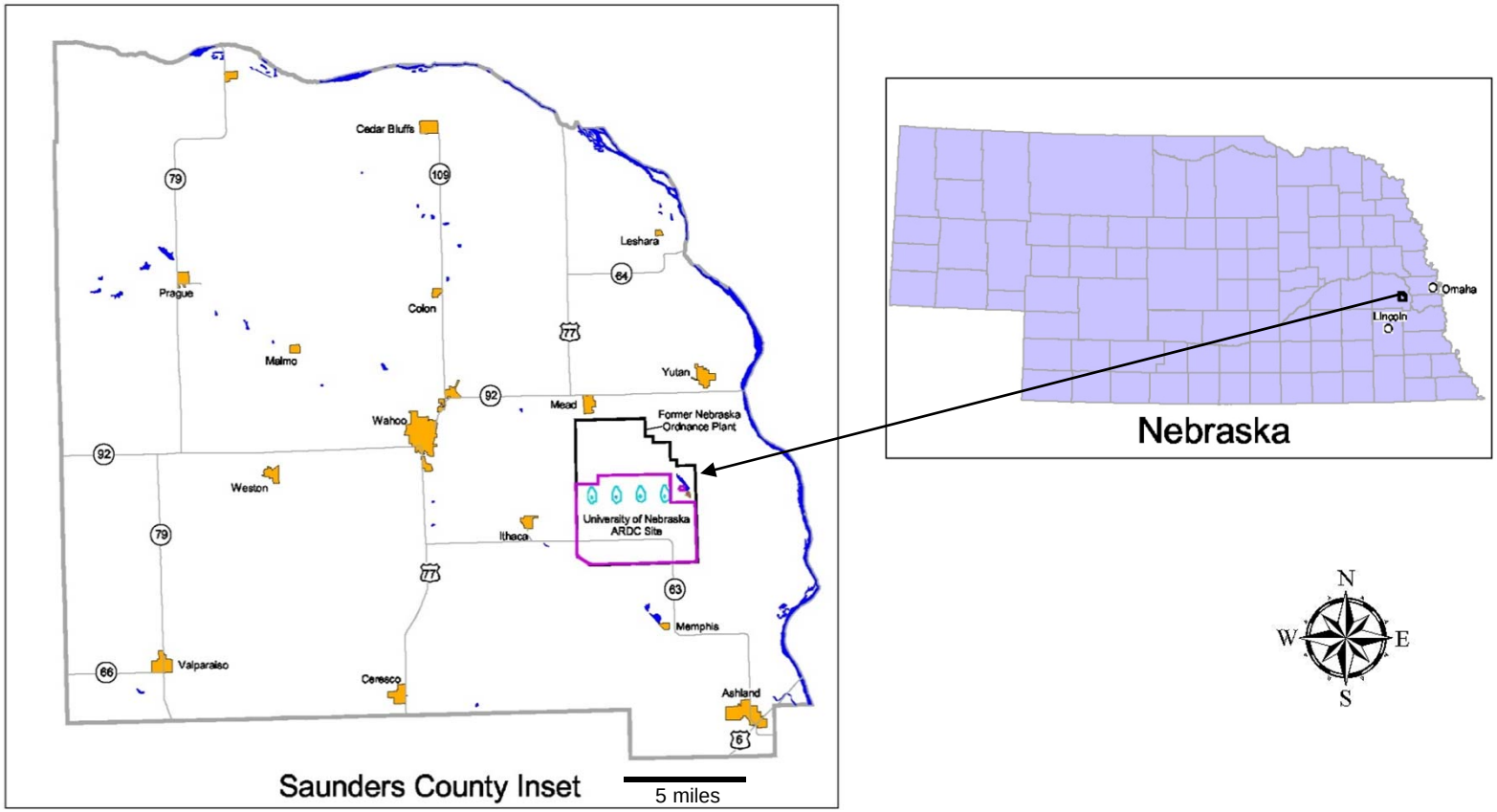
FIGURES



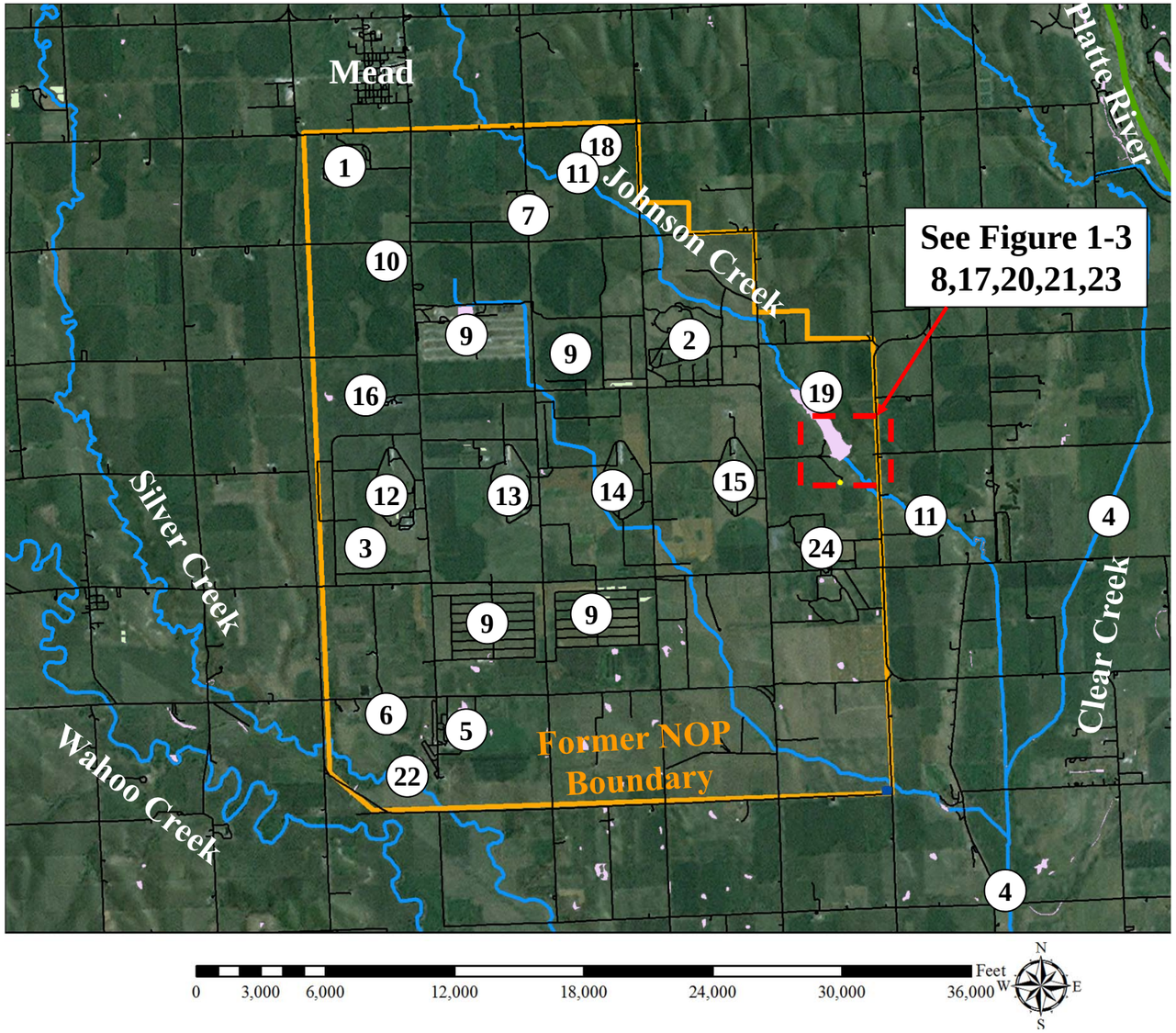
Source: MACTEC 2009. Final Report. Removal Action Completion Report. Former Nebraska Ordnance Plant Superfund Site, Operable Unit 5. University of Nebraska Agricultural Research and Development Center, Mead, Nebraska. MACTEC Project No. 46630700156.0

Figure 1-1 Site Location

U.S. Army Corps of Engineers
Kansas City District

GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska



Legend:

Former Administration Area	1
Former Atlas Missile Area	2
Bermed Area Southwest of Load Line 1	3
Clear Creek	4
Former Demolition Ground	5
Former Detonation Craters	6
Former Ammonium Nitrate Plant	7
Former NOP Landfill Area	8
Former Raw Product Igloo Storage	9
Former Tetryl Pelleting Area / Bomb Booster Assembly	10
Johnson Creek	11
Former Load Line 1	12
Former Load Line 2	13
Former Load Line 3	14
Former Load Line 4	15
Former Nike Missile Maintenance Area	16
Former North Burning Ground	17
Northeast Boundary Area	18
NRD Reservoir	19
Potential Landfill Area	20
Former Proving Grounds	21
Silver Creek	22
Former South Burning Ground	23
Former Air Force Global Communications Area	24

Figure 1-2 Former Nebraska Ordnance Plant Site Layout/OU-3 Investigation Areas
Source Base Map: ESRI World Imagery 2009

U.S. Army Corps of Engineers
Kansas City District

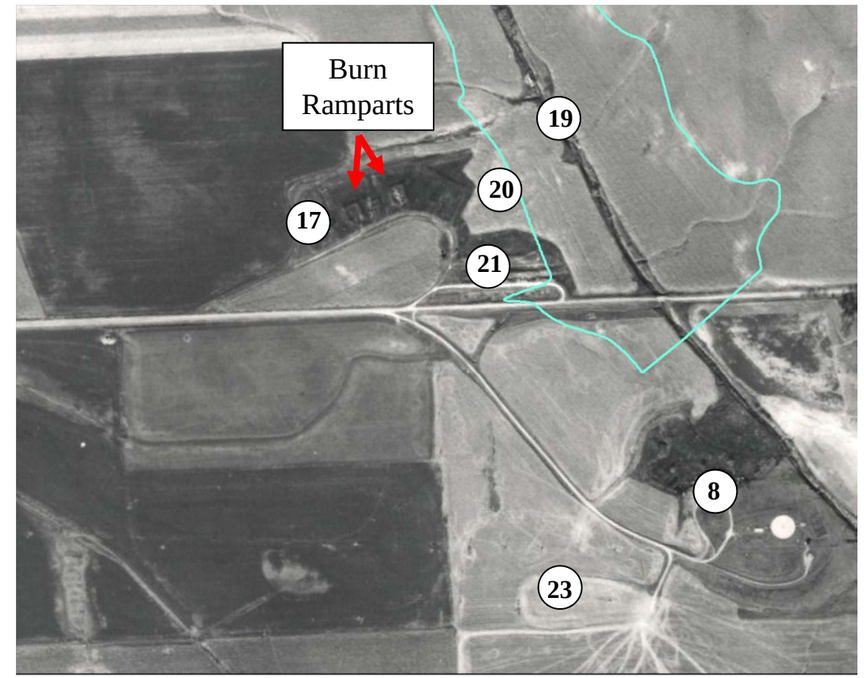
GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska

Source Base Map: ESRI World Imagery 2009

0 250 500 1,000 1,500 2,000 Feet

Source Aerial Photograph: University of Nebraska 1965



0 250 500 1,000 1,500 2,000 Feet

Legend:

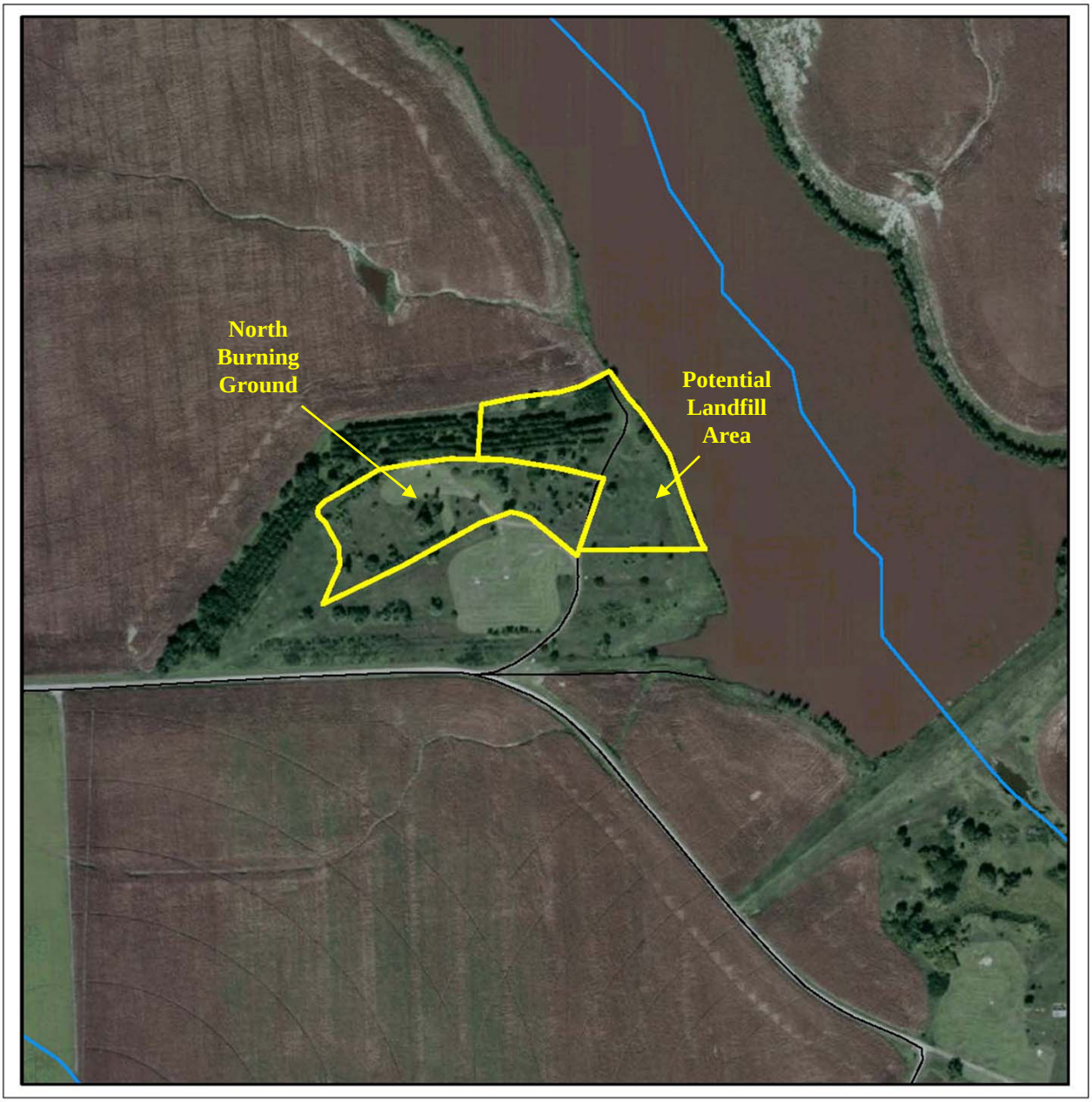
Former NOP Landfill Area	8
North Burning Ground	17
NRD Reservoir	19
Potential Landfill Area	20
Proving Grounds	21
South Burning Ground	23

Figure 1-3 Former Nebraska Ordnance Plant Site Layout/OU-3 Investigation Areas near the Natural Resources District Reservoir

U.S. Army Corps of Engineers
Kansas City District

GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska



Legend

Surface Water

0 125 250 500 750 1,000 Feet

N
W E
S

Figure 1-4 Site Location Map for the former Nebraska Ordnance Plant North Burning Ground and Potential Landfill Area

Source Base Map: ESRI World Imagery 2009

U.S. Army Corps of Engineers

Kansas City District

GEO Consultants, LLC

A Geological Engineering and Environmental Services Company

Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska

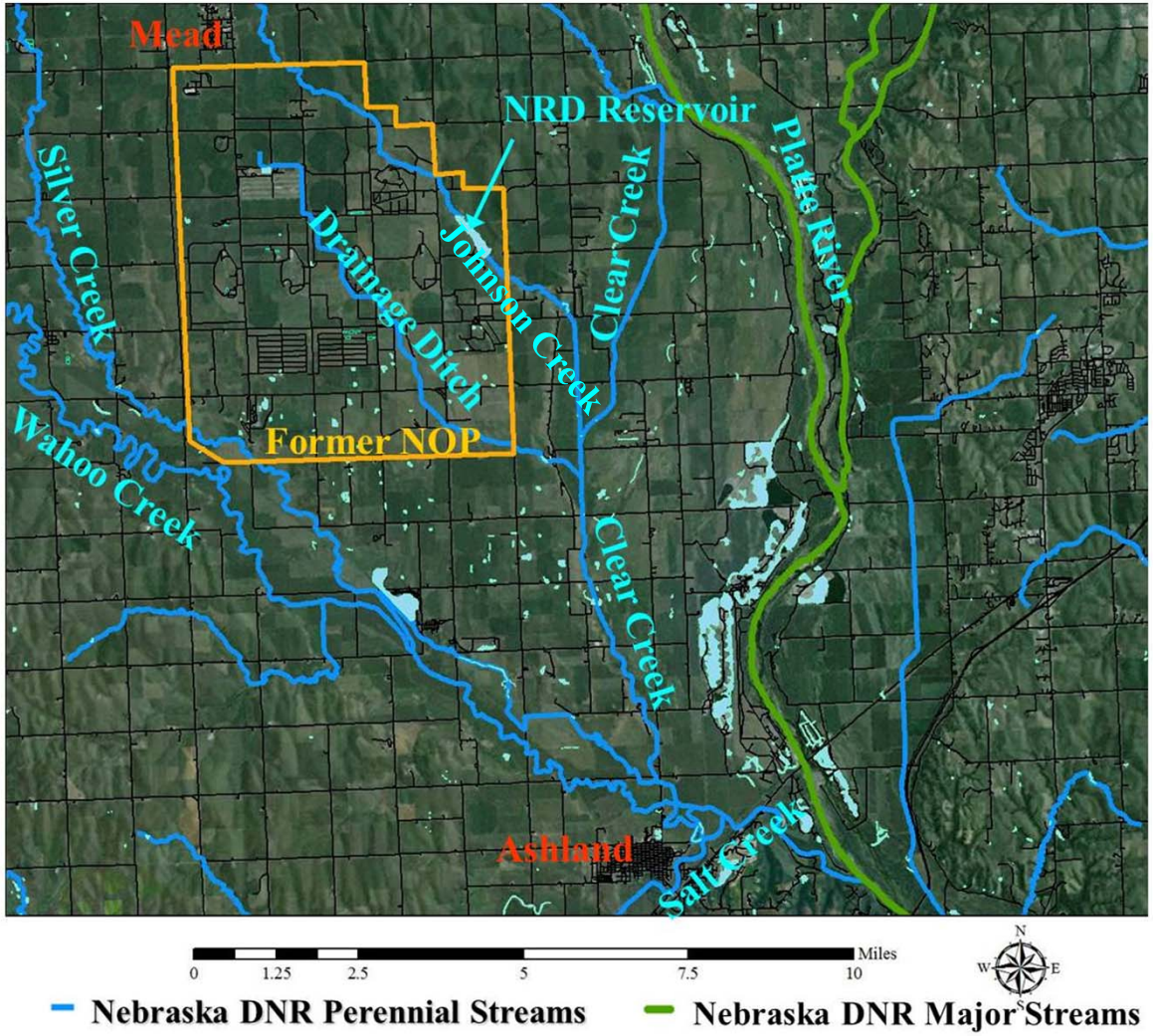


Figure 1-5 Site Location Map for the former Nebraska Ordnance Plant Surface Water Features
Source Base Map: ESRI World Imagery 2009

U.S. Army Corps of Engineers
Kansas City District

GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska

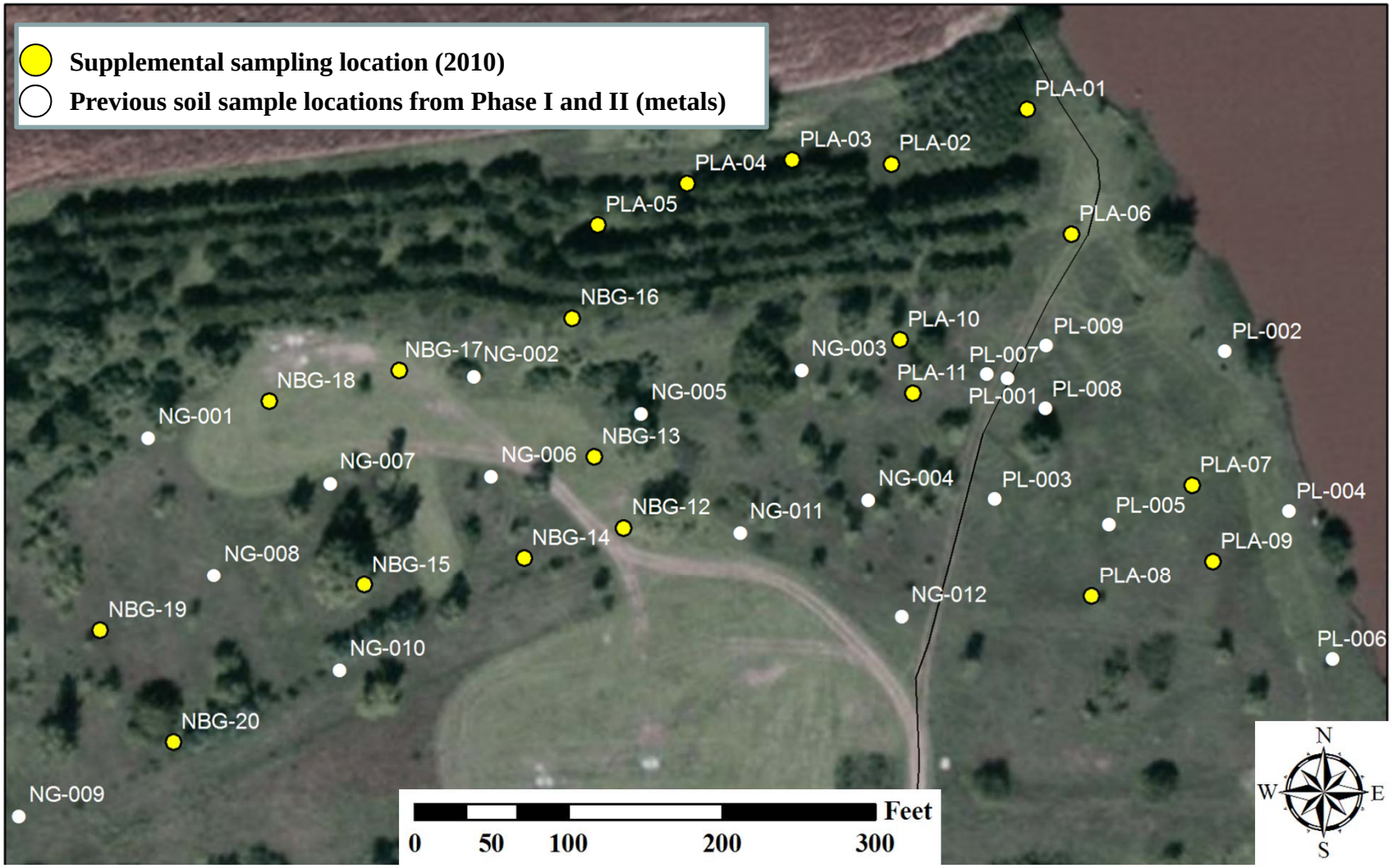


Figure 2-1 Site Location Map for the former Nebraska Ordnance Plant Soil Samples
Source Base Map: ESRI World Imagery 2009

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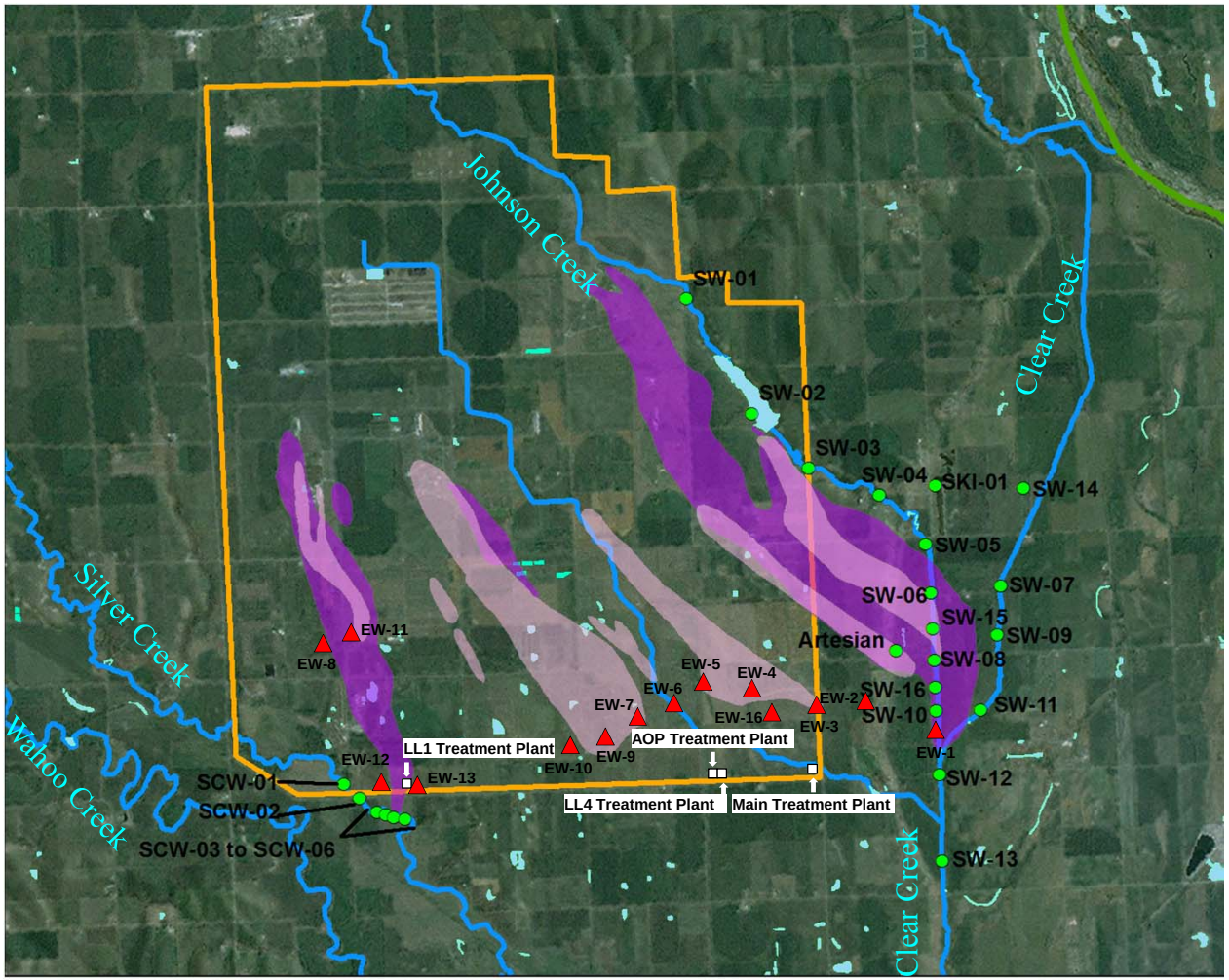

SKI-01 and SW-14 are not sampled regularly.
"Artesian" is a sample from a well that produces water under artesian conditions; the water from this well flows into a ditch that discharges to Johnson Creek upgradient of SW-08.
This location is sampled, but it is not considered representative of surface water at the site.

- Extraction Wells
- Surface water sampling locations, 2004-2010
- Boundary of TCE groundwater plume (≥ 5 µg/L)
- Boundary of RDX groundwater plume (≥ 2 µg/L)

0 0.5 1 2 3 4 5 6 7 8 Miles

N W E S

Figure 2-2 Surface Water Samples Collected along Johnson Creek, Clear Creek, and Silver Creek from 2004-2010 that have been Sampled as Part of the OU-2 Groundwater Monitoring Program

Source Base Map: ESRI World Imagery 2009; Source of Plume: URS (September 2009)

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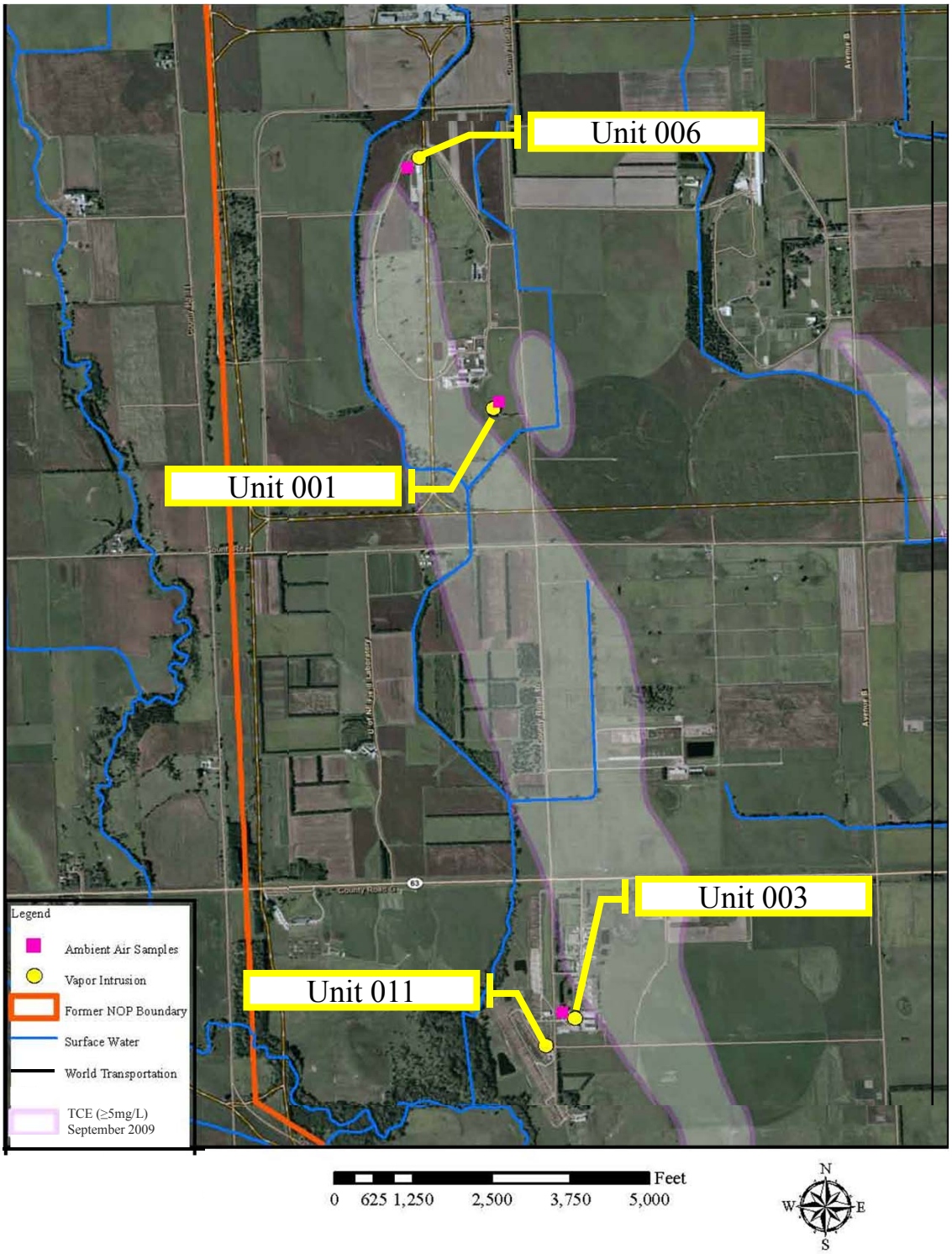

Figure 2-3 Vapor Intrusion Buildings of Concern for Load Line 1 TCE Plume

TCE plume: TCE ≥ 5 µg/L as of September 2009.

Source Base Map: ESRI World Imagery 2009; Source TCE plume: URS (September 2009)

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(A) Duplicate sub-slab soil gas samples

(B) Sub-slab soil gas sampling port (installed in 2007 by Lockheed Martin)

(C) Helium leak-testing of sub-slab soil gas port shown in (B)

(D) Duplicate indoor air samples

(E) Outdoor/ambient background sample

Figure 2-4 Photographs Showing Samples Collected at Unit 001 (Dairy Farm Manager Residence) to Evaluate Vapor Intrusion (September 13-14, 2010)

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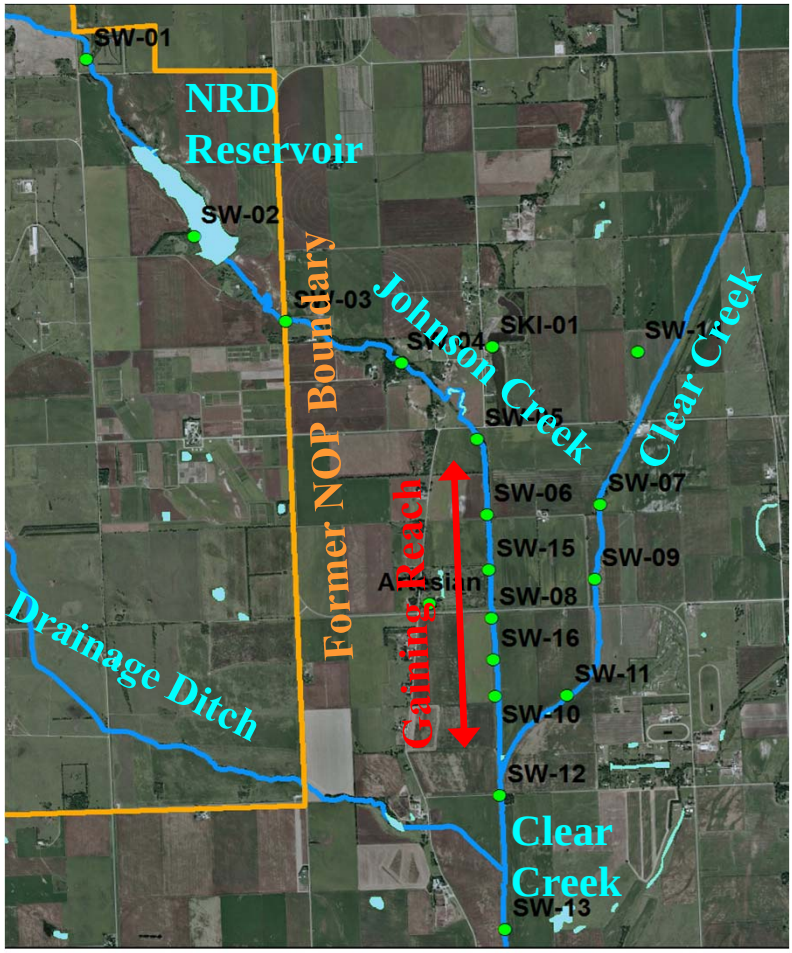
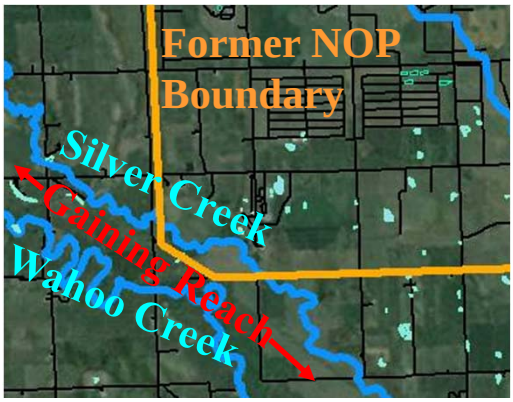
(A)



(B)



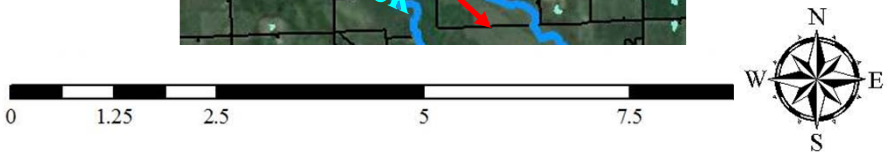


Figure 3-1 Gaining Reaches of Johnson Creek, Clear Creek, and Silver Creek
Source Base Map: ESRI World Imagery 2009

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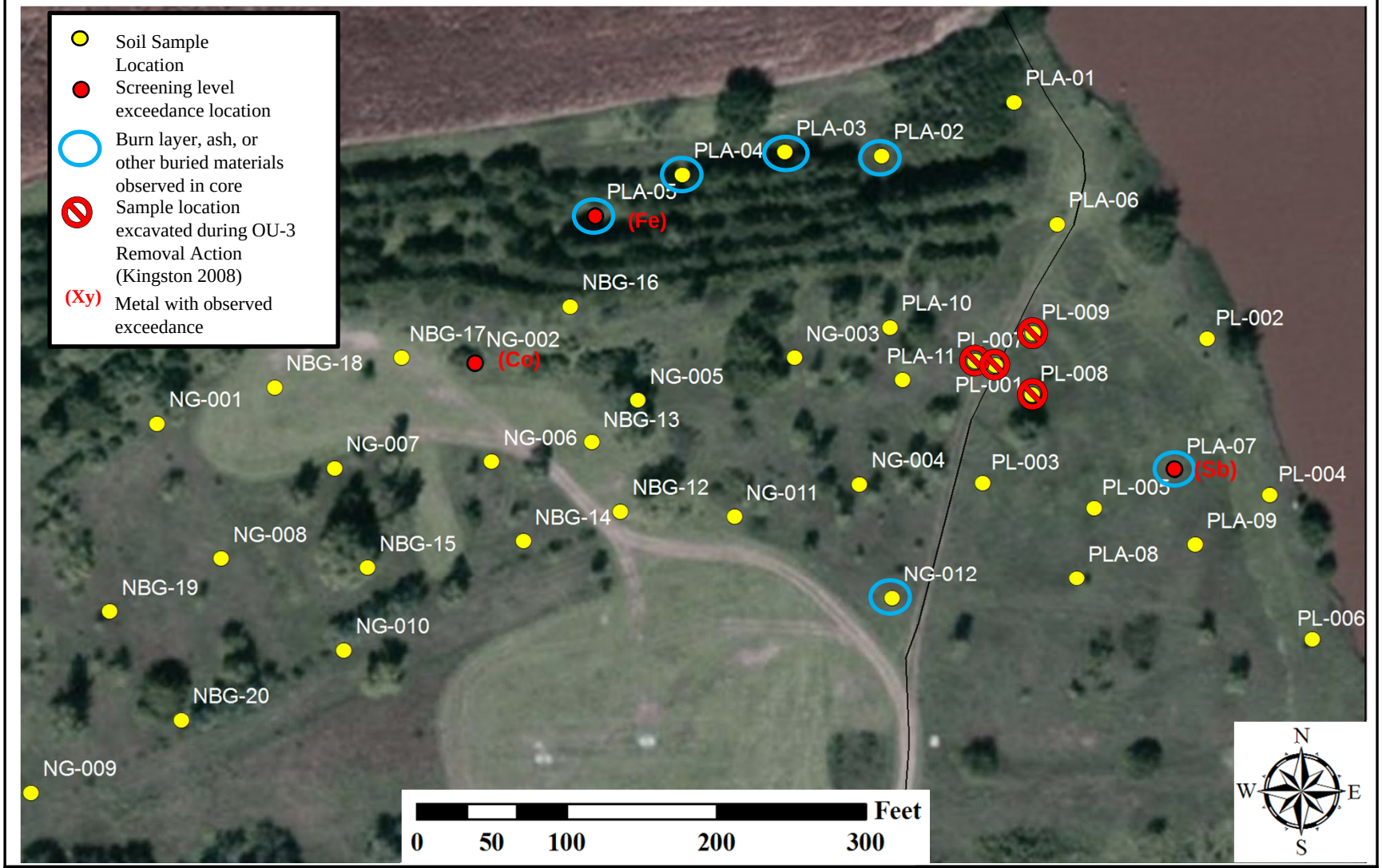

Figure 4-1a Surface and Subsurface Soil Sample Locations with Residential Soil Screening Level Exceedances (with the Exception of Arsenic) and Observed Buried Materials in Cores (only for OU-3 SRI Cores) Source Base Map: ESRI World Imagery 2009

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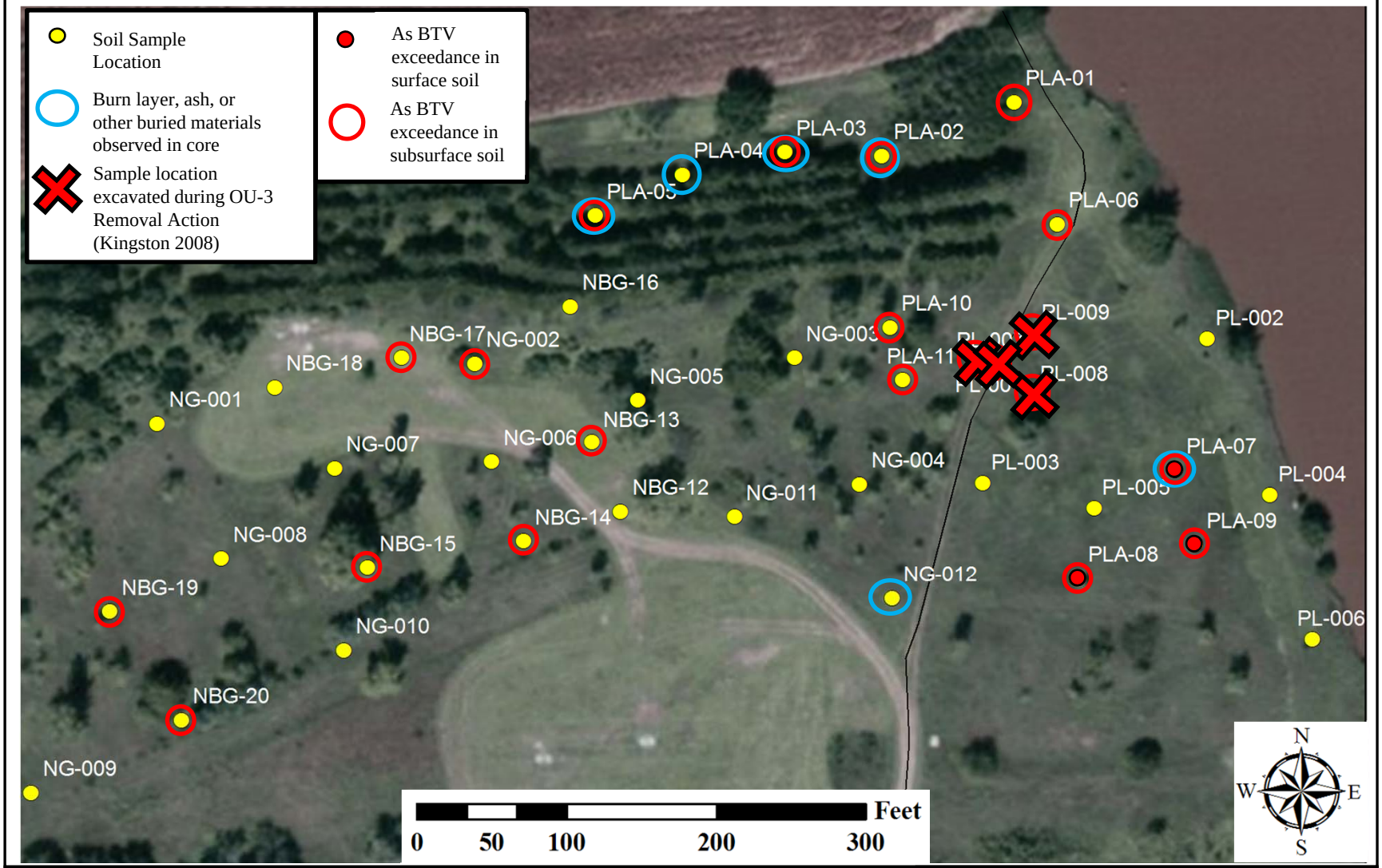

Figure 4-1b Surface and Subsurface Soil Sample Locations with Background Threshold Value exceedances for Arsenic and Observed Buried Materials in Cores (only for OU-3 SRI Cores)

Source Base Map: ESRI World Imagery 2009

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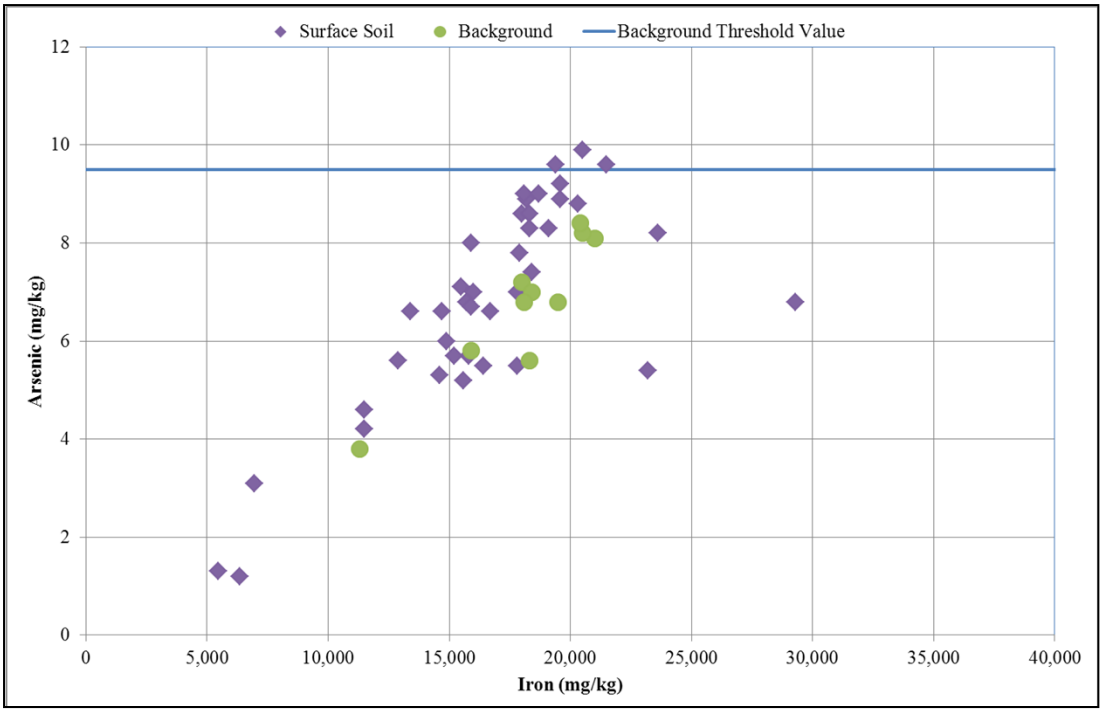

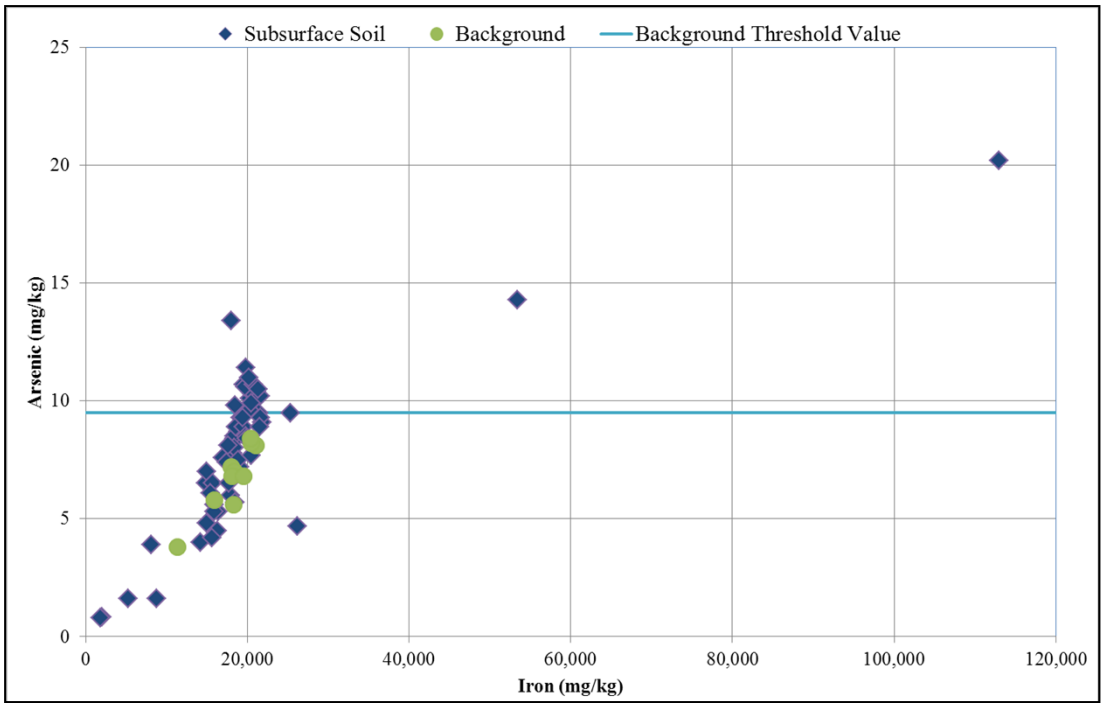

Figure 4-1c Arsenic versus Iron Concentrations in Background, Surface, and Subsurface Soil

Source Plots: ProUCL 2010

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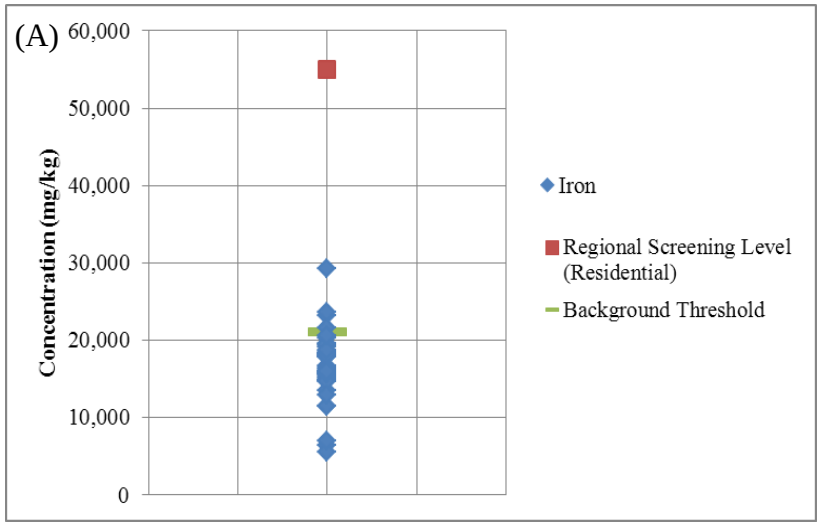

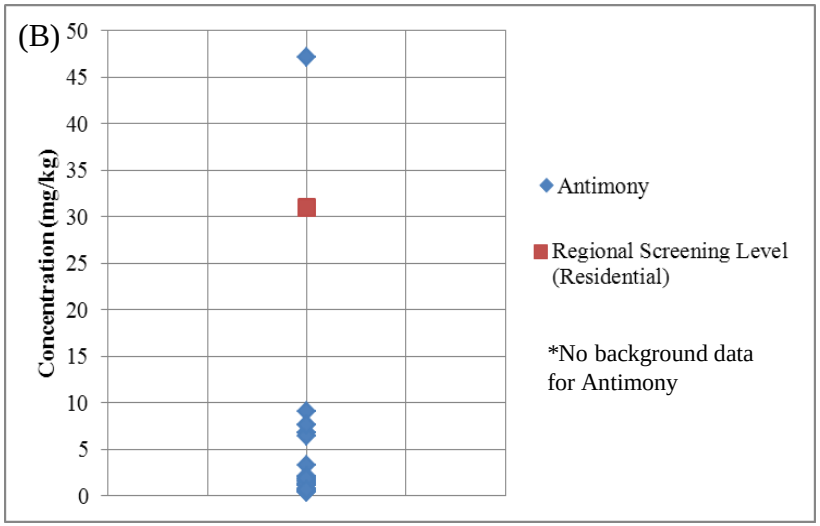

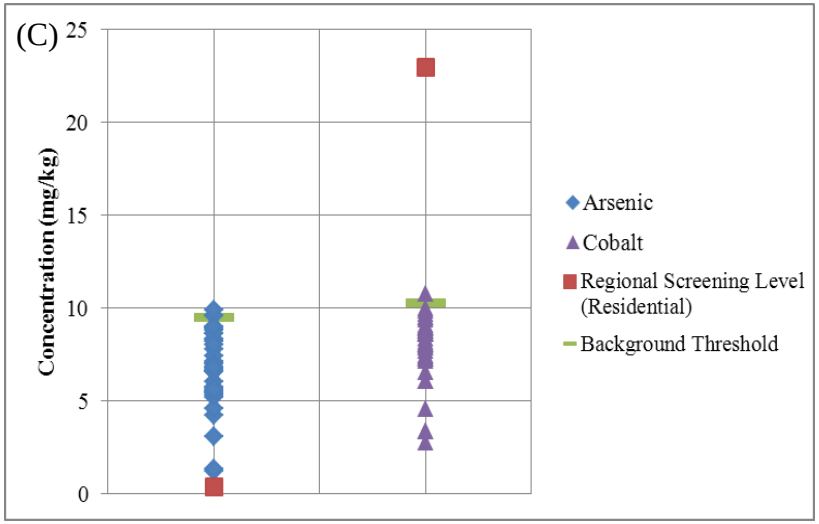

Figure 4-2 Surface Soil Metals for (A) Iron, (B) Antimony, and (C) Arsenic and Cobalt in Samples Collected from the North Burning Ground and Potential Landfill Area

Data excludes sample locations excavated in Kingston 2008.

Regional Screening Levels for soil obtained from USEPA, Updated November 2010.

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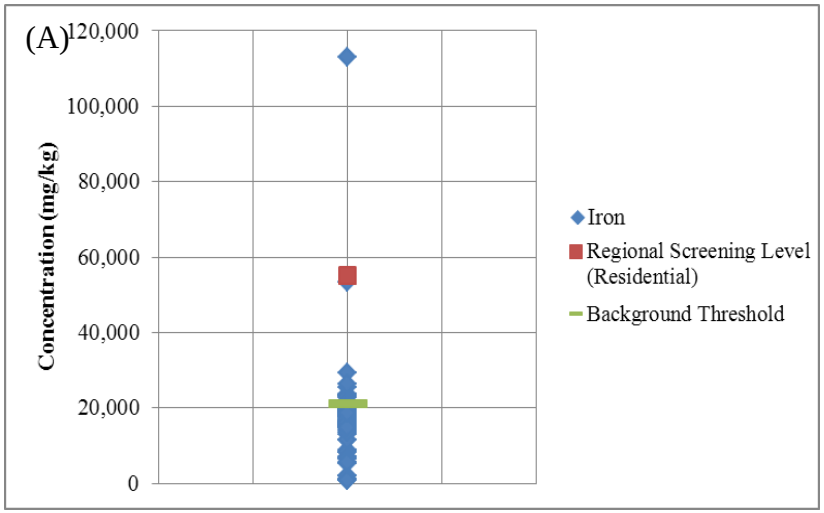

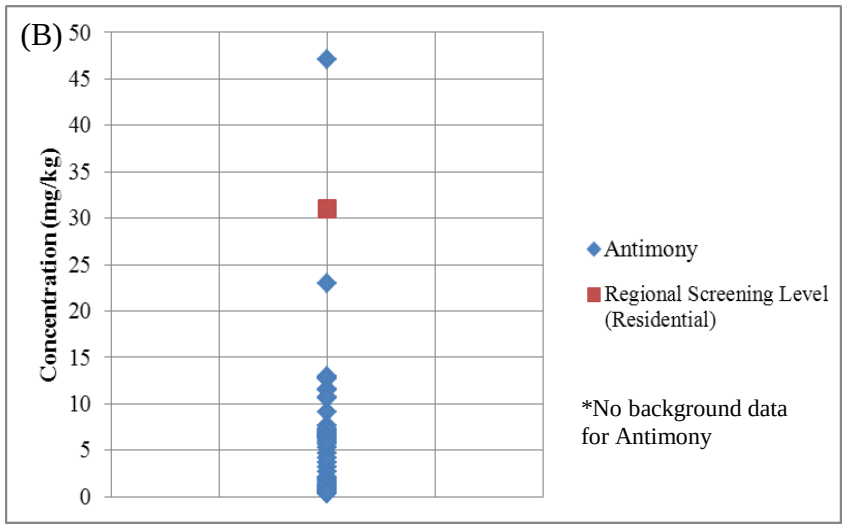

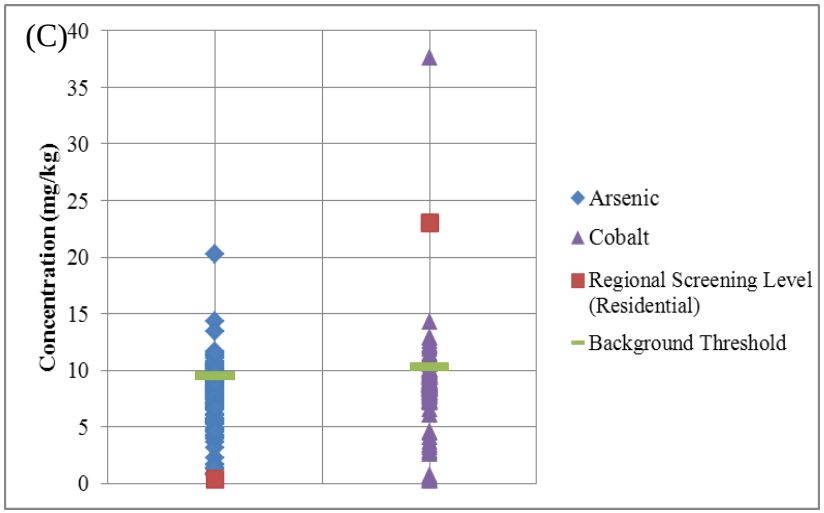

Figure 4-3 Surface and Subsurface Soil Metals for (A) Iron, (B) Antimony, and (C) Arsenic and Cobalt in Samples Collected from the North Burning Ground and Potential Landfill Area

Data excludes sample locations excavated in Kingston 2008.

Regional Screening Levels for soil obtained from USEPA, Updated November 2010.

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Figure 4-4 Photographs of Soil Cores from Potential Landfill Area Showing (A) Dark Staining, (B) Yellow Staining, and (C) Possible Ash

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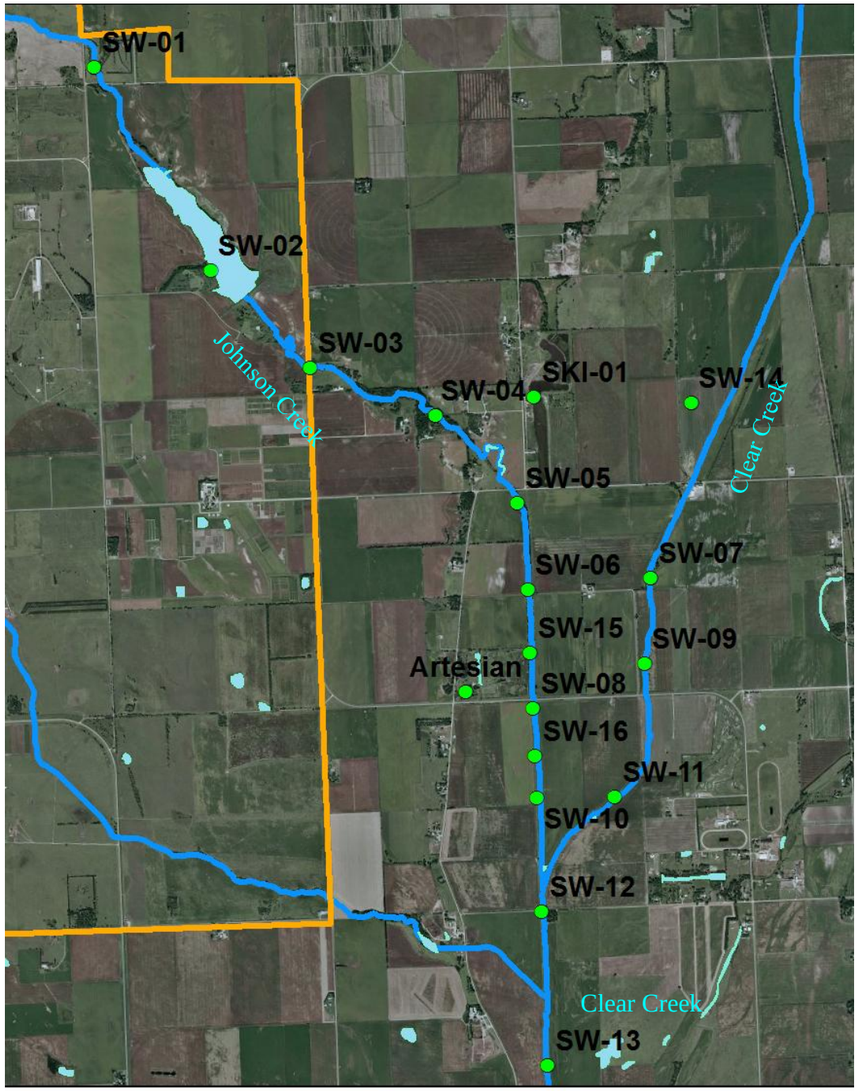
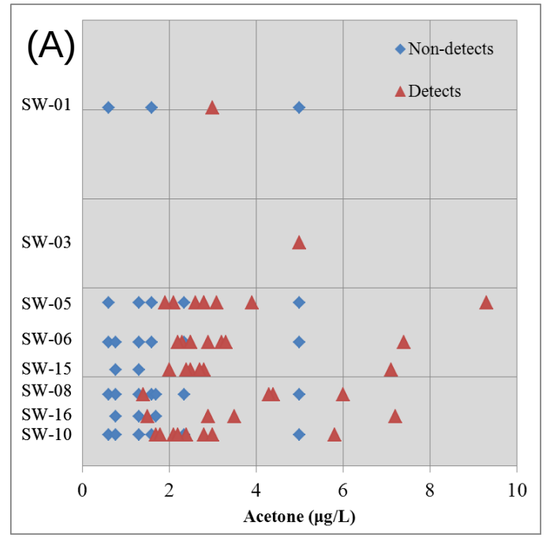
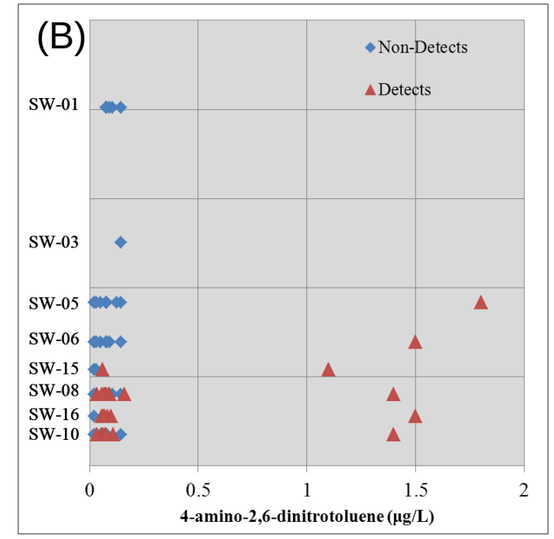
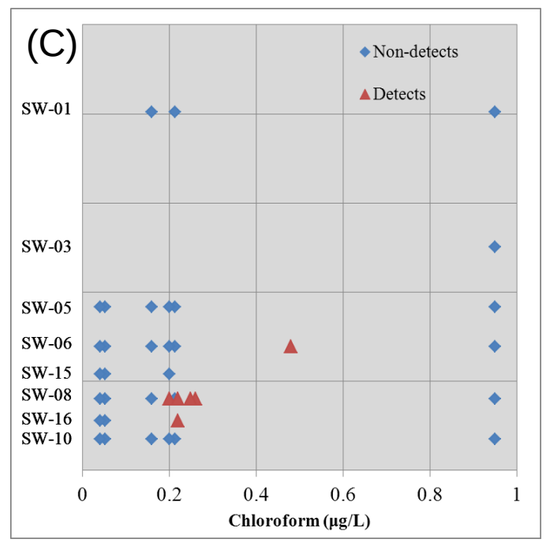


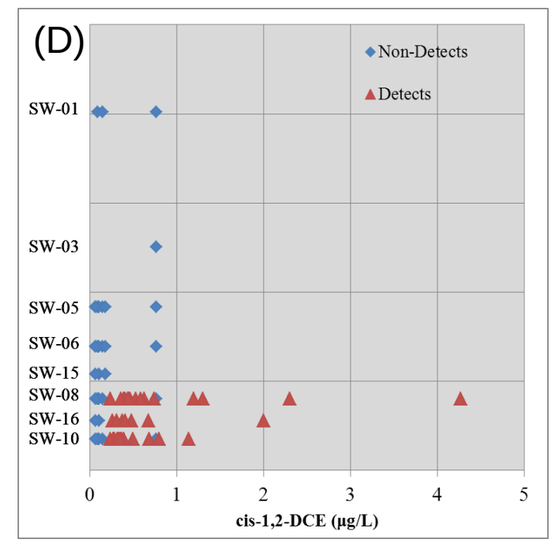
*The point labeled "Artesian" is not a surface water sampling location; it is an artesian groundwater well that was sampled along with the surface water.

Miles
0 0.5 1 2









Note on all graphs: For non-detect values, the method detection limit is shown.
DCE—dichloroethene, µg/L—micrograms per liter

Figure 4-5 Concentration of Analytes with Detected Concentrations at Johnson Creek

Source Base Map: ESRI World Imagery 2009

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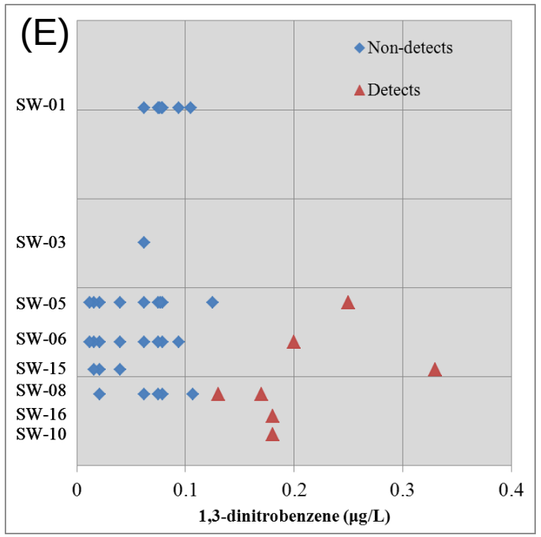

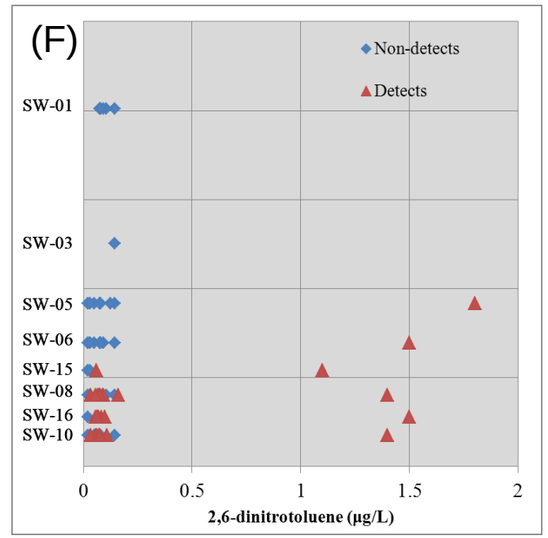

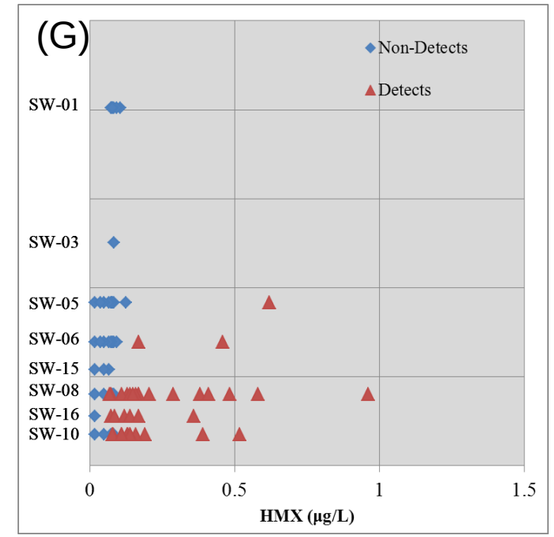

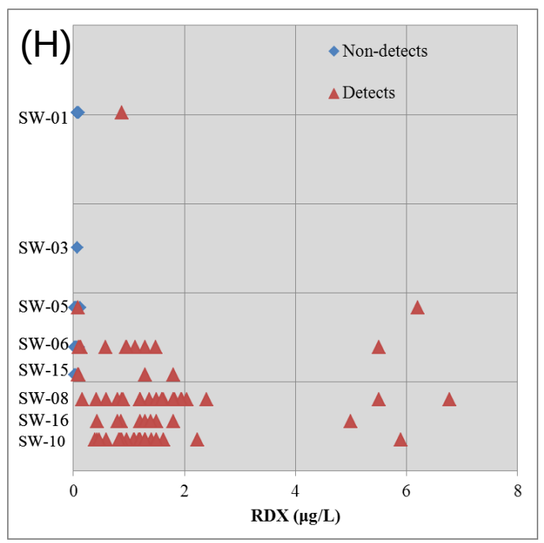

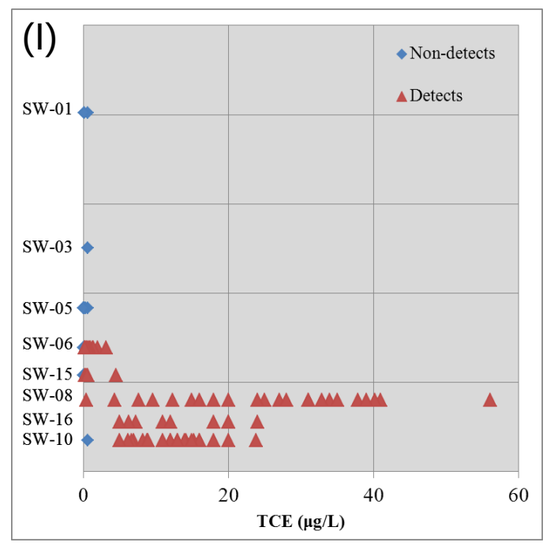

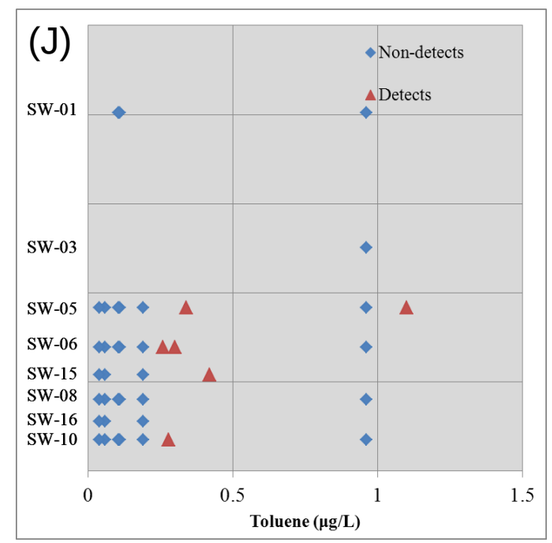

Note on all graphs: For non-detect values, the method detection limit is shown.
HMX—octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine, RDX—hexahydro-1,3,5-trinitro-1,3,5-triazine, TCE—trichloroethene, µg/L—micrograms per liter

Figure 4-5 Concentration of Analytes with Detected Concentrations at Johnson Creek (Continued)

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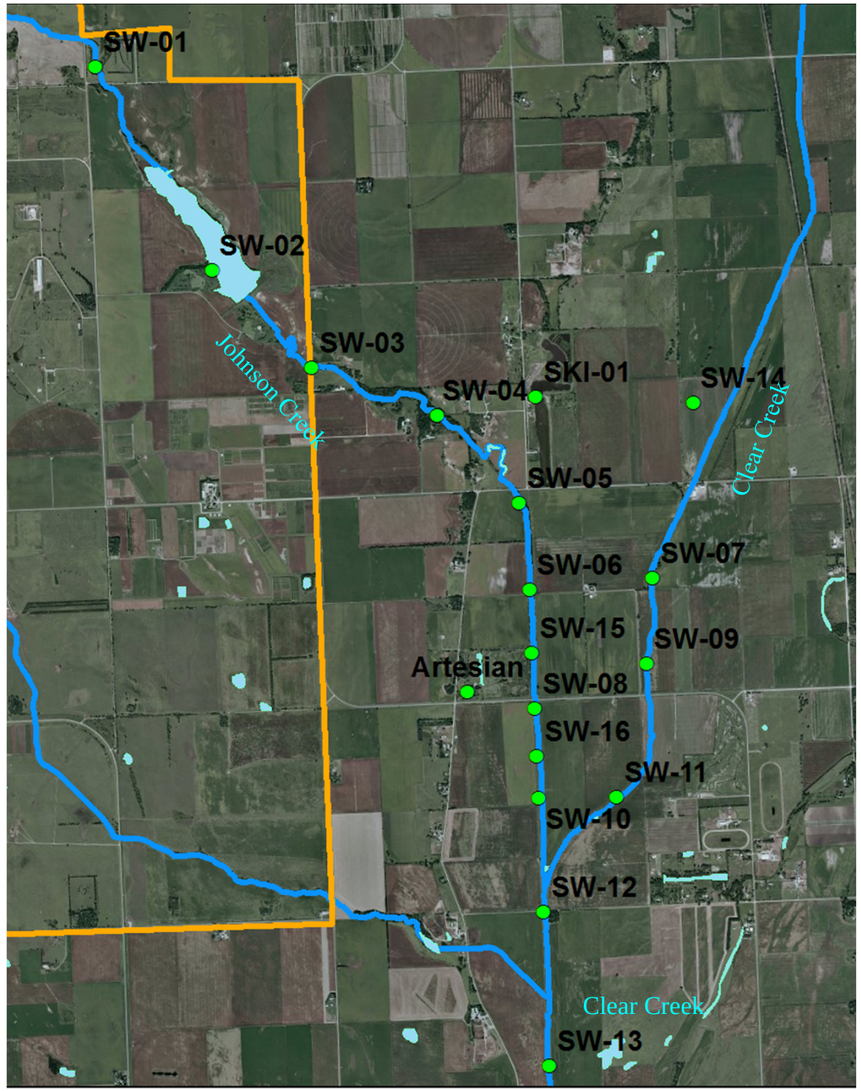
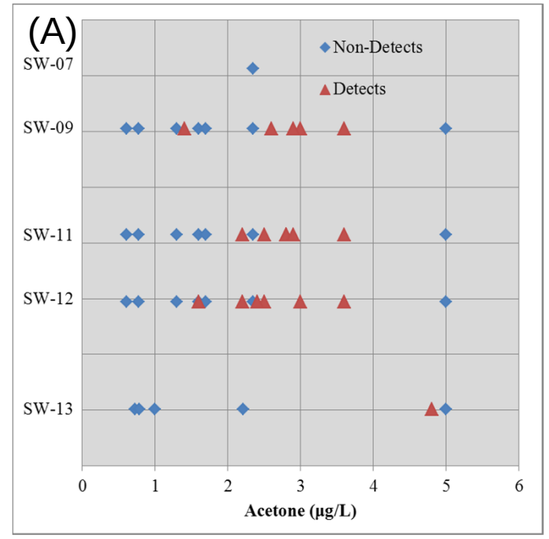
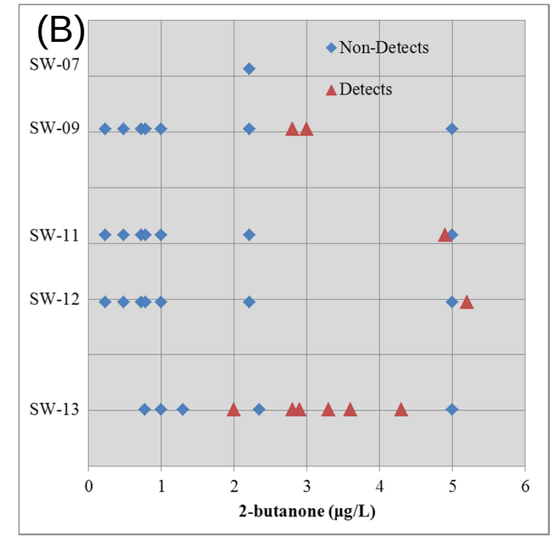
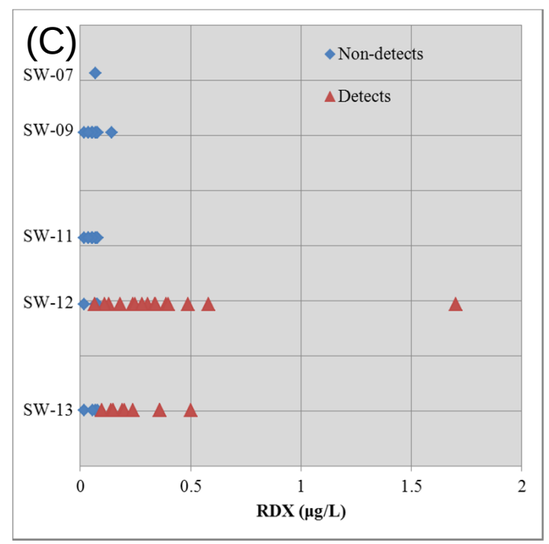


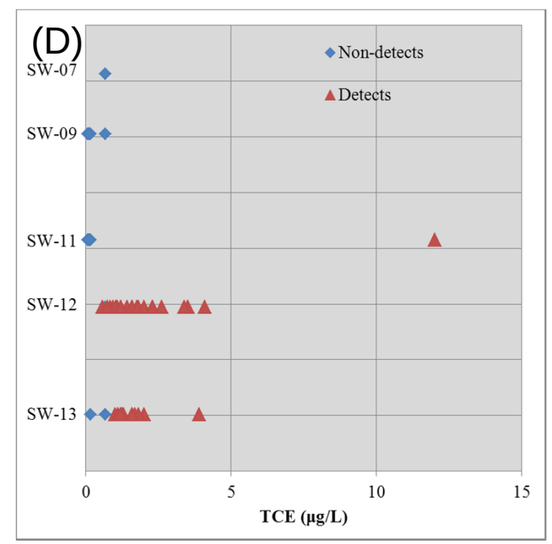
*The point labeled "Artesian" is not a surface water sampling location; it is an artesian groundwater well that was sampled along with the surface water.

Miles
0 0.5 1 2









Note on all graphs: For non-detect values, the method detection limit is shown.
RDX—hexahydro-1,3,5-trinitro-1,3,5-triazine, TCE—trichloroethene, µg/L—micrograms per liter

Figure 4-6 Concentration of Analytes with Detected Concentrations at Clear Creek

Source Base Map: ESRI World Imagery 2009

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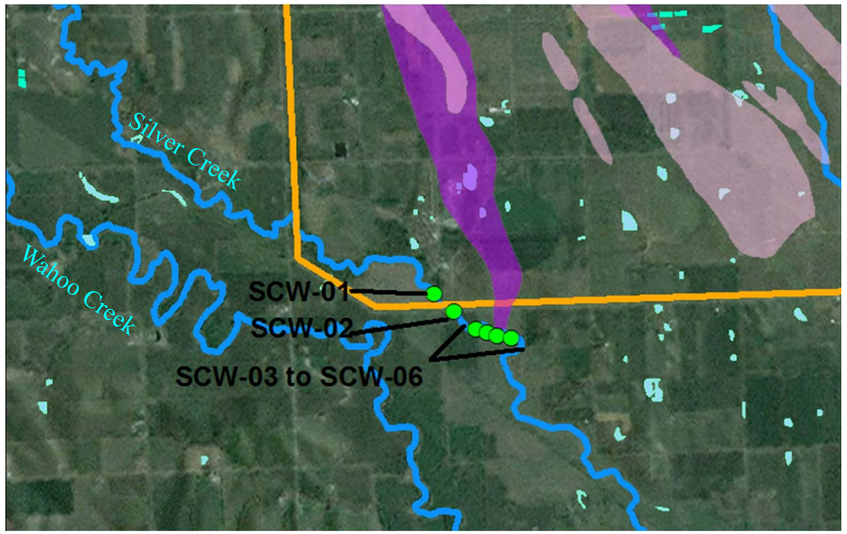

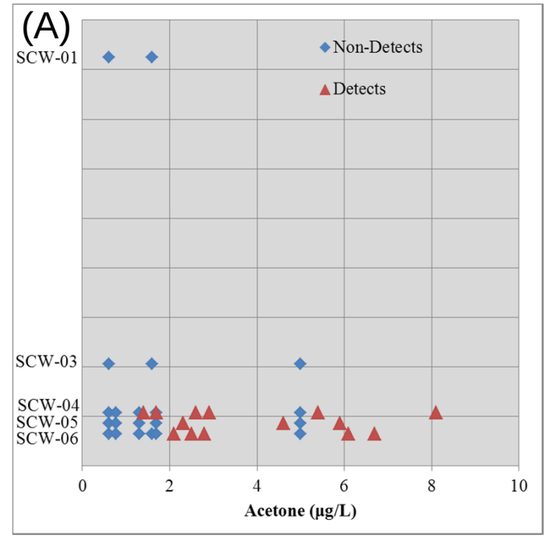

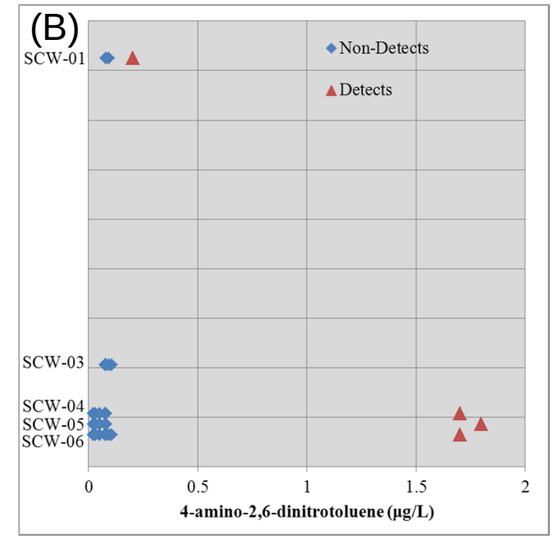

Note on all graphs: For non-detect values, the method detection limit is shown.

Figure 4-7 Concentration of Analytes with Detected Concentrations at Silver Creek

Source Base Map: ESRI World Imagery 2009

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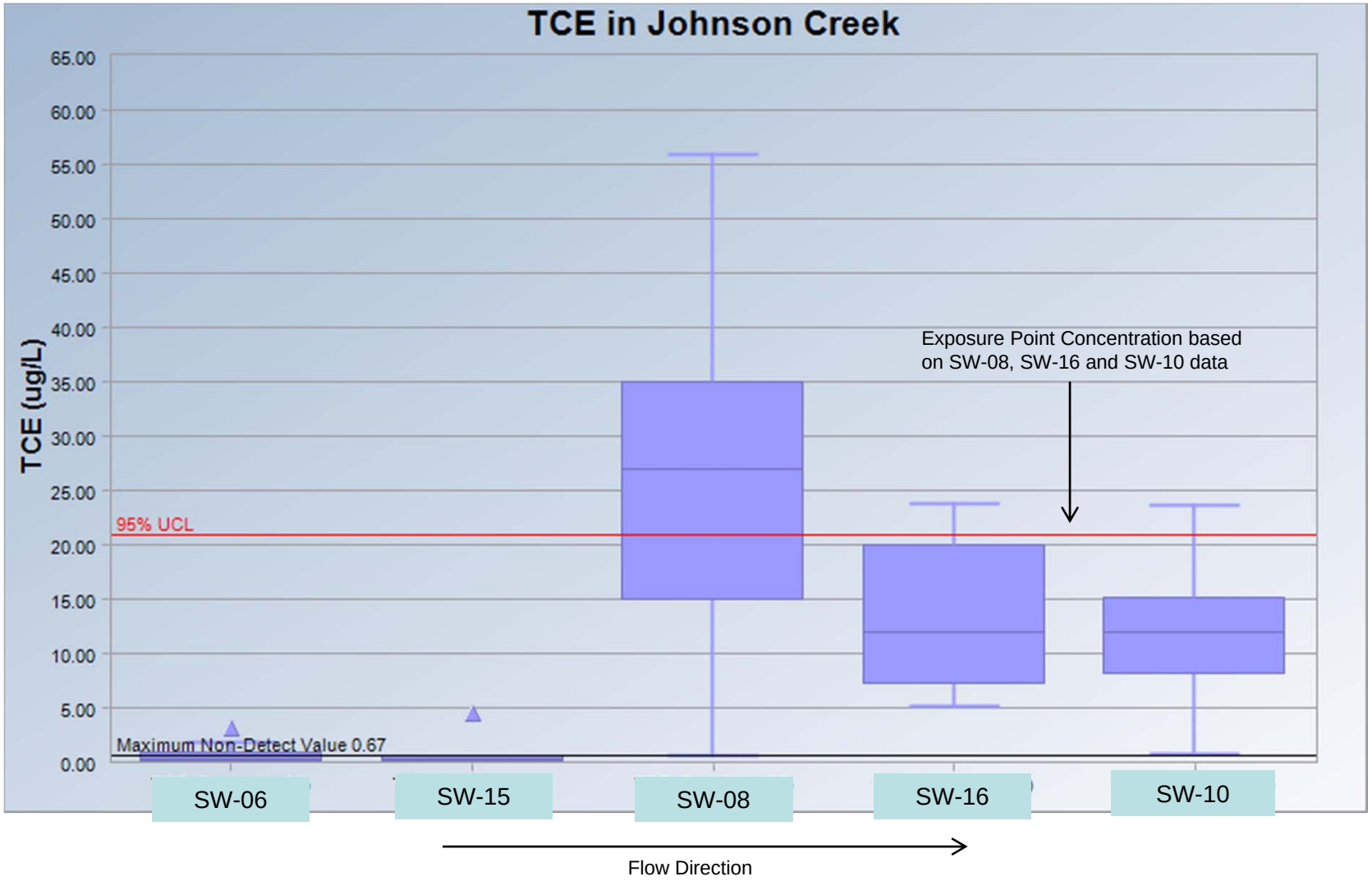

Figure 4-8 TCE Concentrations in Surface Water Samples from Johnson Creek (November 2004 through May 2010)

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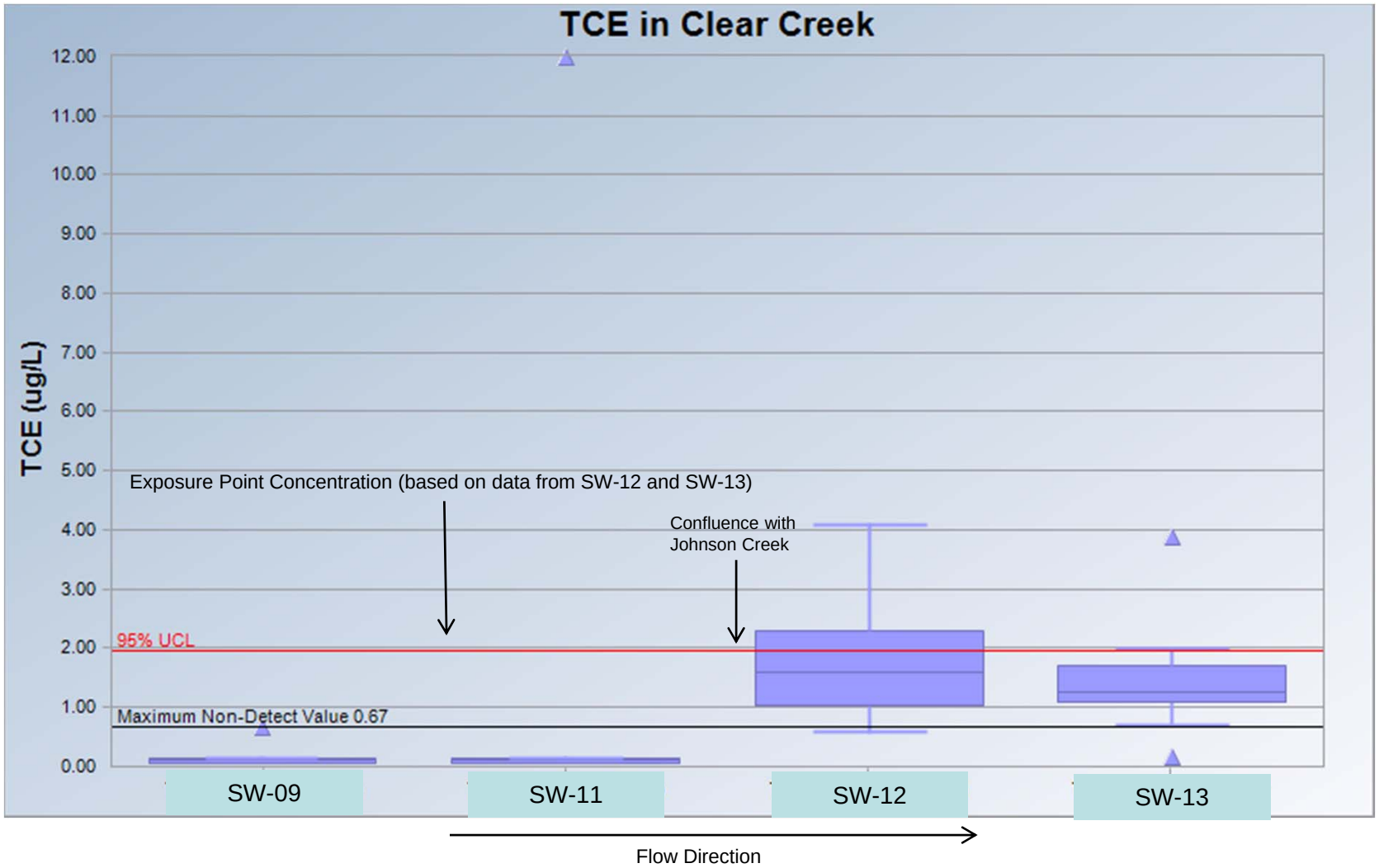

Figure 4-9 TCE Concentrations in Surface Water Samples from Clear Creek (November 2004 through May 2010)

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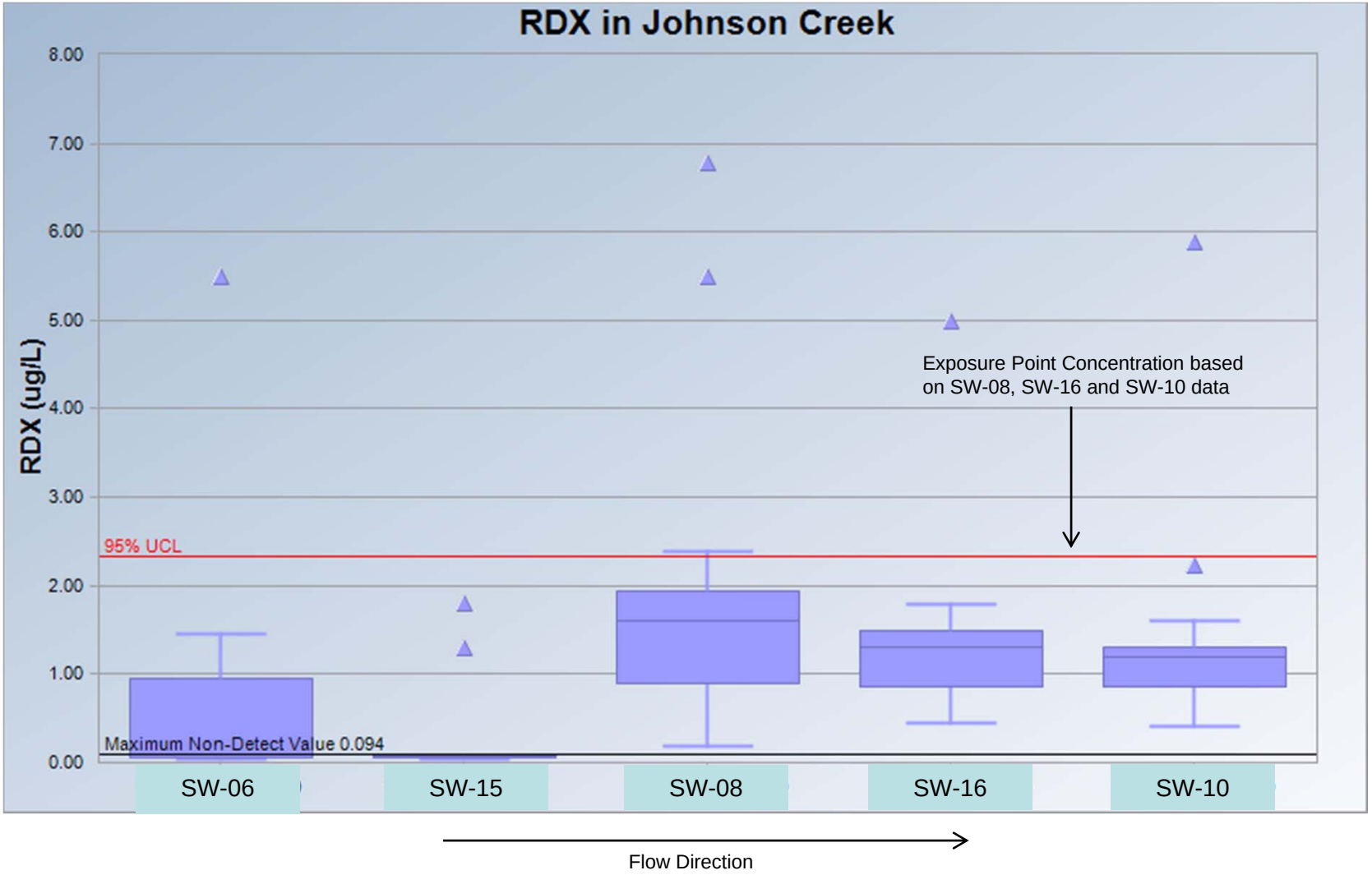

Figure 4-10 RDX Concentrations in Surface Water Samples from Johnson Creek (November 2004 through May 2010)

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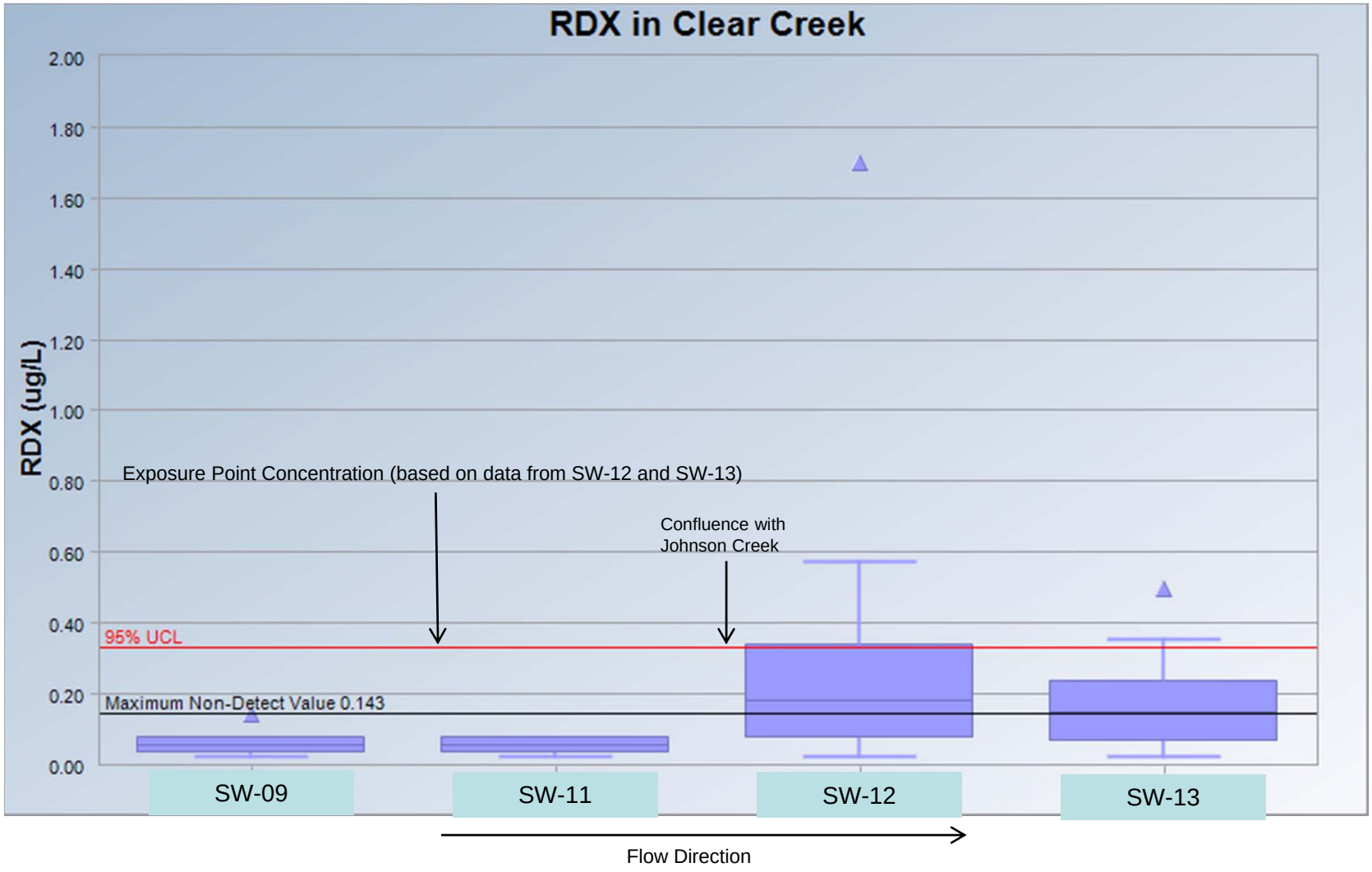

Figure 4-11 RDX Concentrations in Surface Water Samples from Clear Creek (November 2004 through May 2010)

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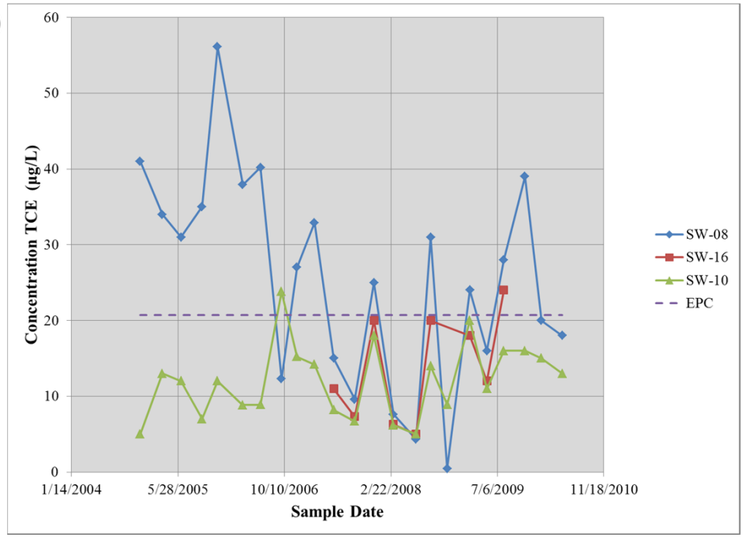
(A)



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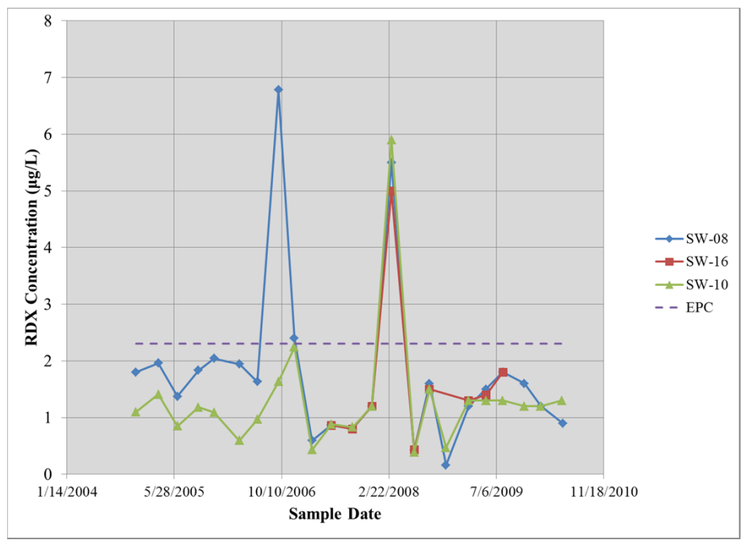
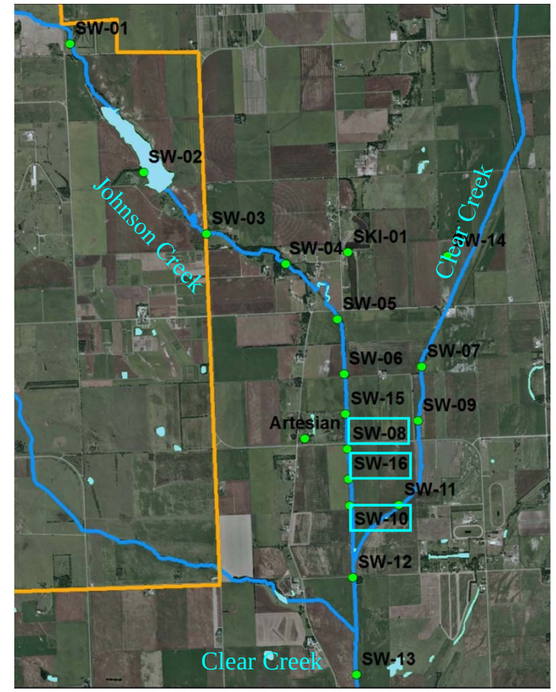
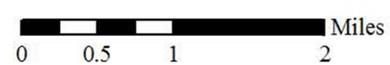




TCE and RDX from these sampling points are plotted versus time

*The point labeled "Artesian" is not a surface water sampling location; it is an artesian groundwater well that was sampled along with the surface water.



Note: EPC—Exposure Point Concentration, RDX-- hexahydro-1,3,5-trinitro-1,3,5-triazine, TCE—trichloroethene, µg/L—micrograms per liter

Figure 4-12 Measured TCE and RDX Concentrations in Johnson Creek

Source Base Map: ESRI World Imagery 2009

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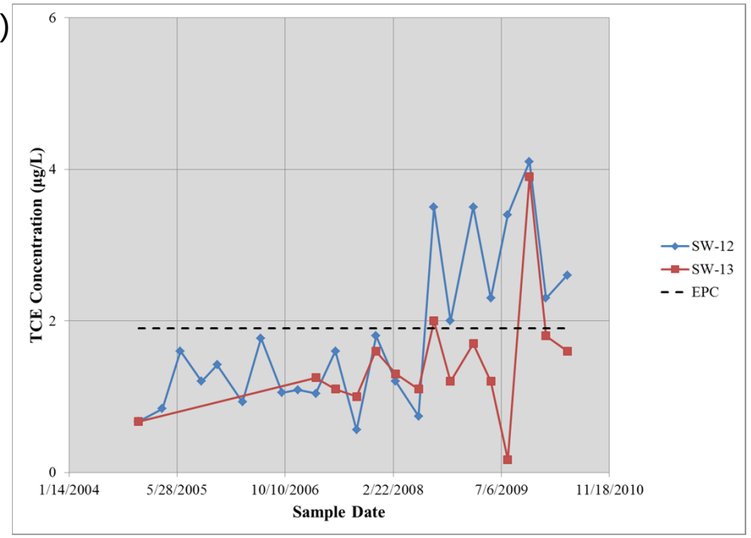
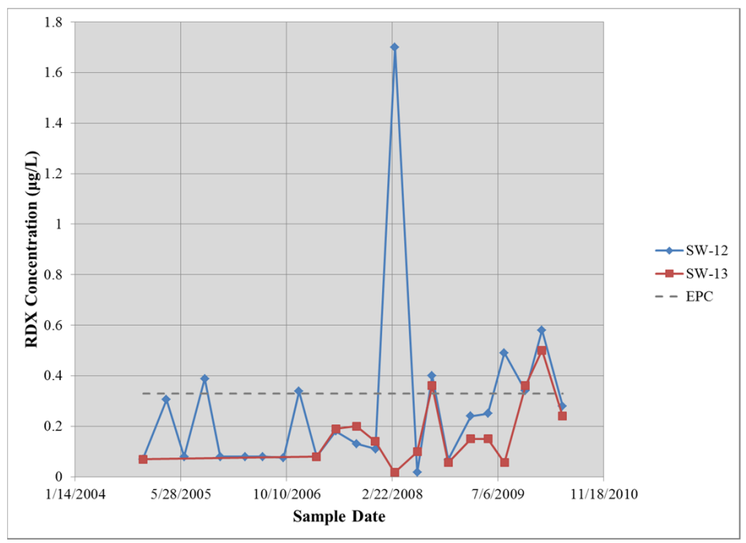
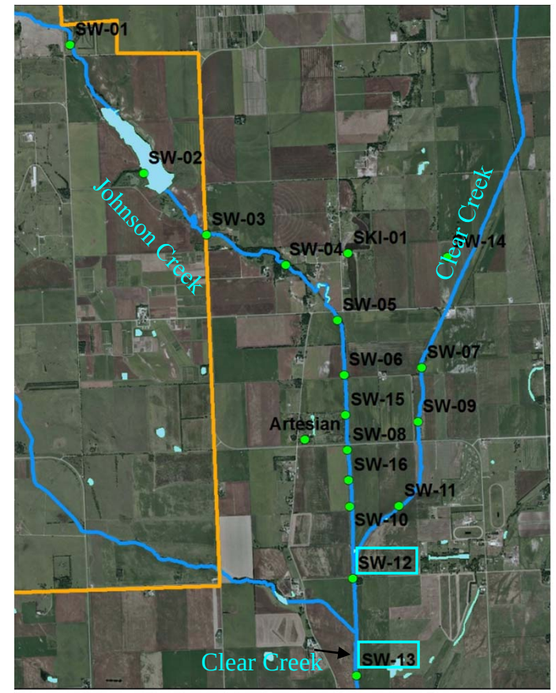
Former Nebraska Ordnance Plant Mead, Nebraska

(A)



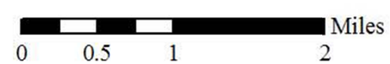
(B)





TCE from these sampling points are plotted versus time below.

*The point labeled "Artesian" is not a surface water sampling location; it is an artesian groundwater well that was sampled along with the surface water.



Note: EPC—Exposure Point Concentration, RDX-- hexahydro-1,3,5-trinitro-1,3,5-triazine, TCE—trichloroethene, µg/L—micrograms per liter

Figure 4-13 Measured TCE and RDX Concentrations in Clear Creek

Source Base Map: ESRI World Imagery 2009

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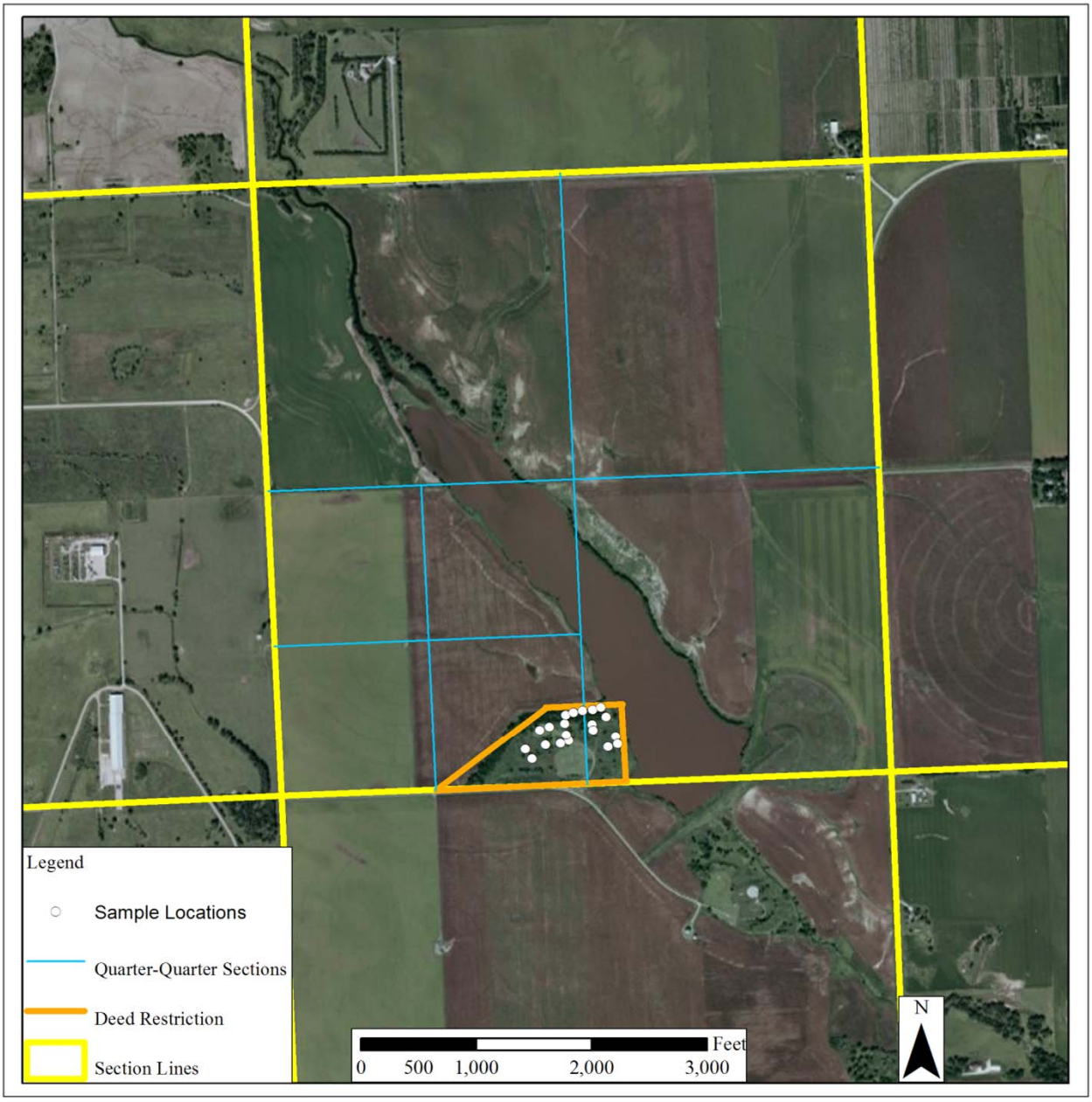

Sources:
Aerial photo base map – Source Base Map: ESRI World Imagery 2009
Section lines – Nebraska Department of Natural Resources 2010
Deed restriction property boundary – Permanent Deed Notation: Mead, North Proving Grounds, U.S. 2005b.

Figure 6-1 Boundary for deed restriction (land use restricted to wildlife habitat) at the North Burning Ground and Potential Landfill Area

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Kevil, Kentucky

Former Nebraska Ordnance Plant
Mead, Nebraska

Current Site Receptors

Impacted Media	Release Mechanism	Exposure Route	Adult Trespasser	Juvenile Trespasser	Construction Worker	Maintenance Worker
Surface Soil (0-0.5 ft)	Direct Contact	Ingestion	●	●	●	●
		Dermal Contact	●	●	●	●
	Particulate and Volatile Emissions	Inhalation of Particulates and Volatiles	●	●	●	●
	Plant Uptake	Food Intake	--	--	--	--
Subsurface Soil (0.5 - 8 ft)	Direct Contact	Ingestion	--	--	●	--
		Dermal	--	--	●	--
	Particulate Emissions	Inhalation of Particulates	--	--	●	--

● Complete Pathway -- Incomplete Pathway

Figure 6-2 Conceptual Site Exposure Model for Surface and Subsurface Soils

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Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska

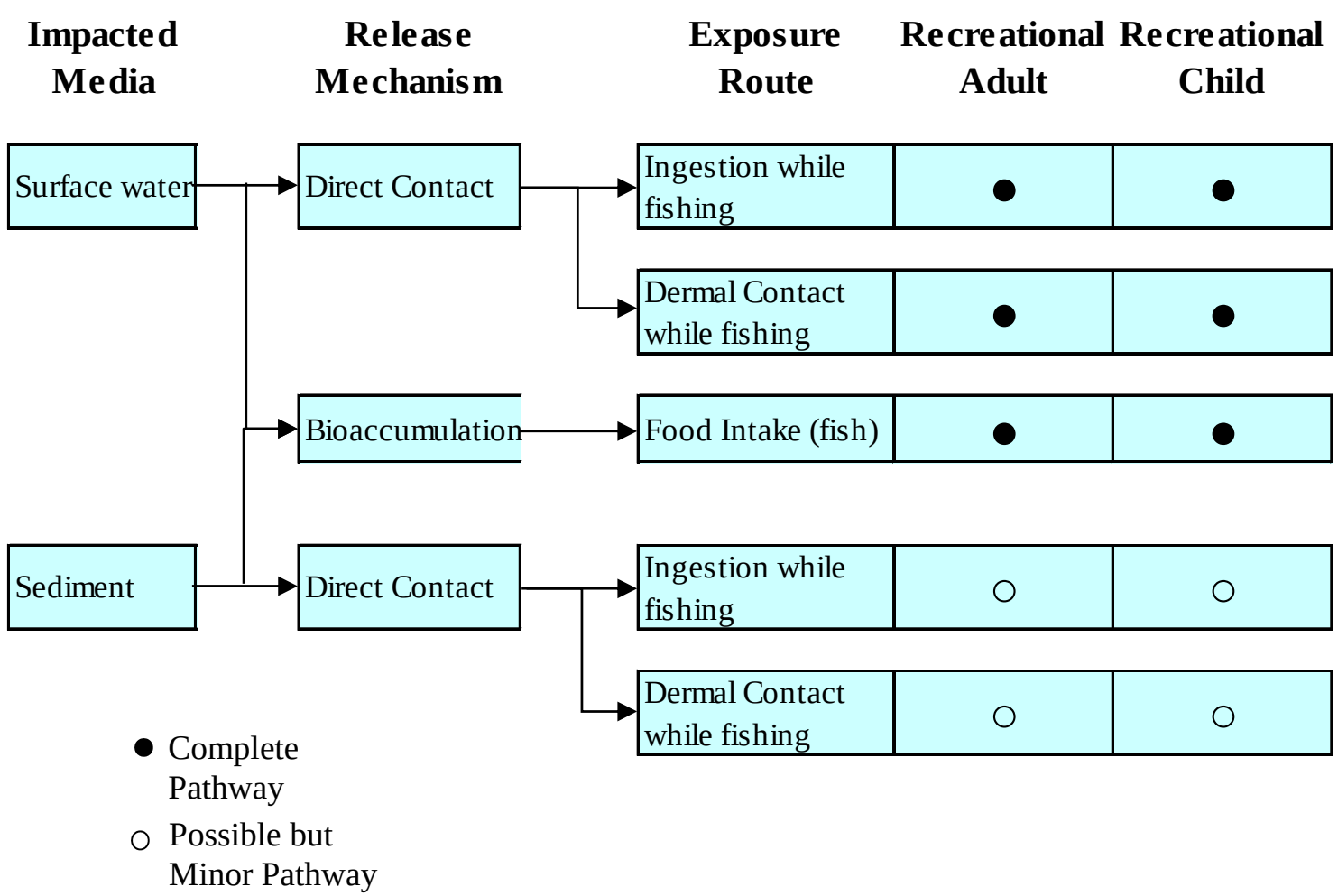

Figure 6-3 Conceptual Site Exposure Model for Johnson Creek, Clear Creek, and Silver Creek

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Kansas City District

GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska

TABLES

Table 2-1 Sample Locations and Sample IDs of Surface and Subsurface Soils Collected During Supplemental Field Work

Location ID	Sample ID (0 to 0.5 ft bgs)	Sample ID (0.5 to 4 ft bgs)	Sample ID (4 to 8 ft bgs)	Sample Date
PLA-01	PLA-01-SS-05-01-0910	PLA-01-SB-54-01-0910	PLA-01-SB-48-01-0910	9/14/2010
PLA-02	PLA-02-SS-05-01-0910	PLA-02-SB-54-01-0910	PLA-02-SB-48-01-0910	9/14/2010
PLA-03	PLA-03-SS-05-01-0910	PLA-03-SB-54-01-0910	PLA-03-SB-48-01-0910	9/14/2010
PLA-04	PLA-04-SS-05-01-0910	PLA-04-SB-54-01-0910	PLA-04-SB-48-01-0910	9/14/2010
PLA-05	PLA-05-SS-05-01-0910	PLA-05-SB-54-01-0910	PLA-05-SB-48-01-0910	9/14/2010
PLA-06	PLA-06-SS-05-01-0910	PLA-06-SB-54-01-0910	PLA-06-SB-48-01-0910	9/13/2010
PLA-07	PLA-07-SS-05-01-0910	PLA-07-SB-54-01-0910	PLA-07-SB-48-01-0910	9/13/2010
PLA-08	PLA-08-SS-05-01-0910	PLA-08-SB-54-01-0910	PLA-08-SB-48-01-0910	9/13/2010
PLA-09	PLA-09-SS-05-01-0910	PLA-09-SB-54-01-0910	PLA-09-SB-48-01-0910	9/13/2010
PLA-10	PLA-10-SS-05-01-0910	PLA-10-SB-54-01-0910	PLA-10-SB-48-01-0910	9/15/2010
PLA-11	PLA-11-SS-05-01-0910	PLA-11-SB-54-01-0910	PLA-11-SB-48-01-0910	9/15/2010
NBG-12	NBG-12-SS-05-01-0910	NBG-12-SB-54-01-0910	NBG-12-SB-48-01-0910	9/15/2010
NBG-13	NBG-13-SS-05-01-0910	NBG-13-SB-54-01-0910	NBG-13-SB-48-01-0910	9/15/2010
NBG-14	NBG-14-SS-05-01-0910	NBG-14-SB-54-01-0910	NBG-14-SB-48-01-0910	9/15/2010
NBG-15	NBG-15-SS-05-01-0910	NBG-15-SB-54-01-0910	NBG-15-SB-48-01-0910	9/15/2010
NBG-16	NBG-16-SS-05-01-0910	NBG-16-SB-54-01-0910	NBG-16-SB-48-01-0910	9/14/2010
NBG-17	NBG-17-SS-05-01-0910	NBG-17-SB-54-01-0910	NBG-17-SB-48-01-0910	9/14/2010
NBG-18	NBG-18-SS-05-01-0910	NBG-18-SB-54-01-0910	NBG-18-SB-48-01-0910	9/14/2010
NBG-19	NBG-19-SS-05-01-0910	NBG-19-SB-54-01-0910	NBG-19-SB-48-01-0910	9/14/2010
NBG-20	NBG-20-SS-05-01-0910	NBG-20-SB-54-01-0910	NBG-20-SB-48-01-0910	9/14/2010

bgs -- below ground surface, ft -- feet/foot, ID -- identification

Table 2-2 Sampling Dates at Surface Water Locations along Johnson Creek

Sampling Quarter/Year	SW-01	SW-02	SW-03	SW-04	SW-05	SW-06	SW-15	SW-08	SW-16	SW-10
4th/2004	✓	✓	✓	--	✓	✓	--	✓	--	✓
1st/2005	✓	--	--	--	✓	✓	--	✓	--	✓
2nd/2005	✓	--	--	--	✓	✓	--	✓	--	✓
3rd/2005	✓	--	--	--		✓	--	✓	--	✓
4th/2005	✓	--	--	--	✓	✓	--	✓	--	✓
1st/2006	✓	--	--	--	✓	✓	--	✓	--	✓
2nd/2006	✓	--	--	--	--	--	--	✓	--	✓
3rd/2006	✓	--	--	--	✓	✓	--	✓	--	✓
4th/2006	✓	--	--	--	--	✓	--	✓	--	✓
1st/2007	✓	--	--	--	✓	✓	--	✓	--	✓
2nd/2007	--	--	--	--	✓	✓	✓	✓	✓	✓
3rd/2007	--	--	--	--	✓	✓	✓	✓	✓	✓
4th/2007	--	--	--	--	✓	✓	✓	✓	✓	✓
1st/2008	--	--	--	--	✓	✓	✓	✓	✓	✓
2nd/2008	--	--	--	--	✓	✓	✓	✓	✓	✓
3rd/2008	--	--	--	--	✓	✓	✓	✓	✓	✓
4th/2008	--	--	--	--	✓	✓		✓	✓	✓
1st/2009	--	--	--	--	✓	✓	✓	✓	✓	✓
2nd/2009	--	--	--	--	✓	✓	✓	✓	✓	✓
3rd/2009	--	--	--	--	✓	✓	✓	✓	--	✓
4th/2009	--	--	--	--	✓	✓	--	✓	--	✓
1st/2010	--	--	--	--	✓	✓	--	✓	--	✓
2nd/2010	--	--	--	--	✓	✓	--	✓	--	✓

See Figure 2-2 for sampling locations. The sample labeled "Artesian" is not a surface water sample; this sample is collected from a well that is producing water under artesian condition.

Water from the artesian well discharges into a ditch that then flows into Johnson Creek upgradient of SW-08.

✓: Sampled, --: Not Sampled

Table 2-3 Sampling Dates at Surface Water Locations along Clear Creek

Sampling Quarter/Year	SW-07	SW-09	SW-11	SW-12	SW-13
4th/2004	✓	✓	✓	✓	✓
1st/2005	--	✓	✓	✓	✓
2nd/2005	--	✓	✓	✓	✓
3rd/2005	--	✓	✓	✓	✓
4th/2005	--	✓	✓	✓	✓
1st/2006	--	✓	✓	✓	✓
2nd/2006	--	✓	✓	✓	✓
3rd/2006	--	✓	✓	✓	✓
4th/2006	--	✓	✓	✓	✓
1st/2007	--	✓	✓	✓	✓
2nd/2007	--	✓	✓	✓	✓
3rd/2007	--	✓	✓	✓	✓
4th/2007	--	✓	✓	✓	✓
1st/2008	--	✓	✓	✓	✓
2nd/2008	--	✓	✓	✓	✓
3rd/2008	--	✓	✓	✓	✓
4th/2008	--	✓	✓	✓	✓
1st/2009	--	✓	✓	✓	✓
2nd/2009	--	✓	✓	✓	✓
3rd/2009	--	✓	✓	✓	✓
4th/2009	--	✓	✓	✓	✓
1st/2010	--	✓	✓	✓	✓
2nd/2010	--	✓	✓	✓	✓

See Figure 2-2 for sampling locations.
SW-14 or SKI-01 samples were taken from a drainage ditch and an artificial lake; these locations are not regularly monitored.
✓: Sampled, --: Not Sampled

Table 2-4 Sampling Dates at Surface Water Locations along Silver Creek

Sampling Quarter/Year	SCW-01	SCW-02	SCW-03	SCW-04	SCW-05	SCW-06
4th/2004	✓	--	--	--	--	--
1st/2005	✓	--	✓	--	--	✓
2nd/2005	✓	--	✓	--	--	✓
3rd/2005	✓	--	✓	--	--	✓
4th/2005	✓	--	✓	--	--	✓
1st/2006	✓	--	✓	✓	✓	✓
2nd/2006	✓	--	✓	✓	✓	✓
3rd/2006	✓	--	✓	✓	✓	✓
4th/2006	✓	--	✓	✓	✓	✓
1st/2007	✓	--	✓	✓	✓	✓
2nd/2007	✓	--	--	✓	✓	✓
3rd/2007	✓	--	--	✓	✓	✓
4th/2007	✓	--	--	✓	✓	✓
1st/2008	✓	--	--	✓	✓	✓
2nd/2008	✓	--	--	✓	✓	✓
3rd/2008	✓	--	--	✓	✓	✓
4th/2008	✓	--	--	✓	✓	✓
1st/2009	✓	--	--	✓	✓	✓
2nd/2009	✓	--	--	✓	✓	✓
3rd/2009	✓	--	--	✓	✓	✓
4th/2009	✓	--	--	✓	✓	✓
1st/2010	✓	--	--	✓	✓	✓
2nd/2010	✓	--	--	✓	✓	✓

See Figure 2-2 for sampling locations.

✓: Sampled, --: Not Sampled

Table 2-5 Sample Locations and Sample IDs of Air/Soil Gas Samples Collected during Supplemental Field Work

Building	Building Use	Coordinate (Northing)	Coordinate (Easting)	Sample ID	Sample Type	Location where Air Sample was Collected	Sample Date
Unit 001	Residential	505209.436	2608261.396	U001-0910-AIR-001-01-IA	Indoor Air	Basement - Office Area	9/15/2010
Unit 001	Residential	505209.436	2608261.396	U001-0910-AIR-002-01-IA	Indoor Air	Basement - Main Room	9/15/2010
Unit 001	Residential	505209.436	2608261.396	U001-0910-AIR-002-02-IA	Indoor Air	Basement - Main Room	9/15/2010
Unit 001	Residential	505209.436	2608261.396	U001-0910-AIR-001-01-SG	Sub-slab Soil Gas	Basement - Storage Room	9/15/2010
Unit 001	Residential	505209.436	2608261.396	U001-0910-AIR-001-02-SG	Sub-slab Soil Gas	Basement - Storage Room	9/15/2010
Unit 003	Industrial	495510.924	2609975.780	U003-0910-AIR-001-01-IA	Indoor Air	Basement	9/15/2010
Unit 003	Industrial	495510.924	2609975.780	U003-0910-AIR-002-01-IA	Indoor Air	Upstairs - Office	9/15/2010
Unit 003	Industrial	495510.924	2609975.780	U003-1110-AIR-001-01-IA	Indoor Air	Upstairs - Office	11/2/2010
Unit 003	Industrial	495510.924	2609975.780	U003-1110-AIR-002-01-IA	Indoor Air	Basement	11/2/2010
Unit 003	Industrial	495510.924	2609975.780	U003-1110-AIR-001-01-SG	Sub-slab Soil Gas	Basement	11/2/2010
Unit 006	Industrial	509642.342	2606424.557	U006-0910-AIR-001-01-IA	Indoor Air	Northern Section of Building	9/15/2010
Unit 006	Industrial	509642.342	2606424.557	U006-0910-AIR-002-01-IA	Indoor Air	Center Section of Building	9/15/2010
Unit 006	Industrial	509642.342	2606424.557	U006-0910-AIR-001-01-SG	Sub-slab Soil Gas	Northern Section of Building	9/15/2010
Unit 011	Industrial	495480.142	2608572.957	U011-0910-AIR-001-01-IA	Indoor Air	Office	9/15/2010
Unit 011	Industrial	495480.142	2608572.957	U011-0910-AIR-002-01-IA	Indoor Air	Break Room	9/15/2010
Unit 011	Industrial	495480.142	2608572.957	U011-0910-AIR-001-01-SG	Sub-slab Soil Gas	Bathroom/Locker Room	9/15/2010
Unit 001	Industrial	505209.436	2608261.396	UBKG-0910-AIR-001-01-AA	Ambient Air	East of Unit 001	9/15/2010
Unit 003	Industrial	495510.924	2609975.780	UBKG-1110-AIR-001-01-AA	Ambient Air	West of Unit 006	9/15/2010
Unit 006	Industrial	509642.342	2606424.557	UBKG-0910-AIR-002-01-AA	Ambient Air	West of Unit 003	11/2/2010

All coordinates approximate, reported in NAD 1983 Nebraska State Plane in feet (FIPS 2600 feet)
ID -- identification

Table 3-1 Climate Data for Mead, Nebraska

	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Average Maximum Temperature (°F)	31.8	37.2	49.4	63.3	73.4	83.5	87.6	85.4	77.9	65.3	49.0	36.2	61.7
Average Minimum Temperature (°F)	10.4	15.6	26.6	38.2	49.5	59.5	64.0	61.5	51.8	39.2	26.9	15.8	38.2
Average Total Precipitation (inches)	0.52	0.63	1.71	2.85	4.17	4.05	3.16	3.57	2.96	2.36	1.47	0.85	28.29
Average Total Snowfall (inches)	4.6	4.2	2.7	0.7	0.0	0.0	0.0	0.0	0.0	0.4	2.2	4.8	19.7
Average Snow Depth (inches)	2	2	0	0	0	0	0	0	0	0	0	1	0

°F -- degrees Farenheit

Period of record: 10/22/1968 to 9/30/2010

http://www.hprcc.unl.edu/cgi-bin/cli_perl_lib/cliMAIN.pl?ne5362

Table 4-1a Metals Data for Soils in the Potential Landfill Area

			Compound	Aluminum		Antimony		Arsenic	
			CAS #	7429-90-5		7440-36-0		7440-38-2	
Residential Screening Limit (mg/kg)				77,000		31		0.39	
Industrial Screening Limit (mg/kg)				990,000		410		1.6	
Background Threshold Value (mg/kg) [1]				22,769		None		9.5	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
PL-001	5/14/1996	4	5	16,800	12.8	12.8 U	12.8	**9.3**	1.3
PL-001	5/14/1996	9	10	14,500	12.7	12.7 U	12.7	**10.5**	1.3
PL-002	3/24/1995	0	0.5	11,600 J	50.2	0.5 J	5	**5.3 J**	9.2
PL-002	3/24/1995	1	2	17,900	46.5	0.46 UJ	0.46	**9.1**	8.5
PL-002	3/24/1995	4	5	14,800 J	43.6	0.43 UJ	0.43	**6.1 J**	7.9
PL-002	3/24/1995	9	10	924 J	45	0.45 UJ	0.45	**0.82 U**	0.82
PL-003	4/3/1995	0	0.5	8520	47.8	9.1 J	4.7	**5.4 J**	8
PL-003	4/3/1995	1	2	12,900	45.5	11.6 J	4.5	**7.5 J**	7.6
PL-004	4/3/1995	0	0.5	10,200	46.5	1.1 J	4.6	**5.6 J**	7.7
PL-004	4/3/1995	1	2	4120	41.8	R	0.41	**1.6 J**	7
PL-005	4/3/1995	0	0.5	13,300	52.7	3.2 J	5.2	**8.2 J**	8.8
PL-005	4/3/1995	1	2	10,500	48.6	R	0.48	**7 J**	8.1
PL-006	3/24/1995	0	0.5	12,900 J	48.1	2.1 J	4.8	**6.8 J**	8.8
PL-006	3/24/1995	1	2	13,100 J	46.5	0.46 UJ	0.46	**6.5 J**	8.5
PL-006	3/24/1995	4	5	907	39.9	R	0.4	**0.73 U**	0.73
PL-006	3/24/1995	9	10	636	39.2	R	0.39	**0.71 U**	0.71
PL-007	5/14/1996	4	5	14,300	12.4	23	12.4	**8.9**	1.2
PL-007	5/15/1996	9	10	13,500	12.8	12.8 UJ	12.8	**10.4 U**	10.4
PL-008	5/15/1996	4	5	14,900	12.9	12.9 UJ	12.9	**11.6 U**	11.6
PL-008	5/15/1996	9	10	14,600	12.7	12.7 UJ	12.7	**11.3 U**	11.3
PL-009	5/15/1996	4	5	15,600	11.4	11.4 UJ	11.4	**11.2 U**	11.2
PL-009	5/15/1996	9	10	5630	10.6	10.6 UJ	10.6	**3.6 U**	3.6
PL-009	5/15/1996	9	10	4590	10.7	10.7 UJ	10.7	**2.2 U**	2.2
PLA 01	9/14/2010	0	0.5	13000	6.8	0.39 J	0.38	**8.6**	0.48
PLA 01	9/14/2010	0.5	4	12500	6.9	5.6 U	0.31	**10.4**	0.49
PLA 01	9/14/2010	4	8	1420	6.3	4.6 U	0.25	**0.84 J**	0.45
PLA 02	9/14/2010	0	0.5	19700	7	1.6 J	0.33	**6.8**	0.5
PLA 02	9/14/2010	0.5	4	14800	6.8	0.39 J	0.3	**9.5**	0.49
PLA 02	9/14/2010	0.5	4	15000	5.7	2.7 J	0.32	**14.3**	0.4
PLA 02	9/14/2010	4	8	1960	6.3	6.9	0.2	**1.6**	0.45
PLA 03	9/14/2010	0	0.5	12300	6.3	6.4 U	0.35	**8.9**	0.45
PLA 03	9/14/2010	0.5	4	13000	6.5	0.35 J	0.32	**9.5**	0.46
PLA 03	9/14/2010	4	8	11000	7.3	0.36 J	0.28	**9.6**	0.52
PLA 04	9/14/2010	0	0.5	13000	7	7.6 U	0.42	**8.3**	0.5
PLA 04	9/14/2010	0.5	4	14800	6.1	7.1 U	0.39	**8.4**	0.44
PLA 04	9/14/2010	4	8	16200	6.3	0.87 J	0.27	**8.5**	0.45
PLA 05	9/14/2010	0	0.5	13900	6.5	7.6 U	0.42	**8.6**	0.47
PLA 05	9/14/2010	0.5	4	15600	7.4	0.36 J	0.32	**9.5**	0.53
PLA 05	9/14/2010	4	8	22200	5.5	3.6 J	0.27	**20.2**	0.4
PLA 06	9/13/2010	0	0.5	13300	6.4	1.3 J	0.26	**9**	0.46
PLA 06	9/13/2010	0.5	4	13200	6.4	7 U	0.39	**9.5**	0.46
PLA 06	9/13/2010	4	8	1300	5.7	4.1 U	0.23	**0.8 J**	0.41
PLA 07	9/13/2010	0	0.5	13900	6.5	**47.1**	0.33	**9.6**	0.47
PLA 07	9/13/2010	0.5	4	10800	6.6	5.3	0.26	**10.7**	0.47
PLA 07	9/13/2010	4	8	5830	6.2	2 J	0.32	**4.7**	0.45
PLA 08	9/13/2010	0	0.5	15300	4.5	1.2 J	0.26	**9.6**	0.32
PLA 08	9/13/2010	0	0.5	16800	6	1.8 J	0.36	**9**	0.43
PLA 08	9/13/2010	0.5	4	13400	7.2	0.55 J	0.42	**10.5**	0.52
PLA 08	9/13/2010	0.5	4	12500	6.4	6.8 U	0.38	**10.4**	0.46
PLA 08	9/13/2010	4	8	12100	6.7	7.2 U	0.4	**10.1**	0.48
PLA 09	9/13/2010	0	0.5	17300	6.9	0.5 J	0.4	**9.9**	0.49
PLA 09	9/13/2010	0.5	4	13300	6.6	7.1 U	0.39	**10.4**	0.47
PLA 09	9/13/2010	4	8	5480	6	6.4 U	0.35	**3.9**	0.43
PLA 10	9/15/2010	0	0.5	13400	5.9	0.6 J	0.35	**8**	0.42
PLA 10	9/15/2010	0.5	4	13000	6	0.46 J	0.35	**8.7**	0.43
PLA 10	9/15/2010	4	8	12300	6.9	0.42 J	0.41	**10.3**	0.5
PLA 11	9/15/2010	0	0.5	5970	5.9	6.3 U	0.35	**3.1**	0.42
PLA 11	9/15/2010	0.5	4	13800	5.8	0.48 J	0.34	**9.3**	0.42
PLA 11	9/15/2010	4	8	12100	6.2	6.6 U	0.36	**10.4**	0.44

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Reporting Limit or Sample Quantification Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1a Metals Data for Soils in the Potential Landfill Area (continued)

			Compound	Barium		Beryllium		Cadmium	
			CAS #	7440-39-3		7440-41-7		7440-43-9	
Residential Screening Limit (mg/kg)				15,000		160		70	
Industrial Screening Limit (mg/kg)				190,000		2000		800	
Background Threshold Value (mg/kg) [1]				253		0.86		0.35	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
PL-001	5/14/1996	4	5	328	1.3	1.3 U	1.3	1.3 U	1.3
PL-001	5/14/1996	9	10	270	1.3	1.3 U	1.3	1.3 U	1.3
PL-002	3/24/1995	0	0.5	152	0.52	0.59	0.26	0.64 J	1.3
PL-002	3/24/1995	1	2	272	0.48	0.82	0.24	0.46 J	1.2
PL-002	3/24/1995	4	5	190	0.45	0.6	0.23	0.62 J	1.1
PL-002	3/24/1995	9	10	19.8	0.47	0.06 J	0.23	0.12 U	0.12
PL-003	4/3/1995	0	0.5	147	0.5	0.45 J	0.5	1.3	0.75
PL-003	4/3/1995	1	2	191	0.47	0.65 J	0.47	0.84	0.71
PL-004	4/3/1995	0	0.5	149	0.48	0.5 J	0.48	0.51 J	0.73
PL-004	4/3/1995	1	2	60.9	0.44	0.23 J	0.44	0.15 J	0.65
PL-005	4/3/1995	0	0.5	207	0.55	0.64 J	0.55	1	0.82
PL-005	4/3/1995	1	2	181	0.5	0.6 J	0.5	0.61 J	0.76
PL-006	3/24/1995	0	0.5	195	0.5	0.6	0.25	0.59 J	1.2
PL-006	3/24/1995	1	2	213	0.48	0.61	0.24	0.65 J	1.2
PL-006	3/24/1995	4	5	14.7	0.42	0.04 J	0.21	0.1 U	0.1
PL-006	3/24/1995	9	10	12.3	0.41	0.04 J	0.2	0.1 U	0.1
PL-007	5/14/1996	4	5	321	1.2	1.2 U	1.2	1.2	1.2
PL-007	5/15/1996	9	10	296	1.3	1.3 U	1.3	1.3 U	1.3
PL-008	5/15/1996	4	5	320	1.3	1.3 U	1.3	1.3 U	1.3
PL-008	5/15/1996	9	10	295	1.3	1.3 U	1.3	1.3 U	1.3
PL-009	5/15/1996	4	5	353	1.1	1.1 U	1.1	1.4	1.1
PL-009	5/15/1996	9	10	115	1.1	1.1 U	1.1	1.1 U	1.1
PL-009	5/15/1996	9	10	91.8	1.1	1.1 U	1.1	1.1 U	1.1
PLA 01	9/14/2010	0	0.5	221 B	0.51	0.77	0.063	0.46 J	0.069
PLA 01	9/14/2010	0.5	4	263 B	0.41	0.82	0.064	0.61	0.07
PLA 01	9/14/2010	4	8	72.3 B	0.34	0.097 J	0.058	0.12 J	0.064
PLA 02	9/14/2010	0	0.5	322 B	0.44	0.82	0.065	1.4	0.072
PLA 02	9/14/2010	0.5	4	275 B	0.4	0.78	0.063	0.6 J	0.069
PLA 02	9/14/2010	0.5	4	259 B	0.43	0.69	0.052	1.2	0.058
PLA 02	9/14/2010	4	8	137 B	0.27	0.11 J	0.058	0.19 J	0.064
PLA 03	9/14/2010	0	0.5	191 B	0.47	0.77	0.059	0.41 J	0.064
PLA 03	9/14/2010	0.5	4	206 B	0.43	0.69	0.06	0.27 J	0.066
PLA 03	9/14/2010	4	8	231 B	0.37	0.76	0.067	0.57 J	0.074
PLA 04	9/14/2010	0	0.5	204	0.55	0.76	0.065	1.1	0.071
PLA 04	9/14/2010	0.5	4	197	0.52	0.83	0.057	0.4 J	0.062
PLA 04	9/14/2010	4	8	225 B	0.37	0.88	0.058	0.53 J	0.064
PLA 05	9/14/2010	0	0.5	191 B	0.55	0.81	0.061	0.45 J	0.066
PLA 05	9/14/2010	0.5	4	209 B	0.42	0.95	0.068	0.55 J	0.075
PLA 05	9/14/2010	4	8	377 B	0.36	0.58	0.051	3.9	0.056
PLA 06	9/13/2010	0	0.5	192 B	0.35	0.78	0.059	0.5 J	0.065
PLA 06	9/13/2010	0.5	4	239 B	0.51	0.81	0.06	0.52 J	0.065
PLA 06	9/13/2010	4	8	21.2 B	0.3	0.11 J	0.053	0.079 J	0.058
PLA 07	9/13/2010	0	0.5	207 B	0.44	0.8	0.061	0.57 J	0.066
PLA 07	9/13/2010	0.5	4	244 B	0.35	0.65	0.062	1	0.067
PLA 07	9/13/2010	4	8	200 B	0.43	0.43 J	0.058	0.75	0.064
PLA 08	9/13/2010	0	0.5	207	0.35	0.79	0.041	0.37 J	0.045
PLA 08	9/13/2010	0	0.5	197	0.47	0.81	0.056	0.4 J	0.061
PLA 08	9/13/2010	0.5	4	253	0.57	0.84	0.067	0.38 J	0.073
PLA 08	9/13/2010	0.5	4	266	0.5	0.82	0.059	0.46 J	0.065
PLA 08	9/13/2010	4	8	262	0.53	0.81	0.063	0.4 J	0.069
PLA 09	9/13/2010	0	0.5	193	0.54	0.86	0.064	0.5 J	0.07
PLA 09	9/13/2010	0.5	4	264	0.52	0.86	0.061	0.65	0.067
PLA 09	9/13/2010	4	8	115	0.47	0.37 J	0.055	0.28 J	0.061
PLA 10	9/15/2010	0	0.5	177	0.46	0.73	0.055	0.4 J	0.06
PLA 10	9/15/2010	0.5	4	237	0.47	0.78	0.055	0.34 J	0.061
PLA 10	9/15/2010	4	8	267	0.55	0.86	0.065	0.66	0.071
PLA 11	9/15/2010	0	0.5	67.7	0.47	0.3 J	0.055	0.15 J	0.06
PLA 11	9/15/2010	0.5	4	257	0.46	0.83	0.054	0.46 J	0.06
PLA 11	9/15/2010	4	8	223	0.48	0.8	0.057	0.35 J	0.063

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Reporting Limit or Sample Quantification Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1a Metals Data for Soils in the Potential Landfill Area (continued)

				Compound	Calcium		Chromium*		Cobalt	
				CAS #	7440-70-2		7440-47-3		7440-48-4	
Residential Screening Limit (mg/kg)					None		120,000		23	
Industrial Screening Limit (mg/kg)					None		1,500,000		300	
Background Threshold Value (mg/kg) [1]					3830		23.1		10.29	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
PL-001	5/14/1996	4	5	4150	257	19.3	2.6	12.9	2.6
PL-001	5/14/1996	9	10	4270	255	18.9	2.5	8.7 B	2.5
PL-002	3/24/1995	0	0.5	3240 J	31.4	12.8 J	5.8	6.1	1.3
PL-002	3/24/1995	1	2	3930	29.1	21.1	5.3	12.6	1.2
PL-002	3/24/1995	4	5	2570 J	27.2	17.1 J	5	8	1.1
PL-002	3/24/1995	9	10	287 J	28.1	1.3 J	5.2	0.45 J	1.2
PL-003	4/3/1995	0	0.5	15,700	71	13.1 J	2.2	7.3	1.5
PL-003	4/3/1995	1	2	6010	67.5	17 J	2.1	9.7	1.4
PL-004	4/3/1995	0	0.5	2820	69	11 J	2.2	7.4	1.4
PL-004	4/3/1995	1	2	1080	62	4.7 J	2	2.9	1.3
PL-005	4/3/1995	0	0.5	4430	78.3	18.1 J	2.5	10	1.6
PL-005	4/3/1995	1	2	3040	72.1	12 J	2.3	9.1	1.5
PL-006	3/24/1995	0	0.5	3030 J	30.1	14.3 J	5.5	8.1	1.2
PL-006	3/24/1995	1	2	2940 J	29.1	13.8 J	5.3	8.2	1.2
PL-006	3/24/1995	4	5	305	25	1.3 J	4.6	0.36 J	1
PL-006	3/24/1995	9	10	281	24.5	1.2 J	4.5	0.36 J	1
PL-007	5/14/1996	4	5	6000	248	37.5	2.5	14.3	2.5
PL-007	5/15/1996	9	10	4750	256	20.6	2.6	11.9 B	2.6
PL-008	5/15/1996	4	5	4440	259	20.4	2.6	10.9 B	2.6
PL-008	5/15/1996	9	10	5010	255	20.6	2.5	12.1 B	2.5
PL-009	5/15/1996	4	5	4370	228	19.7	2.3	12.2	2.3
PL-009	5/15/1996	9	10	1630	211	7.4	2.1	3.2 B	2.1
PL-009	5/15/1996	9	10	1290	214	6.5	2.1	3.7 B	2.1
PLA 01	9/14/2010	0	0.5	4090	14.5	12.8	0.092	8.8	0.087
PLA 01	9/14/2010	0.5	4	6030	14.7	13.9	0.074	9.5	0.07
PLA 01	9/14/2010	4	8	537 J	13.5	4.5	0.061	2.6 J	0.058
PLA 02	9/14/2010	0	0.5	150000 D	151	79.8	0.079	9.5	0.074
PLA 02	9/14/2010	0.5	4	4750	14.6	21.6	0.072	8.8	0.068
PLA 02	9/14/2010	0.5	4	9320	12.1	57.5	0.078	12.9	0.073
PLA 02	9/14/2010	4	8	1200	13.5	19.9	0.049	4.5	0.046
PLA 03	9/14/2010	0	0.5	3500	13.5	13	0.085	8.8	0.08
PLA 03	9/14/2010	0.5	4	3350	13.8	14.1	0.077	8.7	0.072
PLA 03	9/14/2010	4	8	4740	15.6	13	0.067	7.8	0.063
PLA 04	9/14/2010	0	0.5	3760	15	14	0.1	8.6	0.095
PLA 04	9/14/2010	0.5	4	3140	13.1	13.2	0.094	8.4	0.088
PLA 04	9/14/2010	4	8	4090	13.5	15.2	0.066	9.2	0.062
PLA 05	9/14/2010	0	0.5	3100	14	12.5	0.1	8.7	0.095
PLA 05	9/14/2010	0.5	4	3420	15.8	14.2	0.077	8.5	0.072
PLA 05	9/14/2010	4	8	18500	11.9	57.6	0.066	11.5	0.062
PLA 06	9/13/2010	0	0.5	4250	13.7	12.3	0.063	8.9	0.059
PLA 06	9/13/2010	0.5	4	3860	13.8	13.6	0.094	10.2	0.088
PLA 06	9/13/2010	4	8	433 J	12.2	1.5	0.055	0.72 J	0.051
PLA 07	9/13/2010	0	0.5	3630	14	27.8	0.08	10.8	0.075
PLA 07	9/13/2010	0.5	4	81400 D	142	14.7	0.063	8.8	0.059
PLA 07	9/13/2010	4	8	5160	13.4	10.5	0.079	7.4	0.074
PLA 08	9/13/2010	0	0.5	3540	9.6	14.4	0.064	9.9	0.06
PLA 08	9/13/2010	0	0.5	3550	12.9	15.1	0.086	9.4	0.081
PLA 08	9/13/2010	0.5	4	3980	15.5	14.7	0.1	10.1	0.097
PLA 08	9/13/2010	0.5	4	4090	13.7	14.1	0.091	10.9	0.085
PLA 08	9/13/2010	4	8	4350	14.5	13.8	0.096	7.7	0.09
PLA 09	9/13/2010	0	0.5	3480	14.7	16.2	0.098	9.7	0.092
PLA 09	9/13/2010	0.5	4	4820	14.1	16.4	0.094	10.2	0.088
PLA 09	9/13/2010	4	8	4460	12.8	6.4	0.085	4.1 J	0.08
PLA 10	9/15/2010	0	0.5	32300	12.7	13.4	0.084	8	0.079
PLA 10	9/15/2010	0.5	4	3610	12.8	13.9	0.085	8.9	0.08
PLA 10	9/15/2010	4	8	4590	14.9	15	0.099	10.5	0.093
PLA 11	9/15/2010	0	0.5	7680	12.7	5.7	0.085	3.4 J	0.079
PLA 11	9/15/2010	0.5	4	4070	12.5	14.5	0.084	9.7	0.078
PLA 11	9/15/2010	4	8	6570	13.2	15.8	0.088	7.3	0.083

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Reporting Limit or Sample Quantification Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

* Chromium (III) screening levels used, 'Vanadium and Compounds' screening level used

Table 4-1a Metals Data for Soils in the Potential Landfill Area (continued)

			Compound	Copper		Iron		Lead	
			CAS #	7440-50-8		7439-89-6		7439-92-1	
Residential Screening Limit (mg/kg)				3100		55,000		400	
Industrial Screening Limit (mg/kg)				41000		720,000		800	
Background Threshold Value (mg/kg) [1]				23.2		21,000		15.9	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
PL-001	5/14/1996	4	5	23.1	2.6	21,600	12.8	15.1	0.51
PL-001	5/14/1996	9	10	22.6	2.5	21,300	12.7	14.7	0.51
PL-002	3/24/1995	0	0.5	18.8	2.1	14,600	71.2	17.8	4.2
PL-002	3/24/1995	1	2	20.1	1.9	21,800	65.9	15.7 J	3.9
PL-002	3/24/1995	4	5	14.1	1.8	15,400	61.8	12.5	3.6
PL-002	3/24/1995	9	10	0.91 J	1.9	1160	63.7	1.8 J	3.7
PL-003	4/3/1995	0	0.5	30.4	1.7	23,200	39.1	325	4.7
PL-003	4/3/1995	1	2	25.4	1.6	17,700	37.2	61.9	4.5
PL-004	4/3/1995	0	0.5	14.2	1.7	12,900	38	18.2	4.6
PL-004	4/3/1995	1	2	4.7	1.5	5290	34.2	5.1	4.1
PL-005	4/3/1995	0	0.5	22.1	1.9	23,600	43.1	25.9	5.2
PL-005	4/3/1995	1	2	16.5	1.8	15,000	39.7	12.2	4.8
PL-006	3/24/1995	0	0.5	17.8	2	15,700	68.2	23.9	4
PL-006	3/24/1995	1	2	17	1.9	15,700	65.9	11.5	3.9
PL-006	3/24/1995	4	5	1.7 U	1.7	1100	56.6	3.3 U	3.3
PL-006	3/24/1995	9	10	1.6 U	1.6	845	55.6	3.3 U	3.3
PL-007	5/14/1996	4	5	25.6	2.5	21,500	12.4	173	0.5
PL-007	5/15/1996	9	10	20.9	2.6	21,800	12.8	13.6 J	0.51
PL-008	5/15/1996	4	5	20.1	2.6	23,000	12.9	14.1 J	0.52
PL-008	5/15/1996	9	10	25.1	2.5	23,200	12.7	14.7 J	0.51
PL-009	5/15/1996	4	5	22.2	2.3	22,800	11.4	15.2 J	0.46
PL-009	5/15/1996	9	10	7.8	2.1	8320	10.6	5.2 J	0.42
PL-009	5/15/1996	9	10	5.9	2.1	6560	10.7	5.4 J	0.43
PLA 01	9/14/2010	0	0.5	16.2	0.24	18,000 B	3.3	18	0.42
PLA 01	9/14/2010	0.5	4	17.9	0.2	20,500 B	3.3	16	0.43
PLA 01	9/14/2010	4	8	4.8	0.16	2050 B	3	1.9	0.39
PLA 02	9/14/2010	0	0.5	137	0.21	29,300 B	3.4	333	0.44
PLA 02	9/14/2010	0.5	4	44.3	0.19	25,300 B	3.3	283	0.43
PLA 02	9/14/2010	0.5	4	164	0.2	53,400 B	2.7	338	0.35
PLA 02	9/14/2010	4	8	199	0.13	8800 B	3	84.5	0.39
PLA 03	9/14/2010	0	0.5	16	0.22	18,200 B	3	36.2	0.39
PLA 03	9/14/2010	0.5	4	14.6	0.2	19,600 B	3.1	15.6	0.4
PLA 03	9/14/2010	4	8	26.7	0.18	20,300 B	3.5	19	0.45
PLA 04	9/14/2010	0	0.5	28	0.26	19,100 B	3.4	35.2	0.44
PLA 04	9/14/2010	0.5	4	13.9	0.25	18,400 B	3	16.9	0.38
PLA 04	9/14/2010	4	8	27.9	0.17	19,800 B	3	62.9	0.39
PLA 05	9/14/2010	0	0.5	15.7	0.26	18,300 B	3.1	16.3	0.41
PLA 05	9/14/2010	0.5	4	18.4	0.2	21,400 B	3.6	18	0.46
PLA 05	9/14/2010	4	8	255	0.17	**113,000** D B	26.7	336	0.35
PLA 06	9/13/2010	0	0.5	16.6	0.16	18,100 B	3.1	25.7	0.4
PLA 06	9/13/2010	0.5	4	19.3	0.25	19600 B	3.1	15.6	0.4
PLA 06	9/13/2010	4	8	0.94 J	0.14	1810 B	2.7	1.7	0.35
PLA 07	9/13/2010	0	0.5	22.4	0.21	21,500 B	3.1	150	0.41
PLA 07	9/13/2010	0.5	4	20.3	0.17	19,500 B	3.2	101	0.41
PLA 07	9/13/2010	4	8	13.9	0.21	26,200 B	3	33.4	0.39
PLA 08	9/13/2010	0	0.5	18.1	0.17	19,400 B	2.2	28.6	0.28
PLA 08	9/13/2010	0	0.5	18.7	0.23	18,700 B	2.9	38.1	0.38
PLA 08	9/13/2010	0.5	4	18.9	0.27	20,800 B	3.5	16.2	0.45
PLA 08	9/13/2010	0.5	4	19	0.24	20,800 B	3.1	16.2	0.4
PLA 08	9/13/2010	4	8	18.8	0.25	20,300 B	3.3	15.3	0.42
PLA 09	9/13/2010	0	0.5	18.4	0.26	20,500 B	3.3	20.9	0.43
PLA 09	9/13/2010	0.5	4	19.8	0.25	21,100 B	3.2	15.7	0.41
PLA 09	9/13/2010	4	8	7	0.22	8070 B	2.9	7	0.37
PLA 10	9/15/2010	0	0.5	14.5	0.22	15,900 B	2.8	16.5	0.37
PLA 10	9/15/2010	0.5	4	16.6	0.22	18,900 B	2.9	19.2	0.37
PLA 10	9/15/2010	4	8	18.8	0.26	20,600 B	3.4	16.1	0.43
PLA 11	9/15/2010	0	0.5	6.7	0.22	6960 B	2.9	8.7	0.37
PLA 11	9/15/2010	0.5	4	16.4	0.22	19,100 B	2.8	18	0.37
PLA 11	9/15/2010	4	8	19	0.23	20,500 B	3	13.8	0.39

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Reporting Limit or Sample Quantification Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1a Metals Data for Soils in the Potential Landfill Area (continued)

			Compound	Magnesium		Manganese		Mercury	
			CAS #	7439-95-4		7439-96-5		7439-97-6	
Residential Screening Limit (mg/kg)				None		1800		5.6	
Industrial Screening Limit (mg/kg)				None		23,000		34	
Background Threshold Value (mg/kg) [1]				4639		659.8		None	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
PL-001	5/14/1996	4	5	5440	257	674	1.3	0.11 U	0.11
PL-001	5/14/1996	9	10	5260	255	537	1.3	0.11 U	0.11
PL-002	3/24/1995	0	0.5	2560	9.2	303	1	0.11 U	0.11
PL-002	3/24/1995	1	2	4700	8.5	898 J	0.97	0.12 U	0.12
PL-002	3/24/1995	4	5	3100	7.9	449	0.91	0.1 U	0.1
PL-002	3/24/1995	9	10	245	8.2	27.9	0.94	0.1 U	0.1
PL-003	4/3/1995	0	0.5	3090	10	385	0.75	0.12 U	0.12
PL-003	4/3/1995	1	2	3040	9.5	565	0.71	0.11 U	0.11
PL-004	4/3/1995	0	0.5	2240	9.7	456	0.73	0.12 U	0.12
PL-004	4/3/1995	1	2	1010	8.7	205	0.65	0.11 U	0.11
PL-005	4/3/1995	0	0.5	3210	11	644	0.82	0.13 U	0.13
PL-005	4/3/1995	1	2	2980	10.1	527	0.76	0.12 U	0.12
PL-006	3/24/1995	0	0.5	2900	8.8	488	1	0.1 U	0.1
PL-006	3/24/1995	1	2	3380	8.5	624	0.97	0.1 U	0.1
PL-006	3/24/1995	4	5	253	7.3	35.4 J	0.83	0.1 U	0.1
PL-006	3/24/1995	9	10	207	7.1	26.7 J	0.82	0.1 U	0.1
PL-007	5/14/1996	4	5	4660	248	744	1.2	0.1 U	0.1
PL-007	5/15/1996	9	10	5030	256	720 J	1.3	0.11 U	0.11
PL-008	5/15/1996	4	5	4970	259	577 J	1.3	0.11 U	0.11
PL-008	5/15/1996	9	10	5150	255	744 J	1.3	0.11 U	0.11
PL-009	5/15/1996	4	5	5070	228	796 J	1.1	0.09 U	0.09
PL-009	5/15/1996	9	10	1790	211	411 J	1.1	0.09 U	0.09
PL-009	5/15/1996	9	10	1470	214	343 J	1.1	0.09 U	0.09
PLA 01	9/14/2010	0	0.5	3550	5.9	541	0.028	0.046	0.014
PLA 01	9/14/2010	0.5	4	4690	6	610	0.022	0.044	0.014
PLA 01	9/14/2010	4	8	483 J	5.5	224	0.018	0.033 U	0.011
PLA 02	9/14/2010	0	0.5	35,300	6.1	671	0.024	0.052	0.013
PLA 02	9/14/2010	0.5	4	3800	6	411	0.022	0.047	0.011
PLA 02	9/14/2010	0.5	4	4470	4.9	920	0.023	0.038 J	0.014
PLA 02	9/14/2010	4	8	708	5.5	387	0.015	0.038 U	0.013
PLA 03	9/14/2010	0	0.5	3440	5.5	550	0.026	0.044	0.013
PLA 03	9/14/2010	0.5	4	4010	5.6	525	0.023	0.045	0.013
PLA 03	9/14/2010	4	8	4450	6.4	531	0.02	0.041 J	0.014
PLA 04	9/14/2010	0	0.5	3490	6.1	550	0.03	0.039	0.012
PLA 04	9/14/2010	0.5	4	3400	5.4	551	0.028	0.038	0.012
PLA 04	9/14/2010	4	8	3530	5.5	553	0.02	0.04	0.012
PLA 05	9/14/2010	0	0.5	3490	5.7	521	0.03	0.042	0.013
PLA 05	9/14/2010	0.5	4	4110	6.4	475	0.023	0.039 J	0.014
PLA 05	9/14/2010	4	8	7780	4.8	807	0.02	0.064	0.013
PLA 06	9/13/2010	0	0.5	3520	5.6	572	0.019	0.048	0.012
PLA 06	9/13/2010	0.5	4	4140	5.6	662	0.028	0.024 J	0.011
PLA 06	9/13/2010	4	8	385 J	5	72.7	0.016	0.031 U	0.01
PLA 07	9/13/2010	0	0.5	3590	5.7	518	0.024	0.048	0.013
PLA 07	9/13/2010	0.5	4	7920	5.8	588	0.019	0.036 J	0.013
PLA 07	9/13/2010	4	8	3020	5.5	591	0.024	0.021 J	0.011
PLA 08	9/13/2010	0	0.5	3810	3.9	613 B	0.019	0.04	0.012
PLA 08	9/13/2010	0	0.5	3570	5.3	578 B	0.026	0.04	0.01
PLA 08	9/13/2010	0.5	4	4360	6.3	604 B	0.031	0.041 J	0.014
PLA 08	9/13/2010	0.5	4	4360	5.6	695 B	0.027	0.033	0.011
PLA 08	9/13/2010	4	8	4510	5.9	417 B	0.029	0.04	0.011
PLA 09	9/13/2010	0	0.5	3870	6	565 B	0.029	0.031 J	0.012
PLA 09	9/13/2010	0.5	4	5070	5.8	670 B	0.028	0.034	0.011
PLA 09	9/13/2010	4	8	2610	5.2	383 B	0.026	0.032 U	0.011
PLA 10	9/15/2010	0	0.5	3310	5.2	510 B	0.025	0.031	0.01
PLA 10	9/15/2010	0.5	4	3780	5.2	528 B	0.026	0.036	0.012
PLA 10	9/15/2010	4	8	4660	6.1	670 B	0.03	0.029 J	0.011
PLA 11	9/15/2010	0	0.5	1550	5.2	198 B	0.025	0.026 J	0.012
PLA 11	9/15/2010	0.5	4	3780	5.1	712 B	0.025	0.047	0.012
PLA 11	9/15/2010	4	8	4590	5.4	334 B	0.026	0.04 J	0.014

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Reporting Limit or Sample Quantification Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1a Metals Data for Soils in the Potential Landfill Area (continued)

			Compound	Nickel		Potassium		Selenium	
			CAS #	7440-02-0		7440-09-7		7782-49-2	
Residential Screening Limit (mg/kg)				1500		None		390	
Industrial Screening Limit (mg/kg)				20,000		None		5100	
Background Threshold Value (mg/kg) [1]				27.0		3759		None	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
PL-001	5/14/1996	4	5	28.1	5.1	3260	513	1.3 U	1.3
PL-001	5/14/1996	9	10	26.6	5.1	3320	510	1.3 U	1.3
PL-002	3/24/1995	0	0.5	17.3	3.9	2500	79	1.5 J	11.5
PL-002	3/24/1995	1	2	26.6	3.6	2960	73.2	1.1 UJ	1.1
PL-002	3/24/1995	4	5	18.4	3.4	2560	68.6	1 U	1
PL-002	3/24/1995	9	10	0.63 J	3.5	257	70.7	1 U	1
PL-003	4/3/1995	0	0.5	20.4	3.5	2440 J	41.6	1.1 UJ	1.1
PL-003	4/3/1995	1	2	19.6	3.3	2400 J	39.5	1.9 J	10.4
PL-004	4/3/1995	0	0.5	15.9	3.4	1910 J	40.4	1.3 J	10.6
PL-004	4/3/1995	1	2	6.6	3	735 J	36.3	0.96 UJ	0.96
PL-005	4/3/1995	0	0.5	21.7	3.8	3310 J	45.9	3.1 J	12.1
PL-005	4/3/1995	1	2	19.9	3.5	1700 J	42.2	1.7 J	11.1
PL-006	3/24/1995	0	0.5	18.5	3.8	2520	75.7	1.1 U	1.1
PL-006	3/24/1995	1	2	21	3.6	1940	73.2	1.8 J	10.7
PL-006	3/24/1995	4	5	0.75 J	3.1	247	62.8	0.92 UJ	0.92
PL-006	3/24/1995	9	10	0.65 J	3.1	206	61.7	0.9 UJ	0.9
PL-007	5/14/1996	4	5	29.9	5	2510	495	1.2 U	1.2
PL-007	5/15/1996	9	10	30.5	5.1	2350	513	1.3 U	1.3
PL-008	5/15/1996	4	5	29.6	5.2	2590	517	1.3 U	1.3
PL-008	5/15/1996	9	10	27.6	5.1	2810	510	1.3 U	1.3
PL-009	5/15/1996	4	5	32.9	4.6	2620	455	1.1 U	1.1
PL-009	5/15/1996	9	10	9.1	4.2	1080	423	1.1 U	1.1
PL-009	5/15/1996	9	10	11.3	4.3	1030 B	429	1.1 U	1.1
PLA 01	9/14/2010	0	0.5	20.7	0.15	3000	24.2	4.2 U	0.71
PLA 01	9/14/2010	0.5	4	25.8	0.12	1970	24.5	4.3 U	0.72
PLA 01	9/14/2010	4	8	6.2	0.1	353 J	22.5	3.9 U	0.66
PLA 02	9/14/2010	0	0.5	36.6	0.13	1600	25.1	4.4 U	0.74
PLA 02	9/14/2010	0.5	4	23	0.12	2540	24.4	4.3 U	0.72
PLA 02	9/14/2010	0.5	4	67.5	0.13	2270	20.2	3.5 U	0.6
PLA 02	9/14/2010	4	8	23.2	0.08	391 J	22.4	3.9 U	0.66
PLA 03	9/14/2010	0	0.5	20.1	0.14	2690	22.6	3.9 U	0.67
PLA 03	9/14/2010	0.5	4	19.2	0.13	1880	23.1	4 U	0.68
PLA 03	9/14/2010	4	8	22	0.11	2450	26	4.5 U	0.77
PLA 04	9/14/2010	0	0.5	19.5	0.16	2660	25	4.4 U	0.74
PLA 04	9/14/2010	0.5	4	18.6	0.15	2460	21.9	3.8 U	0.65
PLA 04	9/14/2010	4	8	20.4	0.11	2450	22.5	3.9 U	0.66
PLA 05	9/14/2010	0	0.5	19.8	0.16	2780	23.3	4.1 U	0.69
PLA 05	9/14/2010	0.5	4	20.6	0.12	2610	26.3	4.6 U	0.78
PLA 05	9/14/2010	4	8	53.7	0.11	2640	19.8	3.5 U	0.58
PLA 06	9/13/2010	0	0.5	19.8	0.1	3060	22.8	4 U	0.67
PLA 06	9/13/2010	0.5	4	24.2	0.15	2180	23	4 U	0.68
PLA 06	9/13/2010	4	8	1.5 J	0.089	313 J	20.3	3.5 U	0.6
PLA 07	9/13/2010	0	0.5	21.6	0.13	3010	23.3	4.1 U	0.69
PLA 07	9/13/2010	0.5	4	22.1	0.1	2460	23.7	4.1 U	0.7
PLA 07	9/13/2010	4	8	17.8	0.13	1800	22.3	3.9 U	0.66
PLA 08	9/13/2010	0	0.5	22 B	0.1	2490	15.9	2.8 U	0.47
PLA 08	9/13/2010	0	0.5	20.5 B	0.14	2920	21.5	3.8 U	0.64
PLA 08	9/13/2010	0.5	4	23.4 B	0.17	2290	25.8	4.5 U	0.76
PLA 08	9/13/2010	0.5	4	25.4 B	0.15	2090	22.8	4 U	0.67
PLA 08	9/13/2010	4	8	21.9 B	0.16	2300	24.1	4.2 U	0.71
PLA 09	9/13/2010	0	0.5	23.5 B	0.16	3070	24.5	4.3 U	0.72
PLA 09	9/13/2010	0.5	4	26.1 B	0.15	2160	23.5	4.1 U	0.69
PLA 09	9/13/2010	4	8	9.6 B	0.14	1110	21.3	3.7 U	0.63
PLA 10	9/15/2010	0	0.5	16.8 B	0.14	2720	21.1	3.7 U	0.62
PLA 10	9/15/2010	0.5	4	21.6 B	0.14	2170	21.3	3.7 U	0.63
PLA 10	9/15/2010	4	8	26.9	0.16	2310	24.8	4.3 U	0.73
PLA 11	9/15/2010	0	0.5	7.7	0.14	1170	21.2	3.7 U	0.62
PLA 11	9/15/2010	0.5	4	22	0.14	2400	20.9	3.7 U	0.62
PLA 11	9/15/2010	4	8	19.8	0.14	2250	22	3.9 U	0.65

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Reporting Limit or Sample Quantification Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1a Metals Data for Soils in the Potential Landfill Area (continued)

			Compound	Silver		Sodium		Thallium	
			CAS #	7440-22-4		7440-23-5		7440-28-0	
Residential Screening Limit (mg/kg)				390		None		None	
Industrial Screening Limit (mg/kg)				5100		None		None	
Background Threshold Value (mg/kg) [1]				None		None		None	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
PL-001	5/14/1996	4	5	2.6 U	2.6	305 B	257	1.8 U	1.8
PL-001	5/14/1996	9	10	2.5 U	2.5	303 B	255	1.8 U	1.8
PL-002	3/24/1995	0	0.5	0.16 UJ	0.16	353 U	353	1.4 U	1.4
PL-002	3/24/1995	1	2	0.15 UJ	0.15	327 U	327	1.3 U	1.3
PL-002	3/24/1995	4	5	0.14 UJ	0.14	306 U	306	1.2 U	1.2
PL-002	3/24/1995	9	10	0.14 UJ	0.14	316 U	316	1.3 U	1.3
PL-003	4/3/1995	0	0.5	0.12 UJ	0.12	291 J	503	1.1 U	1.1
PL-003	4/3/1995	1	2	0.12 UJ	0.12	75.5 J	478	1.1 U	1.1
PL-004	4/3/1995	0	0.5	0.12 UJ	0.12	114 J	489	1.1 U	1.1
PL-004	4/3/1995	1	2	0.11 UJ	0.11	173 J	440	0.98 U	0.98
PL-005	4/3/1995	0	0.5	0.14 UJ	0.14	66 J	555	1.2 U	1.2
PL-005	4/3/1995	1	2	0.13 UJ	0.13	126 J	511	1.1 U	1.1
PL-006	3/24/1995	0	0.5	0.15 UJ	0.15	338 U	338	1.4 U	1.4
PL-006	3/24/1995	1	2	0.15 UJ	0.15	327 U	327	1.3 U	1.3
PL-006	3/24/1995	4	5	0.12 UJ	0.12	281 U	281	1.1 U	1.1
PL-006	3/24/1995	9	10	0.12 UJ	0.12	276 U	276	1.1 U	1.1
PL-007	5/14/1996	4	5	2.5 U	2.5	248 U	248	1.7 U	1.7
PL-007	5/15/1996	9	10	2.6 UJ	2.6	289 B	256	1.8 U	1.8
PL-008	5/15/1996	4	5	2.6 UJ	2.6	259 U	259	1.8 U	1.8
PL-008	5/15/1996	9	10	2.5 UJ	2.5	273 B	255	1.8 U	1.8
PL-009	5/15/1996	4	5	2.3 UJ	2.3	228 U	228	1.6 U	1.6
PL-009	5/15/1996	9	10	2.1 UJ	2.1	211 U	211	1.5 U	1.5
PL-009	5/15/1996	9	10	2.1 UJ	2.1	214 U	214	1.5 U	1.5
PLA 01	9/14/2010	0	0.5	1.2 U	0.22	57.1 J	6.2	3 U	0.34
PLA 01	9/14/2010	0.5	4	0.93 U	0.18	130 J	6.2	3.1 U	0.34
PLA 01	9/14/2010	4	8	0.77 U	0.15	45 J	5.7	2.8 U	0.31
PLA 02	9/14/2010	0	0.5	0.69 J	0.19	351 J	6.4	3.1 U	0.35
PLA 02	9/14/2010	0.5	4	0.19 J	0.17	108 J	6.2	3 U	0.34
PLA 02	9/14/2010	0.5	4	0.64 J	0.18	427 J	5.1	2.5 U	0.28
PLA 02	9/14/2010	4	8	0.54 J	0.12	97.7 J	5.7	2.8 U	0.31
PLA 03	9/14/2010	0	0.5	1.1 U	0.2	60.5 J	5.8	2.8 U	0.32
PLA 03	9/14/2010	0.5	4	0.97 U	0.18	86.4 J	5.9	2.9 U	0.32
PLA 03	9/14/2010	4	8	0.84 U	0.16	146 J	6.6	3.2 U	0.36
PLA 04	9/14/2010	0	0.5	1.3 U	0.24	86.1 J	6.4	3.1 U	0.35
PLA 04	9/14/2010	0.5	4	1.2 U	0.22	59.7 J	5.6	2.7 U	0.31
PLA 04	9/14/2010	4	8	0.73 J	0.16	110 J	5.7	2.8 U	0.31
PLA 05	9/14/2010	0	0.5	1.3 U	0.24	63.1 J	5.9	2.9 U	0.33
PLA 05	9/14/2010	0.5	4	0.96 U	0.18	92.8 J	6.7	3.3 U	0.37
PLA 05	9/14/2010	4	8	1	0.16	1350	5	2.5 U	0.28
PLA 06	9/13/2010	0	0.5	0.78 U	0.15	66.1 J	5.8	2.9 U	0.32
PLA 06	9/13/2010	0.5	4	1.2 U	0.22	106 J	5.9	2.9 U	0.32
PLA 06	9/13/2010	4	8	0.69 U	0.13	43.2 J	5.2	2.5 U	0.28
PLA 07	9/13/2010	0	0.5	1 U	0.19	53.6 J	5.9	2.9 U	0.33
PLA 07	9/13/2010	0.5	4	0.79 U	0.15	155 J	6	3 U	0.33
PLA 07	9/13/2010	4	8	0.98 U	0.19	104 J	5.7	2.8 U	0.31
PLA 08	9/13/2010	0	0.5	0.8 U	0.15	58.9 J	4.1	2 U	0.22
PLA 08	9/13/2010	0	0.5	1.1 U	0.2	58.4 J	5.5	2.7 U	0.3
PLA 08	9/13/2010	0.5	4	1.3 U	0.24	118 J	6.6	3.2 U	0.36
PLA 08	9/13/2010	0.5	4	1.1 U	0.22	117 J	5.8	2.8 U	0.32
PLA 08	9/13/2010	4	8	1.2 U	0.23	153 J	6.1	3 U	0.34
PLA 09	9/13/2010	0	0.5	1.2 U	0.23	58.2 J	6.3	3.1 U	0.34
PLA 09	9/13/2010	0.5	4	1.2 U	0.22	132 J	6	2.9 U	0.33
PLA 09	9/13/2010	4	8	1.1 U	0.2	74.3 J	5.4	2.7 U	0.3
PLA 10	9/15/2010	0	0.5	1.1 U	0.2	64.9 J	5.4	2.6 U	0.3
PLA 10	9/15/2010	0.5	4	1.1 U	0.2	59.4 J	5.4	2.7 U	0.3
PLA 10	9/15/2010	4	8	1.2 U	0.24	130 J B	6.3	3.1 U	0.35
PLA 11	9/15/2010	0	0.5	1.1 U	0.2	29.6 J B	5.4	2.6 U	0.3
PLA 11	9/15/2010	0.5	4	1 U	0.2	82.2 J B	5.3	2.6 U	0.29
PLA 11	9/15/2010	4	8	1.1 U	0.21	134 J B	5.6	2.8 U	0.31

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Reporting Limit or Sample Quantification Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1a Metals Data for Soils in the Potential Landfill Area (continued)

				Compound	Vanadium		Zinc	
				CAS #	7440-62-2		7440-66-6	
Residential Screening Limit (mg/kg)					390		23,000	
Industrial Screening Limit (mg/kg)					5200		310,000	
Background Threshold Value (mg/kg) [1]					45.1		74.6	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
PL-001	5/14/1996	4	5	37.8	2.6	81.8	2.6
PL-001	5/14/1996	9	10	37.7	2.5	85.2	2.5
PL-002	3/24/1995	0	0.5	26.2	1.3	70.4	1.6
PL-002	3/24/1995	1	2	42.5	1.2	71.8	1.4
PL-002	3/24/1995	4	5	35.3	1.1	51.7	1.4
PL-002	3/24/1995	9	10	2.3	1.2	4.7	1.4
PL-003	4/3/1995	0	0.5	14.9 J	1	*728*	3.5
PL-003	4/3/1995	1	2	24.3 J	0.95	93.3	3.3
PL-004	4/3/1995	0	0.5	20.1 J	0.97	54.6	3.4
PL-004	4/3/1995	1	2	8.6 J	0.87	20.5	3
PL-005	4/3/1995	0	0.5	27.4 J	1.1	77.1	3.8
PL-005	4/3/1995	1	2	21.8 J	1	56.3	3.5
PL-006	3/24/1995	0	0.5	28.4	1.2	63.8	1.5
PL-006	3/24/1995	1	2	29.3	1.2	47.3	1.4
PL-006	3/24/1995	4	5	2.4	1	4.8 U	4.8
PL-006	3/24/1995	9	10	1.8	1	5.4 U	5.4
PL-007	5/14/1996	4	5	31.8	2.5	96.3	2.5
PL-007	5/15/1996	9	10	35.8	2.6	75.2	2.6
PL-008	5/15/1996	4	5	38	2.6	78.4	2.6
PL-008	5/15/1996	9	10	36.9	2.5	88.6	2.5
PL-009	5/15/1996	4	5	37.3	2.3	79.1	2.3
PL-009	5/15/1996	9	10	14.1	2.1	27.3	2.1
PL-009	5/15/1996	9	10	11.6	2.1	21.7	2.1
PLA 01	9/14/2010	0	0.5	28	0.089	57 B	0.11
PLA 01	9/14/2010	0.5	4	27.7	0.072	58.8 B	0.087
PLA 01	9/14/2010	4	8	9.2	0.059	18.1 B	0.072
PLA 02	9/14/2010	0	0.5	27	0.076	548 B	0.093
PLA 02	9/14/2010	0.5	4	27.7	0.07	192 B	0.085
PLA 02	9/14/2010	0.5	4	25.5	0.075	334 B	0.091
PLA 02	9/14/2010	4	8	12.3	0.048	393 B	0.058
PLA 03	9/14/2010	0	0.5	28.1	0.082	61.9 B	0.1
PLA 03	9/14/2010	0.5	4	30.1	0.074	52.2 B	0.091
PLA 03	9/14/2010	4	8	25.2	0.064	98.2 B	0.079
PLA 04	9/14/2010	0	0.5	28.6	0.097	110 B	0.12
PLA 04	9/14/2010	0.5	4	28.4	0.091	52.2 B	0.11
PLA 04	9/14/2010	4	8	27.1	0.064	105 B	0.078
PLA 05	9/14/2010	0	0.5	28	0.097	54 B	0.12
PLA 05	9/14/2010	0.5	4	26.8	0.074	83.2 B	0.09
PLA 05	9/14/2010	4	8	28.5	0.063	772 B	0.077
PLA 06	9/13/2010	0	0.5	25.1	0.06	55.8 B	0.074
PLA 06	9/13/2010	0.5	4	28.9	0.09	58.9 B	0.11
PLA 06	9/13/2010	4	8	3.1 J	0.053	3.7 B	0.064
PLA 07	9/13/2010	0	0.5	26.4	0.077	94.4 B	0.094
PLA 07	9/13/2010	0.5	4	23.7	0.061	111 B	0.074
PLA 07	9/13/2010	4	8	20.3	0.076	48.8 B	0.092
PLA 08	9/13/2010	0	0.5	25.3	0.061	61.7	0.075
PLA 08	9/13/2010	0	0.5	29.4	0.083	66.1	0.1
PLA 08	9/13/2010	0.5	4	31.4	0.099	63.8	0.12
PLA 08	9/13/2010	0.5	4	28.7	0.088	63.8	0.11
PLA 08	9/13/2010	4	8	30.4	0.093	61.3	0.11
PLA 09	9/13/2010	0	0.5	34.7	0.094	61.6	0.12
PLA 09	9/13/2010	0.5	4	33.5	0.091	63.6	0.11
PLA 09	9/13/2010	4	8	14	0.082	23.3	0.1
PLA 10	9/15/2010	0	0.5	27.8	0.081	55.1	0.099
PLA 10	9/15/2010	0.5	4	28	0.082	56.2	0.1
PLA 10	9/15/2010	4	8	31.2	0.096	66.9 B	0.12
PLA 11	9/15/2010	0	0.5	11.6	0.081	26.7 B	0.099
PLA 11	9/15/2010	0.5	4	30.3	0.08	60.5 B	0.098
PLA 11	9/15/2010	4	8	31.3	0.085	65 B	0.1

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data,

U -- Non-detect value (Reporting Limit or Sample Quantification Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil from URS 2000a, URS 2000b.

* Chromium (III) screening levels used, 'Vanadium and Compounds' screening level used

Table 4-1b Metals Data for Soils in the North Burning Grounds

			Compound	Aluminum		Antimony		Arsenic	
			CAS #	7429-90-5		7440-36-0		7440-38-2	
Residential Screening Limit (mg/kg)				**77,000**		**31**		**0.39**	
Industrial Screening Limit (mg/kg)				**990,000**		**410**		**1.6**	
Background Threshold Value (mg/kg) [1]				**22,769**		**None**		**9.5**	
Location	**Sample Date**	**Beginning Depth (ft bgs)**	**Ending Depth (ft bgs)**	**Result (mg/kg) Q**	**RL (mg/kg)**	**Result (mg/kg) Q**	**RL (mg/kg)**	**Result (mg/kg) Q**	**RL (mg/kg)**
NG-001	3/26/1995	0	0.5	15,800	52.1	2 J	5.2	**7 J**	9.5
NG-001	3/26/1995	1	2	15,100	49.1	R	0.49	**5.3 J**	8.2
NG-002	3/26/1995	0	0.5	12,400	50.3	R	0.5	**6.7 J**	9.2
NG-002	3/26/1995	1	2	11,000	46	**31.6 R**	4.6	**13.4**	8.4
NG-003	3/26/1995	0	0.5	9050	49.7	R	0.49	**4.2 J**	9.1
NG-003	3/26/1995	1	2	16,900 J	45.4	0.45 UJ	0.45	**7.2 J**	8.3
NG-004	3/26/1995	0	0.5	12,300	52.7	R	5.2	**5.7 J**	9.6
NG-004	3/26/1995	1	2	16,200 J	48.4	0.48 UJ	0.48	**6 J**	8.8
NG-005	3/28/1995	0	0.5	11,600	49.1	R	4.9	**6 J**	9
NG-005	3/28/1995	1	2	13,400	48.1	R	0.48	**5.6 J**	8.8
NG-005	3/28/1995	4	5	17,300	45.7	0.45 UJ	0.45	**8.2 J**	8.3
NG-005	3/28/1995	9	10	10,800	47	0.47 UJ	0.47	**7.4 J**	8.6
NG-005	3/28/1995	19	20	589	39.4	0.39 UJ	0.39	**0.72 U**	0.72
NG-006	3/26/1995	0	0.5	13,500	49	R	0.49	**6.6 J**	8.9
NG-006	3/26/1995	1	2	15,700 J	48.7	0.92 J	4.8	**5.7 J**	8.9
NG-007	3/28/1995	0	0.5	15,100	48.1	R	0.48	**5.5 J**	8
NG-007	3/28/1995	1	2	13,600	48.6	R	0.48	**5.3 J**	8.9
NG-007	3/28/1995	4	5	14,000	47.5	R	0.47	**7.5 J**	8.7
NG-007	3/28/1995	9	10	10,300	47.8	R	0.47	**8.1 J**	8.7
NG-007	3/28/1995	19	20	681 J	39.3	0.39 UJ	0.39	**0.72 U**	0.72
NG-008	3/29/1995	0	0.5	15,800 J	48.4	0.48 UJ	0.48	**5.5 J**	8.8
NG-008	3/29/1995	1	2	15,900 J	48.2	0.48 UJ	0.48	**4.5 J**	8.8
NG-009	3/29/1995	0	0.5	6730 J	44.5	0.44 UJ	0.44	**1.2 J**	8.1
NG-009	3/29/1995	1	2	12,800 J	46	0.45 UJ	0.45	**4 J**	8.4
NG-010	3/29/1995	0	0.5	13,900 J	45	1.1 J	4.4	**5.7 J**	8.2
NG-010	3/29/1995	1	2	14,400 J	46.5	0.46 UJ	0.46	**6.5 J**	8.5
NG-011	3/29/1995	0	0.5	13,400 J	47.5	0.47 UJ	0.47	**5.2 J**	8.6
NG-011	3/29/1995	1	2	13,800 J	47.3	0.47 UJ	0.47	**4.8 J**	8.6
NG-012	3/29/1995	0	0.5	4360 J	41.2	0.7 J	4.1	**1.3 J**	7.5
NG-012	3/29/1995	1	2	13,900 J	45	0.45 UJ	0.45	**4.2 J**	8.2
NBG 12	9/15/2010	0	0.5	12,600	6	0.38 J	0.35	**7.1**	0.43
NBG 12	9/15/2010	0.5	4	13,400	5.6	6 U	0.33	**8.4**	0.4
NBG 12	9/15/2010	0.5	4	13,900	6.1	6.5 U	0.36	**8.5**	0.44
NBG 12	9/15/2010	4	8	15,500	5.9	0.73 J	0.34	**7.7**	0.42
NBG 13	9/15/2010	0	0.5	12,300	7.1	0.77 J	0.42	**7.8**	0.5
NBG 13	9/15/2010	0.5	4	12,100	6.2	6.7 U	0.37	**6.5**	0.45
NBG 13	9/15/2010	4	8	13,000	6.1	6.5 U	0.36	**10.6**	0.43
NBG 14	9/15/2010	0	0.5	14,100	6.8	1.6 J	0.4	**7.4**	0.48
NBG 14	9/15/2010	0.5	4	15,800	4.9	0.29 J	0.29	**7.8**	0.35
NBG 14	9/15/2010	4	8	13,800	6.7	7.2 U	0.4	**10.2**	0.48
NBG 15	9/15/2010	0	0.5	15,500	5.8	1.8 J	0.34	**8.9**	0.41
NBG 15	9/15/2010	0	0.5	16,800	6.1	1.2 J	0.36	**8.8**	0.43
NBG 15	9/15/2010	0.5	4	15,700	6.1	6.5 U	0.36	**7.8**	0.43
NBG 15	9/15/2010	4	8	13,200	6.6	7.1 U	0.39	**9.9**	0.47
NBG 16	9/14/2010	0	0.5	13,700	6.4	6.8 U	0.38	**8.3**	0.46
NBG 16	9/14/2010	0.5	4	13,100	5.9	6.3 U	0.35	**8**	0.42
NBG 16	9/14/2010	4	8	13,700	6	6.4 U	0.35	**8.4**	0.43
NBG 17	9/14/2010	0	0.5	9710	6.3	6.8 U	0.37	**4.6**	0.45
NBG 17	9/14/2010	0.5	4	14,400	6.2	6.7 U	0.37	**7.6**	0.45
NBG 17	9/14/2010	4	8	13,100	5.9	6.4 U	0.35	**10.7**	0.42
NBG 18	9/14/2010	0	0.5	13,600	6.7	7.2 U	0.4	**9.2**	0.48
NBG 18	9/14/2010	0	0.5	10,600	6.2	0.38 J	0.37	**6.6**	0.44
NBG 18	9/14/2010	0.5	4	11,800	6.1	6.5 U	0.36	**8.9**	0.43
NBG 18	9/14/2010	4	8	12,100	5.8	0.38 J	0.34	**9.3**	0.41
NBG 19	9/14/2010	0	0.5	13,300	6	6.4 U	0.35	**7**	0.43
NBG 19	9/14/2010	0.5	4	14,100	6.4	6.9 U	0.38	**8.9**	0.46
NBG 19	9/14/2010	4	8	11,600	6.7	7.2 U	0.4	**11**	0.48
NBG 20	9/14/2010	0	0.5	12,100	6.7	0.49 J	0.4	**6.6**	0.48
NBG 20	9/14/2010	0.5	4	11,500	6.1	6.5 U	0.36	**11.4**	0.43
NBG 20	9/14/2010	4	8	10,700	5.4	5.8 U	0.32	**9.8**	0.39

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Detection Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1b Metals Data for Soils in the North Burning Grounds (continued)

				Compound	Barium		Beryllium		Cadmium	
				CAS #	7440-39-3		7440-41-7		7440-43-9	
Residential Screening Limit (mg/kg)					**15,000**		**160**		**70**	
Industrial Screening Limit (mg/kg)					**190,000**		**2000**		**800**	
Background Threshold Value (mg/kg) [1]					**253**		**0.86**		**0.35**	
Location	**Sample Date**	**Beginning Depth (ft bgs)**	**Ending Depth (ft bgs)**	**Result (mg/kg)**	**Q**	**RL (mg/kg)**	**Result (mg/kg)**	**Q**	**RL (mg/kg)**	**Result (mg/kg)**	**Q**	**RL (mg/kg)**
NG-001	3/26/1995	0	0.5	220		0.54	0.71		0.27	0.65	J	1.4
NG-001	3/26/1995	1	2	187		0.51	0.67		0.51	0.08	U	0.08
NG-002	3/26/1995	0	0.5	202		0.52	0.65		0.26	0.47	J	1.3
NG-002	3/26/1995	1	2	237		0.48	3.1		0.24	3.1		1.2
NG-003	3/26/1995	0	0.5	146		0.52	0.46		0.26	0.47	J	1.3
NG-003	3/26/1995	1	2	188		0.47	0.76		0.24	0.51	J	1.2
NG-004	3/26/1995	0	0.5	202		0.55	0.66		0.27	0.65	J	1.4
NG-004	3/26/1995	1	2	188		0.5	0.74		0.25	0.54	J	1.3
NG-005	3/28/1995	0	0.5	223		0.51	0.59		0.26	0.43	J	1.3
NG-005	3/28/1995	1	2	244		0.5	0.61		0.25	0.58	J	1.2
NG-005	3/28/1995	4	5	161		0.48	0.79		0.24	0.31	J	1.2
NG-005	3/28/1995	9	10	191		0.49	0.62		0.24	0.41	J	1.2
NG-005	3/28/1995	19	20	7.5		0.41	0.03	J	0.2	0.1	U	0.1
NG-006	3/26/1995	0	0.5	214		0.51	0.72		0.26	0.43	J	1.3
NG-006	3/26/1995	1	2	205		0.51	0.65		0.25	0.63	J	1.3
NG-007	3/28/1995	0	0.5	195		0.5	0.65		0.5	0.12	J	0.75
NG-007	3/28/1995	1	2	185		0.51	0.66		0.25	0.32	J	1.3
NG-007	3/28/1995	4	5	200		0.5	0.71		0.25	0.35	J	1.2
NG-007	3/28/1995	9	10	231		0.5	0.63		0.25	0.48	J	1.2
NG-007	3/28/1995	19	20	9.3		0.41	0.04	J	0.2	0.1	U	0.1
NG-008	3/29/1995	0	0.5	196		0.5	0.67		0.25	0.6	J	1.3
NG-008	3/29/1995	1	2	204		0.5	0.69		0.25	0.47	J	1.2
NG-009	3/29/1995	0	0.5	70.7		0.46	0.26		0.23	0.35	J	1.2
NG-009	3/29/1995	1	2	209		0.48	0.62		0.24	0.53	J	1.2
NG-010	3/29/1995	0	0.5	184		0.47	0.62		0.23	0.74	J	1.2
NG-010	3/29/1995	1	2	199		0.48	0.7		0.24	0.48	J	1.2
NG-011	3/29/1995	0	0.5	197		0.49	0.64		0.25	0.55	J	1.2
NG-011	3/29/1995	1	2	212		0.49	0.65		0.25	0.44	J	1.2
NG-012	3/29/1995	0	0.5	54.1		0.43	0.19	J	0.21	0.22	J	1.1
NG-012	3/29/1995	1	2	169		0.47	0.66		0.23	0.5	J	1.2
NBG 12	9/15/2010	0	0.5	178		0.47	0.75		0.055	0.4	J	0.061
NBG 12	9/15/2010	0.5	4	198		0.44	0.83		0.052	0.42	J	0.057
NBG 12	9/15/2010	0.5	4	200		0.48	0.78		0.057	0.35	J	0.062
NBG 12	9/15/2010	4	8	225		0.46	1.4		0.054	0.46	J	0.06
NBG 13	9/15/2010	0	0.5	204		0.55	0.72		0.065	0.57	J	0.072
NBG 13	9/15/2010	0.5	4	234		0.49	0.8		0.058	0.45	J	0.064
NBG 13	9/15/2010	4	8	246		0.48	0.77		0.056	0.5	J	0.062
NBG 14	9/15/2010	0	0.5	179		0.53	0.79		0.063	0.55	J	0.069
NBG 14	9/15/2010	0.5	4	208		0.38	0.87		0.045	0.32	J	0.05
NBG 14	9/15/2010	4	8	381		0.53	0.87		0.063	0.29	J	0.069
NBG 15	9/15/2010	0	0.5	223		0.45	0.85		0.054	0.85		0.059
NBG 15	9/15/2010	0	0.5	220		0.48	0.88		0.056	0.56		0.062
NBG 15	9/15/2010	0.5	4	230		0.48	0.84		0.057	0.28	J	0.062
NBG 15	9/15/2010	4	8	260		0.52	0.81		0.062	0.36	J	0.067
NBG 16	9/14/2010	0	0.5	205		0.5	0.77		0.059	0.44	J	0.065
NBG 16	9/14/2010	0.5	4	325		0.46	0.77		0.055	0.55		0.06
NBG 16	9/14/2010	4	8	157		0.47	0.8		0.055	0.35	J	0.061
NBG 17	9/14/2010	0	0.5	205		0.5	0.67		0.059	0.29	J	0.065
NBG 17	9/14/2010	0.5	4	208		0.49	0.78		0.058	0.38	J	0.063
NBG 17	9/14/2010	4	8	229		0.47	0.8		0.055	0.43	J	0.06
NBG 18	9/14/2010	0	0.5	422		0.53	0.82		0.062	0.34	J	0.068
NBG 18	9/14/2010	0	0.5	181		0.49	0.66		0.058	0.4	J	0.063
NBG 18	9/14/2010	0.5	4	223		0.48	0.75		0.056	0.43	J	0.062
NBG 18	9/14/2010	4	8	256		0.45	0.76		0.054	0.5	J	0.059
NBG 19	9/14/2010	0	0.5	174		0.47	0.76		0.056	0.4	J	0.061
NBG 19	9/14/2010	0.5	4	224		0.51	0.84		0.06	0.32	J	0.065
NBG 19	9/14/2010	4	8	242		0.53	0.78		0.062	0.63		0.069
NBG 20	9/14/2010	0	0.5	156		0.53	0.65		0.062	0.48	J	0.068
NBG 20	9/14/2010	0.5	4	249		0.48	0.78		0.056	0.48	J	0.062
NBG 20	9/14/2010	4	8	242		0.42	0.75		0.05	0.58		0.055

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Detection Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1b Metals Data for Soils in the North Burning Grounds (continued)

			Compound	**Calcium**		**Chromium***		**Cobalt**		
			CAS #	**7440-70-2**		**7440-47-3**		**7440-48-4**		
Residential Screening Limit (mg/kg)				**None**		**120,000**		**23**		
Industrial Screening Limit (mg/kg)				**None**		**1,500,000**		**300**		
Background Threshold Value (mg/kg) [1]				**3830**		**23.1**		**10.29**		
Location	**Sample Date**	**Beginning Depth (ft bgs)**	**Ending Depth (ft bgs)**	**Result (mg/kg)**	**Q**	**RL (mg/kg)**	**Result (mg/kg)**	**Q**	**RL (mg/kg)**	**Result (mg/kg)**	**Q**	**RL (mg/kg)**
NG-001	3/26/1995	0	0.5	6280		32.6	18.9		6	9		1.4
NG-001	3/26/1995	1	2	3260		72.9	15.2		2.3	8.9		1.5
NG-002	3/26/1995	0	0.5	3780		31.4	14.7		5.8	9.5		1.3
NG-002	3/26/1995	1	2	3480		28.8	19.6		5.3	**37.7**		1.2
NG-003	3/26/1995	0	0.5	48,600		31.1	11		5.7	6.6		1.3
NG-003	3/26/1995	1	2	2920		28.4	17		5.2	9.7		1.2
NG-004	3/26/1995	0	0.5	15,700		32.9	14.9		6	8.6		1.4
NG-004	3/26/1995	1	2	3060		30.2	16.8		5.5	9.2		1.3
NG-005	3/28/1995	0	0.5	3040		30.7	13.5		5.6	7.5		1.3
NG-005	3/28/1995	1	2	2720		30	14.2		5.5	8.5		1.2
NG-005	3/28/1995	4	5	3660		28.6	17.7		5.2	9.2		1.2
NG-005	3/28/1995	9	10	3310		29.4	14		5.4	8.4		1.2
NG-005	3/28/1995	19	20	232		24.6	1.5	J	4.5	0.24	J	1
NG-006	3/26/1995	0	0.5	4130		30.6	15.8		5.6	8.2		1.3
NG-006	3/26/1995	1	2	2990		30.4	18.8		5.6	9.5		1.3
NG-007	3/28/1995	0	0.5	2710		71.4	16.1		2.2	7.9		1.5
NG-007	3/28/1995	1	2	2630		30.4	14.3		5.6	8.6		1.3
NG-007	3/28/1995	4	5	3460		29.7	15		5.4	10.5		1.2
NG-007	3/28/1995	9	10	3760		29.9	13.8		5.5	10.1		1.2
NG-007	3/28/1995	19	20	266		24.5	2.7	J	4.5	0.53	J	1
NG-008	3/29/1995	0	0.5	5620		30.3	17.5		5.6	8.7		1.3
NG-008	3/29/1995	1	2	2840		30.2	16.2		5.5	8.5		1.2
NG-009	3/29/1995	0	0.5	104,000		27.8	7.9		5.1	3.4		1.2
NG-009	3/29/1995	1	2	5500		28.7	13.9		5.3	8.3		1.2
NG-010	3/29/1995	0	0.5	6400		28.1	16.6		5.2	7.9		1.2
NG-010	3/29/1995	1	2	3340		29.1	15.1		5.3	9.6		1.2
NG-011	3/29/1995	0	0.5	3620		29.7	14.5		5.4	9.1		1.2
NG-011	3/29/1995	1	2	2780		29.6	15.4		5.4	7.8		1.2
NG-012	3/29/1995	0	0.5	14,200		25.7	6.1		4.7	2.8		1.1
NG-012	3/29/1995	1	2	2790		28.1	14.5		5.2	8.4		1.2
NBG 12	9/15/2010	0	0.5	6780		12.8	14.3		0.085	7.2		0.08
NBG 12	9/15/2010	0.5	4	5690		12	14.3		0.08	8.8		0.075
NBG 12	9/15/2010	0.5	4	6210		13.1	14.3		0.087	9.1		0.082
NBG 12	9/15/2010	4	8	25,200		12.5	16.2		0.084	8.4		0.078
NBG 13	9/15/2010	0	0.5	14,100		15.1	13.6		0.1	7.7		0.094
NBG 13	9/15/2010	0.5	4	2960		13.4	13		0.089	9		0.084
NBG 13	9/15/2010	4	8	3920		13	12.7		0.087	11.4		0.081
NBG 14	9/15/2010	0	0.5	9210		14.5	15.5		0.096	8.4		0.09
NBG 14	9/15/2010	0.5	4	3680		10.5	15.5		0.07	8.8		0.065
NBG 14	9/15/2010	4	8	4130		14.4	16		0.096	9.4		0.09
NBG 15	9/15/2010	0	0.5	4720		12.4	16.7		0.083	9		0.077
NBG 15	9/15/2010	0	0.5	4520		13	17		0.087	9		0.081
NBG 15	9/15/2010	0.5	4	3170		13	15.3		0.087	8.5		0.082
NBG 15	9/15/2010	4	8	4030		14.2	14.2		0.095	10		0.089
NBG 16	9/14/2010	0	0.5	20,400		13.7	15.4		0.091	8.8		0.085
NBG 16	9/14/2010	0.5	4	14,300		12.6	14.2		0.084	8.9		0.079
NBG 16	9/14/2010	4	8	4130		12.8	14.8		0.085	10.2		0.08
NBG 17	9/14/2010	0	0.5	6120		13.6	11.7		0.091	4.6	J	0.085
NBG 17	9/14/2010	0.5	4	4270		13.4	14.3		0.089	8.9		0.083
NBG 17	9/14/2010	4	8	4240		12.7	14.6		0.085	9.8		0.079
NBG 18	9/14/2010	0	0.5	4960		14.4	14.6		0.096	8.1		0.09
NBG 18	9/14/2010	0	0.5	11,900		13.3	12.2		0.089	6.1		0.083
NBG 18	9/14/2010	0.5	4	4220		13	13.8		0.087	8.5		0.081
NBG 18	9/14/2010	4	8	4300		12.4	14.7		0.082	9.7		0.077
NBG 19	9/14/2010	0	0.5	10,400		12.9	13.6		0.086	8.1		0.081
NBG 19	9/14/2010	0.5	4	3780		13.8	14.8		0.092	9.5		0.086
NBG 19	9/14/2010	4	8	4480		14.4	13.6		0.096	12.3		0.09
NBG 20	9/14/2010	0	0.5	21,200		14.4	13		0.096	7.3		0.09
NBG 20	9/14/2010	0.5	4	4660		13	13.4		0.087	9.9		0.081
NBG 20	9/14/2010	4	8	5030		11.6	13.8		0.077	9.6		0.072

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Detection Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

* Chromium (III) screening levels used, 'Vanadium and Compounds' screening level used

Table 4-1b Metals Data for Soils in the North Burning Grounds (continued)

				Compound	Copper		Iron		Lead	
				CAS #	7440-50-8		7439-89-6		7439-92-1	
Residential Screening Limit (mg/kg)					3100		55,000		400	
Industrial Screening Limit (mg/kg)					41000		720,000		800	
Background Threshold Value (mg/kg) [1]					23.2		21,000		15.9	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
NG-001	3/26/1995	0	0.5	20.6	2.2	17,800	73.8	21.9	4.3
NG-001	3/26/1995	1	2	14.3	1.8	16,400	40.2	13.2 J	4.8
NG-002	3/26/1995	0	0.5	44.9	2.1	15,900	71.2	22.6	4.2
NG-002	3/26/1995	1	2	*34.2*	1.9	18,000	65.2	14.9	3.8
NG-003	3/26/1995	0	0.5	17.7	2.1	11,500	70.4	14.8	4.1
NG-003	3/26/1995	1	2	16.8	1.9	19,000	64.3	13	3.8
NG-004	3/26/1995	0	0.5	28.6	2.2	15,800	74.6	33.4	4.4
NG-004	3/26/1995	1	2	14.3	2	17,900	68.6	13.6	4
NG-005	3/28/1995	0	0.5	16.2	2	14,900	69.6	23.7	4.1
NG-005	3/28/1995	1	2	14.5	2	15,900	68.1	12.6	4
NG-005	3/28/1995	4	5	14.9	1.9	20,500	64.8	14	3.8
NG-005	3/28/1995	9	10	18	2	17,400	66.6	10.9	3.9
NG-005	3/28/1995	19	20	0.63 J	1.6	808	55.8	1.1 J	3.3
NG-006	3/26/1995	0	0.5	17.4	2	16,700	69.5	15.5	4.1
NG-006	3/26/1995	1	2	57.9	2	18,500	69	16	4
NG-007	3/28/1995	0	0.5	22.5 J	1.8	16,400	39.3	17.1	4.8
NG-007	3/28/1995	1	2	13.7	2	15,900	68.9	12.3	4
NG-007	3/28/1995	4	5	16.4	2	18,900	67.3	13.8	4
NG-007	3/28/1995	9	10	19	2	17,600	67.8	12.7	4
NG-007	3/28/1995	19	20	1.1 J	1.6	778	55.6	1.3 J	3.3
NG-008	3/29/1995	0	0.5	24.8	2	17,800	68.6	18.8	4
NG-008	3/29/1995	1	2	12.8	2	16,300	68.3	12	4
NG-009	3/29/1995	0	0.5	6.2	1.8	6340	63.1	8	3.7
NG-009	3/29/1995	1	2	12.1	1.9	14,200	65.1	12.9	3.8
NG-010	3/29/1995	0	0.5	22.8	1.9	15,200	63.7	43	3.7
NG-010	3/29/1995	1	2	15.2	1.9	17,700	65.9	13.4	3.9
NG-011	3/29/1995	0	0.5	*206*	2	15,600	67.3	19.5	4
NG-011	3/29/1995	1	2	13.2	2	15,000	67.1	13.5	3.9
NG-012	3/29/1995	0	0.5	8.7	1.7	5470	58.3	15.7	3.4
NG-012	3/29/1995	1	2	11.2	1.9	15,600	63.8	11.7	3.8
NBG 12	9/15/2010	0	0.5	15.4	0.22	15,500 B	2.9	21.8	0.37
NBG 12	9/15/2010	0.5	4	16.8	0.21	18,700 B	2.7	17.7	0.35
NBG 12	9/15/2010	0.5	4	16.4	0.23	18,400 B	2.9	18.8	0.38
NBG 12	9/15/2010	4	8	23.7	0.22	20,500 B	2.8	27.7	0.37
NBG 13	9/15/2010	0	0.5	18.7	0.26	17,900 B	3.4	26	0.44
NBG 13	9/15/2010	0.5	4	12.2	0.23	14,900 B	3	15.1	0.39
NBG 13	9/15/2010	4	8	17	0.23	19,700 B	2.9	16.4	0.38
NBG 14	9/15/2010	0	0.5	20.7	0.25	18,400 B	3.3	30.4	0.42
NBG 14	9/15/2010	0.5	4	17.9	0.18	18,200 B	2.4	16.1	0.31
NBG 14	9/15/2010	4	8	17.9	0.25	21,600 B	3.2	15.2	0.42
NBG 15	9/15/2010	0	0.5	33.7	0.22	19,600 B	2.8	55.2	0.36
NBG 15	9/15/2010	0	0.5	25.4	0.23	20,300 B	2.9	44.8	0.38
NBG 15	9/15/2010	0.5	4	12.5	0.23	18,100 B	2.9	14.5	0.38
NBG 15	9/15/2010	4	8	16.9	0.25	20,500 B	3.2	15.9	0.41
NBG 16	9/14/2010	0	0.5	18.3	0.24	18,300 B	3.1	19	0.4
NBG 16	9/14/2010	0.5	4	18.9	0.22	18,400 B	2.8	21.2	0.37
NBG 16	9/14/2010	4	8	16.6	0.22	19,900 B	2.9	14.7	0.37
NBG 17	9/14/2010	0	0.5	11.9	0.24	11,500 B	3.1	14	0.4
NBG 17	9/14/2010	0.5	4	15.9	0.23	17,000 B	3	17.7	0.39
NBG 17	9/14/2010	4	8	18.5	0.22	20,800 B	2.9	15.8	0.37
NBG 18	9/14/2010	0	0.5	17.8	0.25	19,600 B	3.2	13.5	0.42
NBG 18	9/14/2010	0	0.5	14.4	0.23	13,400 B	3	15.8	0.39
NBG 18	9/14/2010	0.5	4	16.7	0.23	18,600 B	2.9	13	0.38
NBG 18	9/14/2010	4	8	18	0.22	19,400 B	2.8	14.4	0.36
NBG 19	9/14/2010	0	0.5	13.4	0.23	16,000 B	2.9	17.4	0.38
NBG 19	9/14/2010	0.5	4	13.7	0.24	19,500 B	3.1	15.7	0.4
NBG 19	9/14/2010	4	8	18.2	0.25	20,200 B	3.2	15.9	0.42
NBG 20	9/14/2010	0	0.5	15.3	0.25	14,700 B	3.2	20.8	0.42
NBG 20	9/14/2010	0.5	4	18.4	0.23	19,800 B	2.9	15.9	0.38
NBG 20	9/14/2010	4	8	17.6	0.2	18,500 B	2.6	15	0.34

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Detection Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1b Metals Data for Soils in the North Burning Grounds (continued)

				Compound		Magnesium		Manganese		Mercury	
				CAS #		7439-95-4		7439-96-5		7439-97-6	
Residential Screening Limit (mg/kg)						None		1800		5.6	
Industrial Screening Limit (mg/kg)						None		23,000		34	
Background Threshold Value (mg/kg) [1]						4639		659.8		None	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg)	Q	RL (mg/kg)	Result (mg/kg)	Q	RL (mg/kg)	Result (mg/kg)	Q	RL (mg/kg)
NG-001	3/26/1995	0	0.5	3570		9.5	513	J	1.1	0.12	U	0.12
NG-001	3/26/1995	1	2	3010		10.2	521		0.77	0.13	U	0.13
NG-002	3/26/1995	0	0.5	2720		9.2	564	J	1	0.13	U	0.13
NG-002	3/26/1995	1	2	3410		8.4	596	J	0.96	0.12	U	0.12
NG-003	3/26/1995	0	0.5	2850		9.1	408	J	1	0.13	U	0.13
NG-003	3/26/1995	1	2	3710		8.3	556		0.94	0.12	U	0.12
NG-004	3/26/1995	0	0.5	3310		9.6	486	J	1.1	0.12	U	0.12
NG-004	3/26/1995	1	2	3430		8.8	517		1	0.12	U	0.12
NG-005	3/28/1995	0	0.5	2550		9	444		1	0.13	U	0.13
NG-005	3/28/1995	1	2	2760		8.8	718		1	0.13	U	0.13
NG-005	3/28/1995	4	5	4040		8.3	544		0.95	0.12	U	0.12
NG-005	3/28/1995	9	10	3520		8.6	422		0.98	0.12	U	0.12
NG-005	3/28/1995	19	20	184		7.2	8		0.82	0.1	U	0.1
NG-006	3/26/1995	0	0.5	3300		8.9	351	J	1	0.13	U	0.13
NG-006	3/26/1995	1	2	2840		8.9	600		1	0.11	U	0.11
NG-007	3/28/1995	0	0.5	2960		10	461	J	0.75	0.13	U	0.13
NG-007	3/28/1995	1	2	2830		8.9	517		1	0.13	U	0.13
NG-007	3/28/1995	4	5	3600		8.7	656		0.99	0.12	U	0.12
NG-007	3/28/1995	9	10	3550		8.7	611		1	0.13	U	0.13
NG-007	3/28/1995	19	20	204		7.2	21.5		0.82	0.1	U	0.1
NG-008	3/29/1995	0	0.5	3200		8.8	491		1	0.12	U	0.12
NG-008	3/29/1995	1	2	2950		8.8	459		1	0.13	U	0.13
NG-009	3/29/1995	0	0.5	3080		8.1	251		0.93	0.11	U	0.11
NG-009	3/29/1995	1	2	2540		8.4	563		0.96	0.12	U	0.12
NG-010	3/29/1995	0	0.5	3060		8.2	472		0.94	0.12	U	0.12
NG-010	3/29/1995	1	2	3430		8.5	566		0.97	0.11	U	0.11
NG-011	3/29/1995	0	0.5	2760		8.6	590		0.99	0.13	U	0.13
NG-011	3/29/1995	1	2	2660		8.6	504		0.99	0.12	U	0.12
NG-012	3/29/1995	0	0.5	1820		7.5	169		0.86	0.09	U	0.09
NG-012	3/29/1995	1	2	2700		8.2	519		0.94	0.1	U	0.1
NBG 12	9/15/2010	0	0.5	3370		5.2	394	B	0.026	0.028	J	0.013
NBG 12	9/15/2010	0.5	4	3520		4.9	484	B	0.024	0.033		0.011
NBG 12	9/15/2010	0.5	4	3650		5.3	542	B	0.026	0.033	J	0.011
NBG 12	9/15/2010	4	8	4040		5.1	619	B	0.025	0.035		0.012
NBG 13	9/15/2010	0	0.5	4250		6.2	527	B	0.03	0.043		0.012
NBG 13	9/15/2010	0.5	4	2840		5.5	618	B	0.027	0.031	J	0.012
NBG 13	9/15/2010	4	8	3930		5.3	1010	B	0.026	0.046		0.013
NBG 14	9/15/2010	0	0.5	3670		5.9	331	B	0.029	0.039		0.012
NBG 14	9/15/2010	0.5	4	3440		4.3	539	B	0.021	0.022	J	0.013
NBG 14	9/15/2010	4	8	4570		5.9	359	B	0.029	0.044		0.011
NBG 15	9/15/2010	0	0.5	3620		5.1	518	B	0.025	0.04		0.013
NBG 15	9/15/2010	0	0.5	3780		5.3	525	B	0.026	0.04		0.012
NBG 15	9/15/2010	0.5	4	3420		5.3	515	B	0.026	0.022	J	0.012
NBG 15	9/15/2010	4	8	4410		5.8	585	B	0.028	0.046		0.013
NBG 16	9/14/2010	0	0.5	4890		5.6	518	B	0.027	0.038		0.011
NBG 16	9/14/2010	0.5	4	4320		5.2	573	B	0.025	0.034		0.011
NBG 16	9/14/2010	4	8	4240		5.2	502	B	0.026	0.043		0.014
NBG 17	9/14/2010	0	0.5	2580		5.5	143	B	0.027	0.025	J	0.013
NBG 17	9/14/2010	0.5	4	3200		5.5	533	B	0.027	0.027	J	0.013
NBG 17	9/14/2010	4	8	4510		5.2	559	B	0.025	0.058		0.014
NBG 18	9/14/2010	0	0.5	4430		5.9	438	B	0.029	0.039		0.012
NBG 18	9/14/2010	0	0.5	3400		5.4	331	B	0.027	0.029	J	0.011
NBG 18	9/14/2010	0.5	4	4280		5.3	500	B	0.026	0.041		0.012
NBG 18	9/14/2010	4	8	4390		5	618	B	0.025	0.038	J	0.013
NBG 19	9/14/2010	0	0.5	3350		5.3	495	B	0.026	0.025	J	0.013
NBG 19	9/14/2010	0.5	4	4100		5.6	567	B	0.028	0.029	J	0.012
NBG 19	9/14/2010	4	8	4370		5.9	819	B	0.029	0.039		0.011
NBG 20	9/14/2010	0	0.5	3920		5.9	454	B	0.029	0.027	J	0.013
NBG 20	9/14/2010	0.5	4	4120		5.3	617	B	0.026	0.04		0.012
NBG 20	9/14/2010	4	8	4300		4.7	679	B	0.023	0.033	J	0.013

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Detection Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1b Metals Data for Soils in the North Burning Grounds (continued)

			Compound	Nickel		Potassium		Selenium	
			CAS #	7440-02-0		7440-09-7		7782-49-2	
Residential Screening Limit (mg/kg)				1500		None		390	
Industrial Screening Limit (mg/kg)				20,000		None		5100	
Background Threshold Value (mg/kg) [1]				27.0		3759		None	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
NG-001	3/26/1995	0	0.5	20.2	4.1	3440 J	82	1.5 J	11.9
NG-001	3/26/1995	1	2	17.5	3.6	2360	42.7	1.4 J	11.2
NG-002	3/26/1995	0	0.5	18.2	3.9	2760 J	79.1	1.6 J	11.5
NG-002	3/26/1995	1	2	42.7	3.6	2030 J	72.4	3.7 J	10.6
NG-003	3/26/1995	0	0.5	13.7	3.9	2600 J	78.2	1.1 U	1.1
NG-003	3/26/1995	1	2	20.6	3.5	2600	71.3	1.8 J	10.4
NG-004	3/26/1995	0	0.5	17.9	4.1	2850 J	82.8	2.2 J	12.1
NG-004	3/26/1995	1	2	18.4	3.8	2450	76.1	1.8 J	11.1
NG-005	3/28/1995	0	0.5	16.7	3.8	2540	77.3	1.3 J	11.2
NG-005	3/28/1995	1	2	19.4	3.8	2200	75.6	1.8 J	11
NG-005	3/28/1995	4	5	20.1	3.6	2420	72	1.8 J	10.5
NG-005	3/28/1995	9	10	21.4	3.7	2270	73.9	1.1 U	1.1
NG-005	3/28/1995	19	20	0.62 J	3.1	179	61.9	0.9 U	0.9
NG-006	3/26/1995	0	0.5	18.8	3.8	2620 J	77.2	1.1 U	1.1
NG-006	3/26/1995	1	2	22.5	3.8	2970	76.6	1.4 J	11.2
NG-007	3/28/1995	0	0.5	16.6	3.5	2530 J	41.8	1.6 J	11
NG-007	3/28/1995	1	2	16.5	3.8	2080	76.4	1.3 J	11.1
NG-007	3/28/1995	4	5	22.3	3.7	1920	74.8	1.1 J	10.9
NG-007	3/28/1995	9	10	21.8	3.7	2070	75.2	1.1 UJ	1.1
NG-007	3/28/1995	19	20	1.1 J	3.1	194	61.8	0.9 U	0.9
NG-008	3/29/1995	0	0.5	25.5	3.8	3090	76.2	1.5 J	11.1
NG-008	3/29/1995	1	2	16.2	3.8	2600	75.9	1.3 J	11
NG-009	3/29/1995	0	0.5	7.1	3.5	1860	70	1.1 J	10.2
NG-009	3/29/1995	1	2	15.7	3.6	2700	72.3	1.1 U	1.1
NG-010	3/29/1995	0	0.5	17.3	3.5	2840	70.7	1.1 J	10.3
NG-010	3/29/1995	1	2	18.9	3.6	2030	73.2	2.1 J	10.7
NG-011	3/29/1995	0	0.5	17.2	3.7	2770	74.7	1.4 J	10.9
NG-011	3/29/1995	1	2	15.9	3.7	2770	74.5	1.2 J	10.8
NG-012	3/29/1995	0	0.5	6	3.2	1050	64.7	0.94 U	0.94
NG-012	3/29/1995	1	2	16.4	3.5	2160	70.8	1.4 J	10.3
NBG 12	9/15/2010	0	0.5	16.6	0.14	2550	21.3	3.7 U	0.63
NBG 12	9/15/2010	0.5	4	19.9	0.13	2750	20	3.5 U	0.59
NBG 12	9/15/2010	0.5	4	19.8	0.14	2630	21.8	3.8 U	0.64
NBG 12	9/15/2010	4	8	18.6	0.14	2750	20.9	3.7 U	0.62
NBG 13	9/15/2010	0	0.5	19.8	0.16	2470	25.2	4.4 U	0.74
NBG 13	9/15/2010	0.5	4	16.3	0.15	2840	22.3	3.9 U	0.66
NBG 13	9/15/2010	4	8	24.7	0.14	2030	21.7	3.8 U	0.64
NBG 14	9/15/2010	0	0.5	19.1	0.16	2720	24.1	4.2 U	0.71
NBG 14	9/15/2010	0.5	4	17.3 B	0.11	2620	17.4	3.1 U	0.51
NBG 14	9/15/2010	4	8	22.1 B	0.16	2360	24.1	4.2 U	0.71
NBG 15	9/15/2010	0	0.5	21 B	0.13	2910	20.7	3.6 U	0.61
NBG 15	9/15/2010	0	0.5	20.9 B	0.14	2930	21.6	3.8 U	0.64
NBG 15	9/15/2010	0.5	4	17.2 B	0.14	2630	21.7	3.8 U	0.64
NBG 15	9/15/2010	4	8	23.6 B	0.15	2150	23.7	4.1 U	0.7
NBG 16	9/14/2010	0	0.5	21.6 B	0.15	3430	22.8	4 U	0.67
NBG 16	9/14/2010	0.5	4	20.2 B	0.14	2500	21.1	3.7 U	0.62
NBG 16	9/14/2010	4	8	21.6 B	0.14	2370	21.3	3.7 U	0.63
NBG 17	9/14/2010	0	0.5	10.7 B	0.15	2230	22.6	4 U	0.67
NBG 17	9/14/2010	0.5	4	18.4	0.14	2610	22.3	3.9 U	0.66
NBG 17	9/14/2010	4	8	24	0.14	2080	21.2	3.7 U	0.63
NBG 18	9/14/2010	0	0.5	22.2	0.16	2220	24	4.2 U	0.71
NBG 18	9/14/2010	0	0.5	15.3	0.14	2370	22.2	3.9 U	0.65
NBG 18	9/14/2010	0.5	4	22.3	0.14	2200	21.6	3.8 U	0.64
NBG 18	9/14/2010	4	8	24.2	0.13	2210	20.6	3.6 U	0.61
NBG 19	9/14/2010	0	0.5	16.5	0.14	2730	21.5	3.8 U	0.63
NBG 19	9/14/2010	0.5	4	18.6	0.15	2180	23	4 U	0.68
NBG 19	9/14/2010	4	8	29.3	0.16	2250	24	4.2 U	0.71
NBG 20	9/14/2010	0	0.5	16.2	0.16	2860	24	4.2 U	0.71
NBG 20	9/14/2010	0.5	4	24.2	0.14	1920	21.7	3.8 U	0.64
NBG 20	9/14/2010	4	8	25.2	0.13	2050	19.3	3.4 U	0.57

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Detection Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1b Metals Data for Soils in the North Burning Grounds (continued)

			Compound	Silver		Sodium		Thallium	
			CAS #	7440-22-4		7440-23-5		7440-28-0	
Residential Screening Limit (mg/kg)				390		None		None	
Industrial Screening Limit (mg/kg)				5100		None		None	
Background Threshold Value (mg/kg) [1]				None		None		None	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
NG-001	3/26/1995	0	0.5	0.16 UJ	0.16	366 U	366	1.5 U	1.5
NG-001	3/26/1995	1	2	0.13 UJ	0.13	517 U	517	1.2 U	1.2
NG-002	3/26/1995	0	0.5	0.16 UJ	0.16	354 U	354	1.4 U	1.4
NG-002	3/26/1995	1	2	1.2 J	1.4	324 U	324	4.4 J	13.2
NG-003	3/26/1995	0	0.5	0.16 UJ	0.16	349 U	349	1.4 U	1.4
NG-003	3/26/1995	1	2	0.14 U	0.14	319 U	319	1.3 U	1.3
NG-004	3/26/1995	0	0.5	1.8 J	1.6	370 U	370	1.5 U	1.5
NG-004	3/26/1995	1	2	0.15 U	0.15	340 U	340	1.4 U	1.4
NG-005	3/28/1995	0	0.5	0.15 UJ	0.15	345 U	345	1.4 U	1.4
NG-005	3/28/1995	1	2	0.15 UJ	0.15	338 U	338	1.4 U	1.4
NG-005	3/28/1995	4	5	0.14 U	0.14	322 U	322	1.3 U	1.3
NG-005	3/28/1995	9	10	0.15 U	0.15	330 U	330	1.3 U	1.3
NG-005	3/28/1995	19	20	0.12 U	0.12	277 U	277	1.1 U	1.1
NG-006	3/26/1995	0	0.5	0.15 UJ	0.15	345 U	345	1.4 U	1.4
NG-006	3/26/1995	1	2	0.15 U	0.15	342 U	342	1.4 U	1.4
NG-007	3/28/1995	0	0.5	0.13 UJ	0.13	266 J	506	1.1 U	1.1
NG-007	3/28/1995	1	2	0.15 UJ	0.15	342 U	342	1.4 U	1.4
NG-007	3/28/1995	4	5	0.15 UJ	0.15	334 U	334	1.4 U	1.4
NG-007	3/28/1995	9	10	0.15 UJ	0.15	336 U	336	1.4 U	1.4
NG-007	3/28/1995	19	20	0.12 U	0.12	276 U	276	1.1 U	1.1
NG-008	3/29/1995	0	0.5	0.15 U	0.15	341 U	341	1.4 U	1.4
NG-008	3/29/1995	1	2	0.15 U	0.15	339 U	339	1.4 U	1.4
NG-009	3/29/1995	0	0.5	0.14 U	0.14	313 U	313	1.3 U	1.3
NG-009	3/29/1995	1	2	0.14 U	0.14	323 U	323	1.3 U	1.3
NG-010	3/29/1995	0	0.5	17.1	1.4	316 U	316	1.3 U	1.3
NG-010	3/29/1995	1	2	0.15 U	0.15	327 U	327	1.3 U	1.3
NG-011	3/29/1995	0	0.5	0.15 U	0.15	334 U	334	1.4 U	1.4
NG-011	3/29/1995	1	2	0.15 U	0.15	333 U	333	1.4 U	1.4
NG-012	3/29/1995	0	0.5	0.13 U	0.13	289 U	289	1.2 U	1.2
NG-012	3/29/1995	1	2	0.14 U	0.14	316 U	316	1.3 U	1.3
NBG 12	9/15/2010	0	0.5	1.1 U	0.2	59.6 J B	5.4	2.7 U	0.3
NBG 12	9/15/2010	0.5	4	1 U	0.19	78.3 J B	5.1	2.5 U	0.28
NBG 12	9/15/2010	0.5	4	1.1 U	0.21	74.5 J B	5.5	2.7 U	0.3
NBG 12	9/15/2010	4	8	1 U	0.2	199 J B	5.3	2.6 U	0.29
NBG 13	9/15/2010	0	0.5	1.3 U	0.24	76.2 J B	6.4	3.1 U	0.35
NBG 13	9/15/2010	0.5	4	1.1 U	0.21	75.5 J B	5.7	2.8 U	0.31
NBG 13	9/15/2010	4	8	1.1 U	0.21	146 J	5.5	2.7 U	0.3
NBG 14	9/15/2010	0	0.5	0.98 J	0.24	61.2 J	6.1	3 U	0.34
NBG 14	9/15/2010	0.5	4	0.87 U	0.17	55.4 J	4.4	2.2 U	0.24
NBG 14	9/15/2010	4	8	1.2 U	0.23	110 J	6.1	3 U	0.34
NBG 15	9/15/2010	0	0.5	0.34 J	0.2	66.5 J	5.3	2.6 U	0.29
NBG 15	9/15/2010	0	0.5	1.1 U	0.21	59.3 J	5.5	2.7 U	0.3
NBG 15	9/15/2010	0.5	4	1.1 U	0.21	100 J	5.5	2.7 U	0.3
NBG 15	9/15/2010	4	8	1.2 U	0.22	194 J	6	3 U	0.33
NBG 16	9/14/2010	0	0.5	1.1 U	0.22	83.1 J	5.8	2.8 U	0.32
NBG 16	9/14/2010	0.5	4	1.1 U	0.2	72.5 J	5.4	2.6 U	0.3
NBG 16	9/14/2010	4	8	1.1 U	0.2	94.7 J	5.4	2.7 U	0.3
NBG 17	9/14/2010	0	0.5	1.1 U	0.22	61.7 J	5.8	2.8 U	0.32
NBG 17	9/14/2010	0.5	4	1.1 U	0.21	68.6 J	5.7	2.8 U	0.31
NBG 17	9/14/2010	4	8	0.98 U	0.19	122 J	5.4	2.6 U	0.3
NBG 18	9/14/2010	0	0.5	1.2 U	0.23	107 J B	6.1	3 U	0.34
NBG 18	9/14/2010	0	0.5	1.1 U	0.21	67.9 J B	5.6	2.8 U	0.31
NBG 18	9/14/2010	0.5	4	1.1 U	0.21	125 J B	5.5	2.7 U	0.3
NBG 18	9/14/2010	4	8	1 U	0.2	131 J B	5.3	2.6 U	0.29
NBG 19	9/14/2010	0	0.5	1.1 U	0.2	47.7 J B	5.5	2.7 U	0.3
NBG 19	9/14/2010	0.5	4	1.1 U	0.22	71.4 J B	5.9	2.9 U	0.32
NBG 19	9/14/2010	4	8	1.2 U	0.23	102 J B	6.1	3 U	0.34
NBG 20	9/14/2010	0	0.5	2.3	0.23	64.5 J B	6.1	3 U	0.34
NBG 20	9/14/2010	0.5	4	1.1 U	0.21	104 J B	5.5	2.7 U	0.3
NBG 20	9/14/2010	4	8	0.97 U	0.18	121 J B	4.9	2.4 U	0.27

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Detection Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

Table 4-1b Metals Data for Soils in the North Burning Grounds (continued)

			Compound	Vanadium		Zinc	
			CAS #	7440-62-2		7440-66-6	
Residential Screening Limit (mg/kg)				390		23,000	
Industrial Screening Limit (mg/kg)				5200		310,000	
Background Threshold Value (mg/kg) [1]				45.1		74.6	
Location	Sample Date	Beginning Depth (ft bgs)	Ending Depth (ft bgs)	Result (mg/kg) Q	RL (mg/kg)	Result (mg/kg) Q	RL (mg/kg)
NG-001	3/26/1995	0	0.5	35.2	1.4	75.8	1.6
NG-001	3/26/1995	1	2	26.5	1	54.5	3.6
NG-002	3/26/1995	0	0.5	26.7	1.3	81.8	1.6
NG-002	3/26/1995	1	2	52.2	1.2	73.8	1.4
NG-003	3/26/1995	0	0.5	18.5	1.3	52.6	1.6
NG-003	3/26/1995	1	2	30.9	1.2	58.8	1.4
NG-004	3/26/1995	0	0.5	25.4	1.4	101	1.6
NG-004	3/26/1995	1	2	29.4	1.3	55.8	1.5
NG-005	3/28/1995	0	0.5	24.9	1.3	64.6 J	1.5
NG-005	3/28/1995	1	2	28.3	1.2	59.1 J	1.5
NG-005	3/28/1995	4	5	34.5	1.2	67.4 J	1.4
NG-005	3/28/1995	9	10	28.8	1.2	64 J	1.5
NG-005	3/28/1995	19	20	1.6	1	3.5 J	1.2
NG-006	3/26/1995	0	0.5	28.1	1.3	65.8	1.5
NG-006	3/26/1995	1	2	31	1.3	60.5	1.5
NG-007	3/28/1995	0	0.5	28.8	1	67.5 J	3.5
NG-007	3/28/1995	1	2	26.2	1.3	54.3 J	1.5
NG-007	3/28/1995	4	5	25	1.2	62.6 J	1.5
NG-007	3/28/1995	9	10	24.6	1.2	64.3 J	1.5
NG-007	3/28/1995	19	20	1.5	1	3 U	3
NG-008	3/29/1995	0	0.5	30.4	1.3	71.6	1.5
NG-008	3/29/1995	1	2	29.6	1.2	60.7	1.5
NG-009	3/29/1995	0	0.5	12.1	1.2	27.8	1.4
NG-009	3/29/1995	1	2	25.4	1.2	52.9	1.4
NG-010	3/29/1995	0	0.5	27.6	1.2	94.6	1.4
NG-010	3/29/1995	1	2	26.5	1.2	55.9	1.4
NG-011	3/29/1995	0	0.5	26.7	1.2	57.8	1.5
NG-011	3/29/1995	1	2	28.3	1.2	54.6	1.5
NG-012	3/29/1995	0	0.5	9.3	1.1	31.7	1.3
NG-012	3/29/1995	1	2	26.1	1.2	53.5	1.4
NBG 12	9/15/2010	0	0.5	26.9	0.082	57.3 B	0.1
NBG 12	9/15/2010	0.5	4	28.9	0.077	64.5 B	0.094
NBG 12	9/15/2010	0.5	4	28.2	0.084	64.5 B	0.1
NBG 12	9/15/2010	4	8	35.3	0.08	74.3 B	0.098
NBG 13	9/15/2010	0	0.5	27.1	0.097	65.1 B	0.12
NBG 13	9/15/2010	0.5	4	26	0.086	55.3 B	0.1
NBG 13	9/15/2010	4	8	23.2	0.083	61.8	0.1
NBG 14	9/15/2010	0	0.5	29	0.093	75	0.11
NBG 14	9/15/2010	0.5	4	31.1	0.067	57.6	0.082
NBG 14	9/15/2010	4	8	31.6	0.093	64.3	0.11
NBG 15	9/15/2010	0	0.5	31.5	0.08	155	0.097
NBG 15	9/15/2010	0	0.5	33.5	0.083	107	0.1
NBG 15	9/15/2010	0.5	4	31.6	0.084	54.9	0.1
NBG 15	9/15/2010	4	8	26.7	0.091	63.2	0.11
NBG 16	9/14/2010	0	0.5	29.4	0.088	63.2	0.11
NBG 16	9/14/2010	0.5	4	26.6	0.081	74.5	0.099
NBG 16	9/14/2010	4	8	27.2	0.082	61.8	0.1
NBG 17	9/14/2010	0	0.5	20.1	0.087	37	0.11
NBG 17	9/14/2010	0.5	4	28.1	0.086	58.3	0.1
NBG 17	9/14/2010	4	8	29.4	0.082	64.7	0.1
NBG 18	9/14/2010	0	0.5	28.1	0.092	61.5 B	0.11
NBG 18	9/14/2010	0	0.5	22.3	0.085	48.4 B	0.1
NBG 18	9/14/2010	0.5	4	27.7	0.083	58.3 B	0.1
NBG 18	9/14/2010	4	8	29.4	0.079	61.2 B	0.097
NBG 19	9/14/2010	0	0.5	26.8	0.083	56.1 B	0.1
NBG 19	9/14/2010	0.5	4	28.8	0.088	57.2 B	0.11
NBG 19	9/14/2010	4	8	29.6	0.093	60.7 B	0.11
NBG 20	9/14/2010	0	0.5	24.8	0.092	58.6 B	0.11
NBG 20	9/14/2010	0.5	4	29.6	0.084	62.8 B	0.1
NBG 20	9/14/2010	4	8	28.2	0.074	61.2 B	0.091

CAS: Chemical Abstract Service, RL: Reporting Limit, ft bgs: feet below ground surface

VALUE Value that exceeded the Residential Screening Level

Laboratory Qualifiers (Q): B -- Concentration is greater than Instrument Detection Limit and less than Contract Required Detection Limit, D -- Diluted result, J -- Estimated value, R -- Rejected data, U -- Non-detect value (Detection Limit shown), UJ -- Estimated quantitation limit

Note: Screening Limits from USEPA 2010, Updated November

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil

* Chromium (III) screening levels used, 'Vanadium and Compounds' screening level used

Table 4-2 Summary of Site-related VOCs in Surface Water Samples

Compound		**1,2-Dichloropropane**					**cis-1,2-Dichloroethene**					**Methylene Chloride**			
CAS #		**78-87-5**					**156-59-2**					**75-09-2**			
Tapwater Regional Screening Level[1]		**0.39**					**73**					**4.8**			
Maximum Contaminant Level[1]		**5.0**					**70**					**5.0**			
Surface Water Quality Criteria[2]		**390**					**70**					**16,000**			
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek																
SW-01	12/2004 - 2/2007	0 of 10	1	U	5	U	0 of 10	1	U	5	U	0 of 10	1	U	5	U
SW-02	12/2004	0 of 1	5	U	5	U	0 of 1	5	U	5	U	0 of 1	5	U	5	U
SW-03	12/2004	0 of 1	5	U	5	U	0 of 1	5	U	5	U	0 of 1	5	U	5	U
SW-05	12/2004 - 5/2010	0 of 20	1	UJ	5	U	0 of 20	1	U	5	U	0 of 20	1	U	5	U
SW-06	12/2004 - 5/2010	0 of 22	1	UJ	5	U	0 of 22	1	U	5	U	1 of 22	2.6	J	2.6	J
SW-15	5/2007 - 8/2009	0 of 9	1	U	1	U	0 of 9	1	U	1	U	0 of 9	1	U	1	U
SW-08	12/2004 - 5/2010	0 of 23	1	U	5	U	18 of 23	0.24	J	4.27		0 of 23	1	U	5	UJ
SW-16	5/2007 - 8/2009	0 of 9	1	U	1	U	7 of 9	0.26	J	2		0 of 9	1	U	1	U
SW-10	12/2004 - 5/2010	0 of 23	1	U	5	U	17 of 23	0.24	J	1.14	J	0 of 23	1	U	5	U
Clear Creek																
SW-07	11/2004	0 of 1	5	U	5	U	0 of 15	5	U	5	U	1 of 1	4	J	4	J
SW-09	12/2004 - 5/2010	0 of 23	1	UJ	5	U	0 of 23	1	U	5	U	1 of 23	3	J	3	J
SW-11	12/2004 - 5/2010	0 of 23	1	UJ	5	U	0 of 23	1	U	5	U	0 of 23	1	U	5	U
SW-12	12/2004 - 5/2010	0 of 23	0.5	U	5	U	0 of 23	1	U	5	U	1 of 23	3	J	3	J
SW-13	112/2004 - 5/2010	0 of 15	1	U	5	U	0 of 15	1	U	5	U	1 of 15	3	J	3	J
Silver Creek																
SCW-01	3/2005 - 11 /2005	0 of 4	1	U	2	U	0 of 4	1	U	2	U	0 of 4	1	U	2	U
SCW-03	3/2005 - 2/2007	0 of 9	1	U	2	U	0 of 9	1	U	2	U	0 of 9	1	U	2	U
SCW-04	3/2006 - 5/2010	0 of 18	1	U	2	U	0 of 18	1	U	2	U	0 of 18	1	U	2	U
SCW-05	3/2006 - 5/2010	0 of 18	1	U	2	U	0 of 18	1	U	2	U	0 of 18	1	U	2	U
SCW-06	3/2005 - 5/2010	0 of 22	1	U	2	U	0 of 22	1	U	2	U	0 of 22	1	U	2	U

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-2 Summary of Site-related VOCs in Surface Water Samples (continued)

	Compound	trans-1,2-dichloroethene					Trichloroethene (TCE)					Vinyl Chloride				
	CAS #	156-60-5					79-01-6					75-01-4				
	Tapwater Regional Screening Level[1]	110					2.0					0.016				
	Maximum Contaminant Level[1]	100					5.0					2.0				
	Surface Water Quality Criteria[2]	140,000					810					5250				
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek																
SW-01	12/2004 - 2/2007	0 of 10	1	U	5	U	0 of 10	1	U	5	U	0 of 10	0.4	U	10	U
SW-02	12/2004	0 of 1	5	U	5	U	0 of 1	5	U	5	U	0 of 0	10	U	10	U
SW-03	12/2004	0 of 1	5	U	5	U	0 of 1	5	U	5	U	0 of 1	10	U	10	U
SW-05	12/2004 - 5/2010	0 of 20	1	U	5	U	0 of 20	1	UJ	5	U	0 of 20	0.4	U	10	U
SW-06	12/2004 - 5/2010	0 of 22	1	U	5	U	12 of 22	0.24	J	3.19	J	0 of 22	0.4	U	10	U
SW-15	5/2007 - 8/2009	0 of 9	1	U	1	U	5 of 9	0.25	J	4.5		0 of 9	1	U	1	U
SW-08	12/2004 - 5/2010	0 of 23	1	U	5	U	23 of 23	0.47	J	56.1		0 of 23	0.4	U	10	U
SW-16	5/2007 - 8/2009	0 of 0	1	U	1	U	9 of 9	5		24		0 of 9	1	U	1	U
SW-10	12/2004 - 5/2010	0 of 23	1	U	5	U	22 of 23	5		23.8		0 of 23	0.4	U	10	U
Clear Creek																
SW-07	11/2004	0 of 1	5	U	5	U	0 of 1	5	U	5	U	0 of 1	10	U	10	U
SW-09	12/2004 - 5/2010	0 of 23	1	U	5	U	0 of 21	1	U	5	U	0 of 23	0.4	U	10	U
SW-11	12/2004 - 5/2010	0 of 23	1	U	5	U	1 of 23	12		12		0 of 23	0.4	U	10	U
SW-12	12/2004 - 5/2010	0 of 23	1	U	5	U	22 of 23	0.56	J	3.5	J	0 of 23	0.4	U	10	U
SW-13	112/2004 - 5/2010	0 of 13	1	U	5	U	13 of 15	1	J	3.9		0 of 15	1	U	10	U
Silver Creek																
SCW-01	3/2005 - 11 /2005	0 of 4	1	U	2	U	0 of 4	1	U	2	U	0 of 4	0.4	U	2	U
SCW-03	3/2005 - 2/2007	0 of 9	1	U	2	U	0 of 9	1	U	2	U	0 of 9	0.4	U	2	U
SCW-04	3/2006 - 5/2010	0 of 18	1	U	2	U	0 of 18	1	U	2	U	0 of 18	1	U	2	U
SCW-05	3/2006 - 5/2010	0 of 18	1	U	2	U	0 of 18	1	U	2	U	0 of 18	1	U	2	U
SCW-06	3/2005 - 5/2010	0 of 23	1	U	2	U	0 of 22	1	U	2	U	0 of 22	0.4	U	2	U

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-3 Summary of Site-related Explosive Chemicals in Surface Water Samples

Compound		**1,3,5-Trinitrobenzene (TNB)**					**2,4-Dinitrotoluene**					**2,4,6-Trinitrotoluene (TNT)**			
CAS #		**99-35-4**					**121-14-2**					**118-96-7**			
Tapwater Regional Screening Level[1]		**1100**					**0.22**					**2.2**			
Maximum Contaminant Level[1]		**None**					**None**					**None**			
Surface Water Quality Criteria[2]		**None**					**91**					**None**			
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek															
SW-01	12/2004 - 2/2007	0 of 10	0.15	U	0.62	U	0 of 10	0.15	U	0.62	U	0 of 10	0.15	U	0.62	U
SW-02	12/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-03	12/2004	0 of 1	0.620	U	0.620	U	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-05	12/2004 - 5/2010	1 of 20	0.079	J	0.079	J	1 of 20	0.22	J	0.22	J	1 of 20	0.63	J	0.63	J
SW-06	12/2004 - 5/2010	0 of 22	0.15	U	0.62	U	1 of 22	0.17	J	0.17	J	1 of 22	0.064	J	0.064	J
SW-15	5/2007 - 8/2009	0 of 9	0.25	U	0.25	U	0 of 9	0.25	U	0.25	U	1 of 9	0.069	J	0.069	J
SW-08	12/2004 - 5/2010	0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U	1 of 23	0.05	J	0.05	J
SW-16	5/2007 - 8/2009	0 of 9	0.25	U	0.25	U	0 of 9	0.25	U	0.25	U	0 of 9	0.25	U	0.25	U
SW-10	12/2004 - 5/2010	0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U
Clear Creek															
SW-07	11/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-09	12/2004 - 5/2010	1 of 23	0.02	J	0.02	J	0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U
SW-11	12/2004 - 5/2010	1 of 23	0.019	J	0.019	J	0 of 23	0.15	U	0.62	U	1 of 23	0.045	J	0.045	J
SW-12	12/2004 - 5/2010	1 of 23	0.023	J	0.023	J	0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U
SW-13	11/2004 - 5/2010	1 of 15	0.017	J	0.017	J	0 of 15	0.016	U	0.62	U	1 of 15	0.093	J	0.093	J
Silver Creek															
SCW-01	3/2005 - 11 /2005	0 of 4	0.158	U	0.316	U	0 of 4	0.158	U	0.316	U	0 of 4	0.158	U	0.316	U
SCW-03	3/2005 - 2/2007	0 of 9	0.15	U	0.316	U	0 of 9	0.15	U	0.316	U	0 of 9	0.15	U	0.316	U
SCW-04	3/2006 - 5/2010	1 of 18	0.026	J	0.026	J	0 of 18	0.15	U	0.25	U	0 of 18	0.15	U	0.25	U
SCW-05	3/2006 - 5/2010	1 of 18	0.024	J	0.024	J	0 of 18	0.15	U	0.25	U	0 of 18	0.15	U	0.25	U
SCW-06	3/2005 - 5/2010	1 of 22	0.031	J	0.031	J	0 of 22	0.15	U	0.316	U	0 of 22	0.15	U	0.316	U

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-3 Summary of Site-related Explosive Chemicals in Surface Water Samples (continued)

Compound		**Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)**					**2-Amino-2,6-Dinitrotoluene**					**4-Amino-2,6-Dinitrotoluene**					
CAS #		**121-82-4**					**35572-78-2**					**19406-51-0**					
Tapwater Regional Screening Level[1]		**0.61**					**73**					**73**					
Maximum Contaminant Level[1]		**None**					**None**					**None**					
Surface Water Quality Criteria[2]		**None**					**None**					**None**					
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek																
SW-01	12/2004 - 2/2007	1 of 10	0.15	U	0.878	J	0 of 10	0.15	U	0.62	U	0 of 10	0.15	U	0.62	U
SW-02	12/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U	0 of 10	0.62	U	0.62	U
SW-03	12/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-05	12/2004 - 5/2010	2 of 20	0.092	J	6.2	J	0 of 20	0.15	U	0.62	U	1 of 20	1.8	J	1.8	J
SW-06	12/2004 - 5/2010	10 of 22	0.094	J	5.5	J	0 of 22	0.15	U	0.62	U	0 of 22	0.15	U	0.62	U
SW-15	5/2007 - 8/2009	5 of 9	0.081	J	1.8		1 of 9	0.12	J	0.12	J	1 of 9	0.12	J	0.12	J
SW-08	12/2004 - 5/2010	23 of 23	0.16	J	6.78		0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U
SW-16	5/2007 - 8/2009	9 of 9	0.43		5	J	0 of 9	0.25	U	0.25	U	7 of 9	0.056	J	0.5	J
SW-10	12/2004 - 5/2010	23 of 23	0.39		5.9		0 of 23	0.15	U	0.62	U	8 of 21	0.034	J	1.4	J
Clear Creek																
SW-07	11/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-09	12/2004 - 5/2010	0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U
SW-11	12/2004 - 5/2010	0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U
SW-12	12/2004 - 5/2010	15 of 23	0.067	J	1.7		0 of 23	0.15	U	0.62	U	0 of 23	0.15	U	0.62	U
SW-13	11/2004 - 5/2010	10 of 15	0.099	J	0.5	J	0 of 15	0.158	U	0.62	U	0 of 15	0.158	U	0.62	U
Silver Creek																
SCW-01	3/2005 - 11 /2005	1 of 4	0.157	J	0.157	J	0 of 4	0.158	U	0.316	U	0 of 4	0.158	U	0.316	U
SCW-03	3/2005 - 2/2007	0 of 9	0.15	U	0.316	U	0 of 9	0.15	U	0.316	U	0 of 9	0.15	U	0.316	U
SCW-04	3/2006 - 5/2010	0 of 16	0.15	U	0.25	U	0 of 18	0.15	U	0.25	U	0 of 18	0.15	U	0.25	U
SCW-05	3/2006 - 5/2010	0 of 18	0.15	U	0.25	U	0 of 18	0.15	U	0.25	U	0 of 18	0.15	U	0.25	U
SCW-06	3/2005 - 5/2010	0 of 22	0.15	U	0.316	U	0 of 22	0.15	U	0.316	U	1 of 22	1.7	J	1.7	J

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-4 Summary of Other Detected VOC Chemicals in Surface Water Samples

Compound		2-Butanone (MEK)					Acetone					Chloroform				
CAS #		78-93-3					67-64-1					67-66-3				
Tapwater Regional Screening Level[1]		7100					22,000					0.190				
Maximum Contaminant Level[1]		None					None					80				
Surface Water Quality Criteria[2]		None					None					None				
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek																
SW-01	12/2004 - 2/2007	0 of 10	1	U	10	U	1 of 10	3	J	3	J	0 of 10	0.5	U	5	U
SW-02	12/2004	0 of 1	10	UJ	10	UJ	0 of 1	10	UJ	10	UJ	0 of 1	5	U	5	U
SW-03	12/2004	0 of 1	10	UJ	10	UJ	1 of 1	5	J	5	J	0 of 1	5	U	5	U
SW-05	12/2004 - 5/2010	1 of 18	4.2	J	4.2	J	9 of 18	1.9	J	9.3		0 of 18	0.5	U	5	U
SW-06	12/2004 - 5/2010	1 of 20	4.4	J	4.4	J	8 of 20	2.2	J	7.4		1 of 20	0.48	J	0.48	J
SW-15	5/2007 - 8/2009	0 of 9	5	U	5	U	6 of 9	2	J	7.1		0 of 9	1	U	1	U
SW-08	12/2004 - 5/2010	1 of 21	4.4	J	4.4	J	4 of 21	1.4	J	6		4 of 21	0.2	J	0.26	J
SW-16	5/2007 - 8/2009	0 of 9	5	U	5	U	6 of 9	1.5	J	7.2		1 of 9	0.22	J	0.22	J
SW-10	12/2004 - 5/2010	1 of 21	5.4		5.4		8 of 21	1.7	J	5.8		0 of 21	0.5	U	5	U
Clear Creek																
SW-07	11/2004	0 of 1	10	U	10	U	0 of 1	10	U	10	U	0 of 1	5	U	5	U
SW-09	11/2004 - 5/2010	2 of 21	2.8	J	3	J	5 of 21	1.4	J	3.6	J	0 of 21	0.5	U	5	U
SW-11	12/2004 - 5/2010	1 of 21	4.9	J	4.9	J	7 of 21	2.8	J	3.6	J	0 of 21	0.5	U	5	U
SW-12	11/2004 - 5/2010	1 of 21	5.2		5.2		6 of 21	1.6	J	3.6	J	0 of 21	0.5	U	5	U
SW-13	11/2004 - 5/2010	1 of 13	4.8	J	4.8	J	6 of 13	2	J	4.3	J	0 of 13	1	U	5	U
Silver Creek																
SCW-01	3/2005 - 11/2005	0 of 4	1	U	2	U	0 of 4	2	U	5	U	0 of 4	0.5	U	2	U
SCW-03	3/2005 - 2/2007	0 of 9	1	U	10	U	0 of 9	2	U	10	U	0 of 9	0.5	U	2	U
SCW-04	3/2006 - 5/2010	1 of 16	4.4	J	4.4	J	6 of 16	1.4	J	8.1		0 of 16	1	U	2	U
SCW-05	3/2006 - 5/2010	1 of 16	4.7	J	4.7	J	4 of 16	2.3	J	5.9		0 of 16	1	U	2	U
SCW-06	3/2005 - 5/2010	1 of 20	4.1	J	4.1	J	5 of 20	2.1	J	6.7		0 of 20	0.5	U	2	U

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-4 Summary of Other Detected VOC Chemicals in Surface Water Samples (continued)

Compound		Chloromethane					Naphthalene				
CAS #		74-87-3					91-20-3				
Tapwater Regional Screening Level[1]		190					0.140				
Maximum Contaminant Level[1]		None					None				
Surface Water Quality Criteria[2]		None					None				
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek											
SW-01	12/2004 - 2/2007	0 of 10	1	U	10	U	0 of 10	1	U	5	U
SW-02	12/2004	0 of 1	10	U	10	U	0 of 1	5	UJ	5	UJ
SW-03	12/2004	0 of 1	10	U	10	U	1 of 1	1	J	1	J
SW-05	12/2004 - 5/2010	0 of 18	1	U	10	U	0 of 18	1	U	5	UJ
SW-06	12/2004 - 5/2010	0 of 20	1	U	10	U	0 of 20	1	U	5	UJ
SW-15	5/2007 - 8/2009	0 of 9	1	U	1	U	0 of 9	1	U	1	U
SW-08	12/2004 - 5/2010	0 of 21	1	U	10	U	0 of 21	1	U	5	UJ
SW-16	5/2007 - 8/2009	0 of 9	1	U	1	U	0 of 9	1	U	1	U
SW-10	12/2004 - 5/2010	0 of 21	1	U	10	U	0 of 21	1	U	5	UJ
Clear Creek											
SW-07	11/2004	0 of 1	10	U	10	U	0 of 1	5	UJ	5	UJ
SW-09	11/2004 - 5/2010	0 of 21	1	U	10	U	0 of 21	1	U	5	UJ
SW-11	12/2004 - 5/2010	0 of 21	1	U	10	U	0 of 21	1	U	5	UJ
SW-12	11/2004 - 5/2010	0 of 21	1	U	10	U	0 of 21	1	U	5	UJ
SW-13	11/2004 - 5/2010	0 of 13	1	U	10	U	1 of 13	0.42	J	5	UJ
Silver Creek											
SCW-01	3/2005 - 11/2005	0 of 4	1	U	2	U	0 of 4	1	U	2	U
SCW-03	3/2005 - 2/2007	0 of 9	1	U	2	U	0 of 9	1	U	2	U
SCW-04	3/2006 - 5/2010	2 of 16	0.44	J	0.49	J	0 of 16	1	U	2	U
SCW-05	3/2006 - 5/2010	1 of 16	0.35	J	0.35	J	0 of 16	1	U	2	U
SCW-06	3/2005 - 5/2010	1 of 20	0.67	J	0.67	J	0 of 20	1	U	2	U

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-4 Summary of Other Detected VOC Chemicals in Surface Water Samples (continued)

Compound		**Tetrachloroethene (PCE)**					**Toluene**				
CAS #		**127-18-4**					**108-88-3**				
Tapwater Regional Screening Level[1]		**0.110**					**2300**				
Maximum Contaminant Level[1]		**5.0**					**1000**				
Surface Water Quality Criteria[2]		**None**					**None**				
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek											
SW-01	12/2004 - 2/2007	0 of 10	1	U	5	U	0 of 10	1	U	5	U
SW-02	12/2004	0 of 1	5	U	5	U	0 of 1	5	U	5	U
SW-03	12/2004	0 of 1	5	U	5	U	0 of 1	5	U	5	U
SW-05	12/2004 - 5/2010	1 of 18	0.4	J	0.4	J	2 of 18	0.34	J	1.1	
SW-06	12/2004 - 5/2010	0 of 20	1	U	5	U	2 of 20	0.26	J	0.3	J
SW-15	5/2007 - 8/2009	0 of 9	1	U	1	U	1 of 9	0.42	J	0.42	J
SW-08	12/2004 - 5/2010	0 of 21	1	U	5	U	0 of 21	1	U	5	U
SW-16	5/2007 - 8/2009	0 of 9	1	U	1	U	0 of 9	1	U	1	U
SW-10	12/2004 - 5/2010	0 of 21	1	U	5	U	1 o 21	0.28	J	0.28	J
Clear Creek											
SW-07	11/2004	0 of 1	5	U	5	U	0 of 1	5	U	5	U
SW-09	11/2004 - 5/2010	0 of 21	1	U	5	U	1 of 21	0.29	J	0.29	J
SW-11	12/2004 - 5/2010	0 of 21	1	U	5	U	1 of 21	0.25	J	0.25	J
SW-12	11/2004 - 5/2010	0 of 21	1	U	5	U	0 of 21	1	U	5	U
SW-13	11/2004 - 5/2010	0 of 13	1	U	5	U	0 of 13	1	U	5	U
Silver Creek											
SCW-01	3/2005 - 11/2005	0 of 4	1	U	2	U	0 of 4	1	U	2	U
SCW-03	3/2005 - 2/2007	0 of 9	1	U	2	U	0 of 9	1	U	2	U
SCW-04	3/2006 - 5/2010	0 of 16	1	U	2	U	0 of 16	1	U	2	U
SCW-05	3/2006 - 5/2010	0 of 16	1	U	2	U	1 of 16	0.3	J	0.3	J
SCW-06	3/2005 - 5/2010	0 of 20	1	U	2	U	0 of 20	1	U	2	U

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-5 Summary of other detected explosive chemicals in surface water samples

Compound		1,3-Dinitrobenzene					2,6-Dinitrotoluene					2-Nitrotoluene				
CAS #		99-65-0					606-20-2					88-72-2				
Tapwater Regional Screening Level[1]		3.7					37					0.31				
Maximum Contaminant Level[1]		None					None					None				
Surface Water Quality Criteria[2]		None					None					None				
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek																
SW-01	12/2004 - 2/2007	0 of 10	0.15	U	0.62	U	0 of 10	0.15	U	0.62	U	0 of 10	0.15	U	0.62	U
SW-02	12/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-03	12/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-05	12/2004 - 5/2010	1 of 18	0.25	J	0.25	J	1 of 18	0.16	J	0.16	J	0 of 18	0.15	U	0.62	U
SW-06	12/2004 - 5/2010	1 of 20	0.2	J	0.2	J	1 of 20	0.13	J	0.13	J	1 of 20	0.13	J	0.13	J
SW-15	5/2007 - 8/2009	1 of 9	0.33	J	0.33	J	0 of 9	0.25	U	0.25	U	1 of 9	0.51	J	0.51	J
SW-08	12/2004 - 5/2010	2 of 21	0.13	J	0.17	J	1 of 21	0.099	J	0.099	J	1 of 21	0.15	J	0.15	J
SW-16	5/2007 - 8/2009	1 of 9	0.18	J	0.18	J	1 of 9	0.097	J	0.097	J	0 of 9	0.25	U	0.25	U
SW-10	12/2004 - 5/2010	1 of 21	0.18	J	0.18	J	2 of 21	0.1	J	0.13	J	0 of 21	0.15	U	0.62	U
Clear Creek																
SW-07	11/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-09	11/2004 - 5/2010	0 of 21	0.15	U	0.62	U	0 of 21	0.15	U	0.62	U	0 of 21	0.15	U	0.62	U
SW-11	12/2004 - 5/2010	0 of 21	0.15	U	0.62	U	0 of 21	0.15	U	0.62	U	0 of 21	0.15	U	0.62	U
SW-12	11/2004 - 5/2010	1 of 21	0.025	J	0.025	J	0 of 21	0.15	U	0.62	U	0 of 21	0.15	U	0.62	U
SW-13	11/2004 - 5/2010	1 of 13	0.062	J	0.062	J	1 of 13	0.045	J	0.045	J	1 of 13	0.36	J	0.36	J
Silver Creek																
SCW-01	3/2005 - 11/2005	0 of 4	0.158	U	0.316	U	0 of 4	0.158	U	0.316	U	0 of 4	0.158	U	0.316	U
SCW-03	3/2005 - 2/2007	0 of 9	0.15	U	0.316	U	0 of 9	0.15	U	0.316	U	0 of 9	0.15	U	0.316	U
SCW-04	3/2006 - 5/2010	0 of 16	0.15	U	0.25	U	0 of 16	0.15	U	0.25	U	1 of 16	0.96		0.96	
SCW-05	3/2006 - 5/2010	0 of 16	0.15	U	0.25	U	0 of 16	0.15	U	0.25	U	1 of 16	0.97		0.97	
SCW-06	3/2005 - 5/2010	1 of 20	0.37	J	0.37	J	0 of 20	0.15	U	0.316	U	1 of 16	0.95	J	0.95	J

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-5 Summary of Other Detected Explosive Chemicals in Surface Water Samples (continued)

Compound		**3-Nitrotoluene**					**4-Nitrotoluene**				
CAS #		**99-08-1**					**99-99-0**				
Tapwater Regional Screening Level[1]		**3.7**					**4.2**				
Maximum Contaminant Level[1]		**None**					**None**				
Surface Water Quality Criteria[2]		**None**					**None**				
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek											
SW-01	12/2004 - 2/2007	0 of 10	0.15	U	0.62	U	0 of 10	0.15	U	0.62	U
SW-02	12/2004	0 of 10	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-03	12/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-05	12/2004 - 5/2010	0 of 18	0.15	U	0.62	U	1 of 18	1.7	J	1.7	J
SW-06	12/2004 - 5/2010	0 of 20	0.15	U	0.62	U	2 of 20	0.042	J	1.3	J
SW-15	5/2007 - 8/2009	1 of 9	0.034	J	0.034	J	1 of 9	0.079	J	0.079	J
SW-08	12/2004 - 5/2010	1 of 21	0.08	J	0.08	J	0 of 21	0.15	U	0.62	U
SW-16	5/2007 - 8/2009	0 of 9	0.25	U	0.25	U	0 of 9	0.25	U	0.25	U
SW-10	12/2004 - 5/2010	0 of 21	0.15	U	0.62	U	0 of 21	0.15	U	0.62	U
Clear Creek											
SW-07	11/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-09	11/2004 - 5/2010	0 of 21	0.15	U	0.62	U	0 of 21	0.15	U	0.62	U
SW-11	12/2004 - 5/2010	0 of 21	0.15	U	0.62	U	0 of 21	0.15	U	0.62	U
SW-12	11/2004 - 5/2010	0 of 21	0.15	U	0.62	U	1 of 21	0.57	J	0.57	J
SW-13	11/2004 - 5/2010	0 of 13	0.158	U	0.62	U	0 of 13	0.158	U	0.62	U
Silver Creek											
SCW-01	3/2005 - 11/2005	0 of 4	0.158	U	0.316	U	0 of 4	0.158	U	0.316	U
SCW-03	3/2005 - 2/2007	0 of 9	0.15	U	0.316	U	0 of 9	0.15	U	0.316	U
SCW-04	3/2006 - 5/2010	0 of 16	0.15	U	0.25	U	1 of 6	0.054	J	0.054	J
SCW-05	3/2006 - 5/2010	0 of 16	0.15	U	0.25	U	0 of 16	0.15	U	0.25	U
SCW-06	3/2005 - 5/2010	0 of 20	0.15	U	0.316	U	1 of 20	0.057	J	0.057	J

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-5 Summary of Other Detected Explosive Chemicals in Surface Water Samples (continued)

Compound		**Nitrobenzene**					**Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)**				
CAS #		**98-95-3**					**2691-41-0**				
Tapwater Regional Screening Level[1]		**0.12**					**1800**				
Maximum Contaminant Level[1]		**None**					**None**				
Surface Water Quality Criteria[2]		**1900**					**None**				
Sampling Location	**Sample Dates**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**	**# of detects / # of data points**	**Min**	**Q**	**Max**	**Q**
Johnson Creek											
SW-01	12/2004 - 2/2007	0 of 10	0.15	U	0.62	U	0 of 10	0.15	U	0.62	U
SW-02	12/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-03	12/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-05	12/2004 - 5/2010	0 of 18	0.15	U	0.62	U	1 of 18	0.62	J	0.62	J
SW-06	12/2004 - 5/2010	0 of 20	0.15	U	0.62	U	2 of 20	0.17	J	0.46	J
SW-15	5/2007 - 8/2009	0 of 9	0.25	U	0.25	U	0 of 9	0.25	U	0.25	U
SW-08	12/2004 - 5/2010	0 of 21	0.15	U	0.62	U	16 of 21	0.07	J	0.962	
SW-16	5/2007 - 8/2009	0 of 9	0.25	U	0.25	U	8 of 9	0.075	J	0.36	J
SW-10	12/2004 - 5/2010	0 of 21	0.15	U	0.62	U	13 of 21	0.08	J	0.518	J
Clear Creek											
SW-07	11/2004	0 of 1	0.62	U	0.62	U	0 of 1	0.62	U	0.62	U
SW-09	11/2004 - 5/2010	0 of 21	0.15	U	0.62	U	1 of 21	0.25	J	0.25	J
SW-11	12/2004 - 5/2010	0 of 21	0.15	U	0.62	U	0 of 21	0.15	U	0.62	U
SW-12	11/2004 - 5/2010	0 of 21	0.15	U	0.62	U	1 of 21	0.12	J	0.12	J
SW-13	11/2004 - 5/2010	0 of 13	0.158	U	0.62	U	0 of 13	0.158	U	0.62	U
Silver Creek											
SCW-01	3/2005 - 11/2005	0 of 4	0.158	U	0.316	U	0 of 4	0.158	U	0.316	U
SCW-03	3/2005 - 2/2007	0 of 9	0.15	U	0.316	U	0 of 9	0.15	U	0.316	U
SCW-04	3/2006 - 5/2010	1 of 16	0.057	J	0.057	J	0 of 16	0.15	U	0.25	U
SCW-05	3/2006 - 5/2010	1 of 16	0.097	J	0.097	J	0 of 16	0.15	U	0.25	U
SCW-06	3/2005 - 5/2010	0 of 20	0.15	U	0.316	U	0 of 20	0.15	U	0.316	U

1. Source: USEPA 2010; 2. Source: NDEQ 2009

J: Estimated value analyte detected but concentration below calibration range, Min: minimum, Max: maximum, NA: Not Available, NDEQ: Nebraska Department of Environmental Quality, Q: Laboratory Qualifier, U: Not-detected, USEPA: U.S. Environmental Protection Agency

Note: No data available for SW-02, SW-04, and SW-14

Table 4-6a Summary of Previous Results from the TAGA MS/MS Indoor Air Survey

			Compound	**1,1-Dichloroethene**			**Trichloroethene**		
			CAS #	**75-35-4**			**79-01-6**		
			Units	**μg/m^3**			**μg/m^3**		
			Residential Screening Limit[1]	**None**			**0.43**		
			Industrial Screening Limit[1]	**None**			**3.0**		
Building		**Sample Date**	**Location**	**Result**	**Q**	**DL/QL**	**Result**	**Q**	**DL/QL**
Unit 001	Dairy Farm Manager Residence	10/2007	Kitchen	0.36	J	0.29/0.95	**1.07**	J	0.59/1.93
			Living Room	0.48	J	0.29/0.95	**1.40**	**J**	0.59/1.93
			Bathroom 1	0.40	J	0.29/0.95	**1.40**	**J**	0.59/1.93
			Recreation Room	0.71	J	0.29/0.95	**1.45**	**J**	0.59/1.93
			Basement Storage Room	0.37	J	0.29/0.95	**1.40**	**J**	0.59/1.93
			Sub-slab probe	0.33	J	0.29/0.95	**1.40**	**J**	0.59/1.93
			Bathroom 2	0.32	J	0.29/0.95	**1.40**	**J**	0.59/1.93
			Laundary Room	0.35	J	0.29/0.95	**1.29**	**J**	0.59/1.93
			Floor Drain	0.36	J	0.29/0.95	**1.24**	**J**	0.59/1.93
Unit 003	Feed Mill	NO INDOOR AIR MONITORING							
Unit 006	UNL Equipment Storage	10/2007	North end of Building	0.35	U	0.35/1.15	**1.18**		0.10/0.34
			Center of Building	0.35	U	0.35/1.15	**2.90**		0.10/0.34
			South end of Building	0.35	U	0.35/1.15	**2.20**		0.10/0.34
			Sub-slab Port 1	0.35	U	0.35/1.15	**1.72**		0.10/0.34
Unit 011	Feed Mill Office	NO INDOOR AIR MONITORING							

1. Source: USEPA 2010, Updated Novermber 2010

Bolded values indicate the result exceeds the Residential Screening limit.

Shaded values indicate the result exceeds the Industrial Screening Limit (when applicable).

CAS--Chemical Abstract Service, m^3--cubic meter, DL--Detection Limit, J--Estimated value
mg--microgram, MS/MS--tandem mass spectrometry, Q--Laboratory Qualifier, QL--Quantification Limit,
TAGA--Trace Atmospheric Gas Analyzer, U--Not detected (DL listed)

Table 4-6b Summary of Previous Results from the Tedlar Bag Soil Gas Survey

		Compound	cis-1,2-Dichloroethene			trans-1,2-Dichloroethene			Trichloroethene			Vinyl chloride		
		CAS #	156-59-2			156-60-5			79-01-6			75-01-4		
		Units	µg/m^3			µg/m^3			µg/m^3			µg/m^3		
		Residential Screening Limit[1]	None			630			0.43			1.6		
		Industrial Screening Limit[1]	None			2600			3.0			28		
Sample Location		**Sample Date**	**Result**	**Q**	**LOQ**	**Result**	**Q**	**LOQ**	**Result**	**Q**	**LOQ**	**Result**	**Q**	**LOQ**
SUB-SLAB SOIL GAS														
Unit 001	Dairy Farm Manager Residence	10/2/2007	1.985	U	1.985	1.985	U	1.985	2.685	U	2.685	1.280	U	1.280
		10/3/2007	1.985	U	1.985	1.985	U	1.985	2.685	U	2.685	1.280	U	1.280
Unit 003	Feed Mill	10/2/2007	1.985	U	1.985	1.985	U	1.985	2.685	U	2.685	1.280	U	1.280
		10/3/2007	1.985	U	1.985	1.985	U	1.985	2.685	U	2.685	1.280	U	1.280
Unit 006	UNL Equipment Storage	10/2/2007	1.985	U	1.985	1.985	U	1.985	**1020**		2.685	1.280	U	1.280
		10/3/2007	1.985	U	1.985	1.985	U	1.985	**912.9**		2.685	1.280	U	1.280
	N. Post 4	10/3/2007	2.541		1.985	23.82		1.985	**69,810**	**D**	268.5	1.280	U	1.280
	N. Post 7/8	10/3/2007	5.161		1.985	210.4		1.985	**204,060**	**D**	5370	1.280	U	1.280
	N. Post 12/13	10/3/2007	1.985	U	1.985	1.985	U	1.985	**145.0**		2.685	1.280	U	1.280
	N. Post 16	10/3/2007	1.985	U	1.985	1.985	U	1.985	**9666**		268.5	1.280	U	1.280
Unit 011	Feed Mill Office	10/2/2007	1.985	U	1.985	1.985	U	1.985	2.685	U	2.685	1.280	U	1.280
		10/3/2007	1.985	U	1.985	1.985	U	1.985	2.685	U	2.685	1.280	U	1.280

1. Source: USEPA 2010, Updated November 2010

Bolded values indicate the result exceeds the Residential Screening limit.

Shaded values indicate the result exceeds the Industrial Screening Limit (when applicable).

CAS--Chemical Abstract Service, ID--Identification, m^3--cubic meter, LOQ--Limit of Quantification, Q--Lab Qualifier, µg--microgram, D: Result from an analysis at a secondary dilution factor, U: Not detected (LOQ listed)

Table 4-7 Summary of Results from Summa Canisters for Indoor Air, Sub-slab Soil Gas, and Ambient Air Samples

			Compound	cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Trichloroethene		Vinyl chloride	
			CAS #	156-59-2		156-60-5		79-01-6		75-01-4	
			Units	µg/m^3		µg/m^3		µg/m^3		µg/m^3	
			Residential Screening Limit[1]	None		63		0.43		0.16	
			Industrial Screening Limit[1]	None		260		3.0		2.8	
Sample Location	**Sample Date**	**Sample Type**	**Location**	**Result Q**	**MDL**	**Result Q**	**MDL**	**Result Q**	**MDL**	**Result Q**	**MDL**
Unit 001	10/2/2007	Indoor Air	1st floor	0.266 U	0.278	0.266 U	0.278	**0.644**	0.376	0.256 U	0.179
Dairy Farm			Basement	0.254 U	0.278	0.254 U	0.278	**0.698**	0.376	0.256 U	0.179
Manager Residence		Sub-slab Soil Gas	Basement	0.075 U	0.397	0.075 U	0.397	0.129	0.537	0.077 U	0.256
	9/14/2010	Indoor Air	Basement	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
			Basement	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
			Basement	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
		Sub-slab Soil Gas	Basement	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
			Basement	0.79 U	0.2	0.79 U	0.2	**0.5 J**	0.075	0.51 U	0.064
Unit 003	10/2/2007	Sub-slab Soil Gas	Basement	0.040 U	0.397	0.044	0.397	0.040 U	0.537	0.041 U	0.256
Feed Mill	9/14/2010	Indoor Air	Basement	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
			1st floot	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
	11/2/2010	Indoor Air	1st floor	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
			Basement	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
		Sub-slab Soil Gas	Basement	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
Unit 006	10/2/2007	Sub-slab Soil Gas	Sub-slab soil gas	3.891 U	0.397	3.891 U	0.397	**1020**	0.537	3.840 U	0.256
UNL Equipment	9/14/2010	Indoor Air	North	0.79 U	0.2	0.79 U	0.2	**5.2**	0.075	0.51 U	0.064
Storage			Central	0.79 U	0.2	0.79 U	0.2	**9.2**	0.075	0.51 U	0.064
		Sub-slab Soil Gas	North	780 U	49	780 U	49	**150,000**	14	500 U	25
Unit 011	10/2/2007		Sub-slab soil gas	0.040 U	0.397	0.040 U	0.397	0.290	0.537	0.041 U	0.256
Feed Mill Office	9/14/2010	Indoor Air	1st Floor - Office	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
			1st Floor - Break Room	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
		Sub-slab Soil Gas	Sub-slab soil gas	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
Ambient Air											
Unit 001	9/14/2010	Ambient	Unit 001	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
Unit 003	11/2/2010	Ambient	Unit 003	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
Unit 006	10/2/2007	Ambient	Unit 006	0.040 U	0.278	0.040 U	0.278	0.188	0.376	0.038 U	0.179
Unit 006	9/14/2010	Ambient	Unit 006	0.79 U	0.2	0.79 U	0.2	1.1 U	0.075	0.51 U	0.064
Unit 010	10/2/2007	Ambient	Unit 010	0.040 U	0.278	0.040 U	0.278	0.124	0.041	0.041 U	0.041
	10/2/2007	Field Blank		0.025 U	0.278	0.025 U	0.278	0.025 U	0.376	0.025 U	0.179

1. Source: USEPA 2010, Updated November 2010

Bolded values indicate the result exceeds the Residential Screening limit.

Shaded values indicate the result exceeds the Industrial Screening Limit (when applicable).

CAS--Chemical Abstract Service, ID--Identification, m^3--cubic meter, MDL--Method Detection Limit, Q--Lab Qualifier, µg--microgram

J: Estimated value analyte detected but concentration below calibration range, U: Not detected (RL listed)

Table 6-1 Summary of Surface Soil Screening for the North Burning Grounds and Potential Landfill Area

Compound	CAS #	# Detects	MDC (mg/kg)	Q	Residential RSL for Soil (mg/kg)	Industrial RSL for Soil (mg/kg)	Number of Residential RSL exceedances	Background Threshold Value [1] (mg/kg)	COPC status	Rationale
Aluminum	7429-90-5	40	19,700		77,000	990,000	0	22,769	no	MDC < Res. RSL
Antimony	7440-36-0	25	47.1		31	410	1	None	***yes***	MDC > Res. RSL
Arsenic	7440-38-2	40	9.9		0.39	1.6	40	9.477	***yes***	MDC > Res. RSL, Background Threshold Value
Barium	7440-39-3	40	422		15,000	190,000	0	253	no	MDC < Res. RSL
Beryllium	7440-41-7	40	0.88		160	2000	0	0.86	no	MDC < Res. RSL
Cadmium	7440-43-9	40	1.4		70	800	0	0.354	no	MDC < Res. RSL
Calcium	7440-70-2	40	150,000		None	None	NA	3830	no	See note: 2
Chromium*	7440-47-3	40	79.8		120,000	1,500,000	0	23.06	no	MDC < Res. RSL
Cobalt	7440-48-4	40	10.8		23	300	0	10.29	no	MDC < Res. RSL
Copper	7440-50-8	40	206		3100	41000	0	23.15	no	MDC < Res. RSL
Iron	7439-89-6	40	29,300		55,000	720,000	0	21,000	no	MDC < Res. RSL
Lead	7439-92-1	40	333		400	800	0	15.92	no	MDC < Res. RSL
Magnesium	7439-95-4	40	35,300		None	None	NA	4639	no	See note: 2
Manganese	7439-96-5	40	671		1800	23,000	NA	659.8	no	MDC < Res. RSL
Mercury	7439-97-6	22	0.052		5.6	34	0	NA	no	MDC < Res. RSL
Nickel	7440-02-0	40	36.6		1500	20,000	0	27.02	no	MDC < Res. RSL
Potassium	7440-09-7	40	3440	J	None	None	NA	3759	no	MDC < Background Threshold Value
Selenium	7782-49-2	14	4.4		390	5100	0	NA	no	MDC < Res. RSL
Silver	7440-22-4	19	17.1		390	5100	0	NA	no	MDC < Res. RSL
Sodium	7440-23-5	27	351		None	None	NA	NA	no	See note: 2
Thallium	7440-28-0	2	3.1		None	None	NA	NA	no	See note: 3; detected in 2 out of 40 samples
Vanadium*	7440-62-2	40	35.2		390	5200	0	45.06	no	MDC < Res. RSL
Zinc	7440-66-6	40	728		23,000	310,000	0	74.55	no	MDC < Res. RSL

CAS: Chemical Abstract Service, COPC: Chemical of Potential Concern, J: Estimated value, MDC: Maximum Detected Concentration, mg/kg: milligrams per kilogram, Q: Laboratory Qualifier, RSL: Residential Screening Level

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

[2] Nutrient, assume soil ingestion rate of 100 mg/day and the soil is composed of pure chemical, the chemical intake is below daily recommended dietary allowances

[3]USEPA Regional Screening Levels (RSL) unavailable

Source of Regional Screening Levels, USEPA 2010, Updated November 2010.

* Chromium (III) screening levels used, 'Vanadium and Compounds' screening level used

Table 6-2 Summary of Subsurface Soil Screening for the North Burning Grounds and Potential Landfill Area

Compound	CAS #	# Detects	MDC (mg/kg)	Q	Residential RSL for Soil (mg/kg)	Industrial RSL for Soil (mg/kg)	Number of Residential RSL exceedances	Background Threshold Value [1] (mg/kg)	COPC status	Rationale
Aluminum	7429-90-5	108	22,200	J	77,000	990,000	0	22,769	no	MDC < Res. RSL
Antimony	7440-36-0	48	47.1	J	31	410	0	None	***yes***	MDC > Res. RSL
Arsenic	7440-38-2	105	20.2		0.39	1.6	105	9.477	***yes***	MDC > Res. RSL, Background Threshold Value
Barium	7440-39-3	108	422	J	15,000	190,000	0	253	no	MDC < Res. RSL
Beryllium	7440-41-7	104	3.1		160	2000	0	0.86	no	MDC < Res. RSL
Cadmium	7440-43-9	104	3.9	J	70	800	0	0.354	no	MDC < Res. RSL
Calcium	7440-70-2	108	150,000		None	None	NA	3830	no	See Notes: 2,3
Chromium*	7440-47-3	108	79.8		120,000	1,500,000	0	23.06	no	MDC < Res. RSL
Cobalt	7440-48-4	108	37.7		23	300	1	10.29	***yes***	MDC > Res. RSL
Copper	7440-50-8	107	255		3100	41000	0	23.15	no	MDC < Res. RSL
Iron	7439-89-6	108	113,000	J	55,000	720,000	1	21,000	***yes***	MDC > Res. RSL
Lead	7439-92-1	106	338		400	800	0	15.92	no	MDC < Res. RSL
Magnesium	7439-95-4	108	35,300		None	None	NA	4639	no	See Note: 2; detected in 4 out of 108 samples
Manganese	7439-96-5	108	1010		1800	23,000	NA	659.8	no	MDC < Res. RSL
Mercury	7439-97-6	59	0.064		5.6	34	0	NA	no	MDC < Res. RSL
Nickel	7440-02-0	108	67.5		1500	20,000	0	27.02	no	MDC < Res. RSL
Potassium	7440-09-7	108	3260		None	None	NA	3759	no	MDC < Background Threshold Value
Selenium	7782-49-2	33	4.4		390	5100	0	NA	no	MDC < Res. RSL
Silver	7440-22-4	46	17.1		390	5100	0	NA	no	MDC < Res. RSL
Sodium	7440-23-5	74	1350		None	None	NA	NA	no	See Note: 2; detected in 4 out of 108 samples
Thallium	7440-28-0	7	4.4	J	None	None	NA	NA	no	See Note: 2; detected in 4 out of 108 samples
Vanadium*	7440-62-2	108	52.2		390	5200	0	45.06	no	MDC < Res. RSL
Zinc	7440-66-6	107	772	J	23,000	310,000	0	74.55	no	MDC < Res. RSL

CAS: Chemical Abstract Service, COPC: Chemical of Potential Concern, J: Estimated value, MDC: Maximum Detected Concentration, mg/kg: milligrams per kilogram, Q: Laboratory Qualifier, RSL: Residential Screening Level

[1] Background Threshold Value is the calculated 95% Upper Prediction Limit (ProUCL 4.1.00) using background soil samples from URS 2000a, URS 2000b.

[2] Nutrient, assume soil ingestion rate of 100 mg/day and the soil is composed of pure chemical, the chemical intake is below daily recommended dietary allowances

[3]USEPA Regional Screening Levels (RSL) unavailable

Source of Regional Screening Levels, USEPA 2010, Updated November 2010.

* Chromium (III) screening levels used, 'Vanadium and Compounds' screening level used

Table 6-3 Screening Summary of Site-related and Other Detected Chemicals for Johnson Creek

Compound	CAS #	# Detects	Total Samples	MDC (µg/L)	Mean Concentration (µg/L)	Min RL (2006-2010) (µg/L)	Max RL (2006-2010) (µg/L)	Min MDL (2006-2010) (µg/L)	Max MDL (2006-2010) (µg/L)	NDEQ Surface Water Quality (µg/L)	COPC Status	Rationale
1,2-Dichloropropane	78-87-5	0	118	ND	ND	1.0	2.0	0.068	0.210	390	no	Not detected
Acetone	67-64-1	40	110	9.3	3.248	2.0	25.0	0.612	7.9	None	***yes***	
2-Butanone	78-93-3	4	110	5.4	4.6	1.0	10.0	0.063	1.29	None	no	Detected in 4 out of 110 samples (<5%)
Chloroform(1)	67-66-3	6	110	0.48	0.272	1.0	2.0	0.041	0.214	1240	***yes***	
cis-1,2-dichloroethene	156-59-2	42	118	4.27	0.705	1.0	2.0	0.065	0.151	70	***yes***	
Methylene Chloride	75-09-2	2	118	2.6	1.8	1.0	2.0	0.069	0.398	16000	no	Detected in 4 out of 110 samples (<5%)
Naphthalene	91-20-3	1	110	1.0	1.0	1.0	2.0	0.059	0.139	620	no	Detected in 1 out of 110 samples (<5%)
Tetrachloroethene (PCE)	127-18-4	1	110	0.4	0.4	1.0	2.0	0.056	0.340	88.5	no	Detected in 1 out of 110 samples (<5%)
Toluene	108-88-3	6	110	1.1	0.45	1.0	5.0	0.059	0.980	200,000	***yes***	
trans-1,2-dichloroethene	156-60-5	0	118	ND	ND	1.0	2.0	0.059	0.152	140,000	no	Not detected
Trichloroethene (TCE) (2)	79-01-6	71	118	56.1	14.09	1.0	2.0	0.058	0.170	810	***yes***	
Vinyl Chloride	75-01-4	0	118	ND	ND	1.0	2.0	0.062	0.340	5250	no	Not detected
1,3-Dinitrobenzene	99-65-0	7	110	0.3	0.206	0.15	0.75	0.012	0.375	None	***yes***	
1,3,5-Trinitrobenzene (TNB)	99-35-4	1	125	0.079	0.079	0.15	0.75	0.011	0.375	None	no	Detected in 1 out of 125 samples (<5%)
2-Amino-2,6-Dinitrotoluene	35572-78-2	1	118	0.120	0.120	0.15	0.75	0.015	0.375	None	no	Detected in 1 out of 118 samples (<5%)
2-Nitrotoluene	88-72-2	3	110	0.51	0.26	0.15	0.75	0.017	0.375	None	no	Detected in 3 out of 110 samples (<5%)
2,4-Dinitrotoluene	121-14-2	2	118	0.2	0.2	0.15	0.75	0.0097	0.375	91	no	Detected in 2 out of 118 samples (<5%)
2,4,6-Trinitrotoluene (TNT)	118-96-7	4	118	0.069	0.062	0.15	0.75	0.012	0.375	None	no	Detected in 4 out of 118 samples (<5%)
2,6-Dinitrotoluene	606-20-2	6	104	1.160	0.119	0.15	0.75	0.017	0.375	None	***yes***	
3-Nitrotoluene	99-08-1	2	110	0.080	0.057	0.15	0.75	0.017	0.375	None	no	Detected in 2 out of 110 samples (<5%)
4-Amino-2,6-Dinitrotoluene	19406-51-0	29	118	1.80	0.78	0.15	0.75	0.022	0.375	None	***yes***	
4-Nitrotoluene	99-99-0	4	110	1.70	0.78	0.15	0.75	0.026	0.375	None	no	Detected in 4 out of 110 samples (<5%)
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	72	118	6.78	1.48	0.15	0.75	0.017	0.375	None	***yes***	
Nitrobenzene	98-95-3	0	110	ND	ND	0.15	0.75	0.021	0.375	1900	no	Not detected
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetraocine (HMX)	2691-41-0	40	110	0.962	0.231	0.15	0.75	0.018	0.375	None	***yes***	

CAS: Chemical Abstract Service, COPC: Chemical of Potential Concern, ND: Non-detect, NDEQ: Nebraska Department of Environmental Quality, MCL: Maximum Contaminant Level, MDC: Maximum Detected Concentration, MDL: Method Detection Limit, RL: Reporting Limit, RSL: Regional Screening Level, µg/L: micrograms per liter

(1) Chloroform will be analyzed for non-cancer effects only, as IRIS recoginizes that chloroform is unlikely to cause cancer.

(2) A higher TCE concentration of 66 µg/L was detected in February of 2011 in Johnson Creek after the completion of this report, but was below the calculated PRG of 112 µg/L (see Section 7.4).

Table 6-4 Screening Summary of Site-related and Other Detected Chemicals for Clear Creek

Compound	CAS #	# Detects	Total Samples	MDC (µg/L)	Mean Concentration (µg/L)	Min RL (2006-2010) (µg/L)	Max RL (2006-2010) (µg/L)	Min MDL (2006-2010) (µg/L)	Max MDL (2006-2010) (µg/L)	NDEQ Surface Water Quality (µg/L)	COPC Status	Rationale
1,2-Dichloropropane	78-87-5	0	85	ND	ND	1.0	2.0	0.068	0.210	390	no	Not detected
Acetone	67-64-1	23	77	4.3	2.77	2.0	25.0	0.612	7.9	None	***yes***	
2-Butanone	78-93-3	4	77	4.9	3.875	1.0	10.0	0.063	1.29	None	***yes***	
Chloroform	67-66-3	0	77	ND	ND	1.0	2.0	0.041	0.214	1240	no	Not detected
cis-1,2-Dichloroethene	156-59-2	0	85	ND	ND	1.0	2.0	0.065	0.151	70	no	Not detected
Methylene Chloride	75-09-2	4	85	4	3.25	1.0	2.0	0.069	0.398	16000	no	Detected in four out of 85 samples (<5%)
Naphthalene	91-20-3	1	77	0.42	0.42	1.0	2.0	0.059	0.139	620	no	Detected in one out of 77 samples (<5%)
Tetrachloroethene (PCE)	127-18-4	0	77	ND	ND	1.0	2.0	0.056	0.340	88.5	no	Not detected
Toluene	108-88-3	2	77	0.29	0.27	1.0	5.0	0.059	0.980	200,000	no	Detected in two out of 77 samples (<5%)
trans-1,2-dichloroethene	10061-02-6	0	77	ND	ND	1.0	2.0	0.059	0.152	140,000	no	Not detected
Trichloroethene (TCE)	79-01-6	35	85	4.1	1.751	1.0	2.0	0.058	0.170	810	***yes***	
Vinyl Chloride	75-01-4	0	85	ND	ND	1.0	2.0	0.062	0.340	5250	no	Not detected
1,3-Dinitrobenzene	99-65-0	2	77	0.062	0.0435	0.15	0.75	0.012	0.375	None	no	Detected in two out of 77 samples (<5%)
1,3,5-Trinitrobenzene (TNB)	99-35-4	4	85	0.023	0.0198	0.15	0.75	0.011	0.375	None	no	Detected in four out of 85 samples (<5%)
2,4-Dinitrotoluene	121-14-2	0	85	ND	ND	0.15	0.75	0.015	0.375	None	no	Not detected
2-Amino-2,6-Dinitrotoluene	35572-78-2	0	85	ND	ND	0.15	0.75	0.017	0.375	None	no	Not detected
2-Nitrotoluene	88-72-2	1	77	0.36	0.36	0.15	0.75	0.0097	0.375	91	no	Detected in one out of 77 samples (<5%)
2,4,6-Trinitrotoluene (TNT)	118-96-7	2	85	0.093	0.069	0.15	0.75	0.012	0.375	None	no	Detected in two out of 85 samples (<5%)
2,6-Dinitrotoluene	606-20-2	1	77	0.045	0.045	0.15	0.75	0.017	0.375	None	no	Detected in one out of 77 samples (<5%)
3-Nitrotoluene	99-08-1	0	77	ND	ND	0.15	0.75	0.017	0.375	None	no	Not detected
4-Amino-2,6-Dinitrotoluene	19406-51-0	1	85	0.25	0.25	0.15	0.75	0.022	0.375	None	no	Detected in one out of 85 samples (<5%)
4-Nitrotoluene	99-99-0	1	77	0.57	0.57	0.15	0.75	0.026	0.375	None	no	Detected in one out of 77 samples (<5%)
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	25	85	1.7	0.327	0.15	0.75	0.017	0.375	None	***yes***	
Nitrobenzene	98-95-3	0	77	ND	ND	0.15	0.75	0.021	0.375	1900	no	Not detected
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetraocine (HMX)	2691-41-0	2	77	0.25	0.185	0.15	0.75	0.018	0.375	None	no	Detected in two out of 77 samples (<5%)

CAS: Chemical Abstract Service, COPC: Chemical of Potential Concern, ND: Non-detect, NDEQ: Nebraska Department of Environmental Quality, MCL: Maximum Contaminant Level, MDC: Maximum Detected Concentration, MDL: Method Detection Limit, RL: Reporting Limit, RSL: Regional Screening Level, µg/L: micrograms per liter

Table 6-5 Screening Summary of Site-related and Other Detected Chemicals for Silver Creek

Compound	CAS #	# Detects	Total Samples	MDC (µg/L)	Mean Concentration (µg/L)	Min RL (2006-2010) (µg/L)	Max RL (2006-2010) (µg/L)	Min MDL (2006-2010) (µg/L)	Max MDL (2006-2010) (µg/L)	NDEQ Surface Water Quality (µg/L)	COPC Status	Rationale
1,2-Dichloropropane	78-87-5	0	71	ND	ND	1.0	2.0	0.068	0.210	390	no	Not detected
Acetone	67-64-1	15	65	8.1	3.827	2.0	25.0	0.612	7.9	None	***yes***	
2-Butanone	78-93-3	3	65	4.7	4.4	1.0	10.0	0.063	1.29	None	no	Detected in 3 out of 65 samples (<5%)
Chloroform	67-66-3	0	65	ND	ND	1.0	2.0	0.041	0.214	1240	no	Not detected
cis-1,2-Dichloroethene	156-59-2	0	71	ND	ND	1.0	2.0	0.065	0.151	70	no	Not detected
Methylene Chloride	75-09-2	0	71	ND	ND	1.0	2.0	0.069	0.398	16000	no	Not detected
Naphthalene	91-20-3	0	65	ND	ND	1.0	2.0	0.059	0.139	620	no	Not detected
Tetrachloroethene (PCE)	127-18-4	0	65	ND	ND	1.0	2.0	0.056	0.340	88.5	no	Not detected
Toluene	108-88-3	1	65	0.3	0.3	1.0	5.0	0.059	0.980	200,000	no	Detected in one out of 65 samples (<5%)
trans-1,2-Dichloroethene	156-60-5	0	71	ND	ND	1.0	2.0	0.059	0.152	140,000	no	Not detected
Trichloroethene (TCE)	79-01-6	0	71	ND	ND	1.0	2.0	0.058	0.170	810	no	Not detected
Vinyl Chloride	75-01-4	0	71	ND	ND	1.0	2.0	0.062	0.340	5250	no	Not detected
1,3-Dinitrobenzene	99-65-0	1	65	0.37	0.37	0.15	0.75	0.012	0.375	None	no	Detected in one out of 65 samples (<5%)
1,3,5-Trinitrobenzene (TNB)	99-35-4	3	71	0.031	0.027	0.15	0.75	0.011	0.375	None	no	Detected in three out of 71 samples (<5%)
2,4-Dinitrotoluene	121-14-2	0	71	ND	ND	0.15	0.75	0.015	0.375	None	no	Not detected
2-Amino-2,6-Dinitrotoluene	35572-78-2	0	71	ND	ND	0.15	0.75	0.017	0.375	None	no	Not detected
2-Nitrotoluene	88-72-2	3	65	0.97	0.96	0.15	0.75	0.0097	0.375	91	no	Detected in 3 out of 77 samples (<5%)
2,4,6-Trinitrotoluene (TNT)	118-96-7	0	71	ND	ND	0.15	0.75	0.012	0.375	None	no	Not detected
2,6-Dinitrotoluene	606-20-2	0	65	ND	ND	0.15	0.75	0.017	0.375	None	no	Not detected
3-Nitrotoluene	99-08-1	0	65	ND	ND	0.15	0.75	0.017	0.375	None	no	Not detected
4-Amino-2,6-Dinitrotoluene	19406-51-0	4	71	1.8	1.351	0.15	0.75	0.022	0.375	None	***yes***	
4-Nitrotoluene	99-99-0	2	65	0.057	0.0555	0.15	0.75	0.026	0.375	None	no	Detected in two out of 65 samples (<5%)
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	1	71	0.2	0.157	0.15	0.75	0.017	0.375	None	no	Detected in one out of 71 samples (<5%)
Nitrobenzene	98-95-3	2	65	0.1	0.077	0.15	0.75	0.021	0.375	1900	no	Detected in 2 out of 65 samples (<5%)
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetraocine (HMX)	2691-41-0	0	65	ND	ND	0.15	0.75	0.018	0.375	None	no	Not detected

CAS: Chemical Abstract Service, COPC: Chemical of Potential Concern, ND: Non-detect, NDEQ: Nebraska Department of Environmental Quality, MCL: Maximum Contaminant Level, MDC: Maximum Detected Concentration, MDL: Method Detection Limit, RL: Reporting Limit, RSL: Regional Screening Level, µg/L: micrograms per liter

Table 6-6 Screening Summary of Indoor Air Samples for Unit 001 (Dairy Farm Manager Residence) Overlying Load Line 1 TCE Plume

Analyte	Result ($\mu g/m^3$)	MDL ($\mu g/m^3$)	Residential Air Screening Level ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	COPC Status	Rationale
Cis-1,2-dichloroethene	0.79 U	0.2	None	None	no	Non-detect, no screening levels available
Trans-1,2-dichloroethene	0.79 U	0.2	63	260	no	Non-detect, MDL below SL
Trichloroethene	0.698	0.376	0.43	3	***yes***	Result above Residential SL
Vinyl chloride	0.51 U	0.064	0.16	2.8	no	MDL below Residential SL

COPC: contaminant of potential concern, MDL: Method detection limit, SL: Screening level, U: non-detect value, TCE: trichloroethene, µg/m3: micrograms per cubic meter

Table 6-7 Screening Summary of Indoor Air Samples for Unit 003 (Feed Mill) Overlying Load Line 1 TCE Plume

Analyte	Result ($\mu g/m^3$)	MDL ($\mu g/m^3$)	Residential Air Screening Level ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Screening Decision	Rationale
Cis-1,2-dichloroethene	0.79 U	0.2	None	None	no	Non-detect, no screening levels available
Trans-1,2-dichloroethene	0.79 U	0.2	63	260	no	Non-detect, MDL below SL
Trichloroethene	1.1 U	0.075	0.43	3	no	MDL below Residential SL
Vinyl chloride	0.51 U	0.064	0.16	2.8	no	MDL below Residential SL

MDL: Method detection limit, SL: Screening level, U: non-detect value, TCE: trichloroethene, µg/m3: micrograms per cubic meter

Table 6-8 Screening Summary of Indoor Air Samples for Unit 006 (UNL Equipment Storage) Overlying Load Line 1 TCE Plume

Analyte	Result ($\mu g/m^3$)	MDL ($\mu g/m^3$)	Residential Air Screening Level ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Screening Decision	Rationale
Cis-1,2-dichloroethene	0.79 U	0.2	None	None	no	Non-detect, no screening levels available
Trans-1,2-dichloroethene	0.79 U	0.2	63	260	no	Non-detect, MDL below SL
Trichloroethene	9.2	0.075	0.43	3	***yes***	Result above SL
Vinyl chloride	0.51 U	0.064	0.16	2.8	no	MDL below Residential SL

MDL: Method detection limit, SL: Screening level, U: non-detect value, TCE: trichloroethene, µg/m3: micrograms per cubic meter

Table 6-9 Screening Summary of Indoor Air Samples for Unit 011 (Feed Mill Office) Overlying Load Line 1 TCE Plume

Analyte	Result ($\mu g/m^3$)	MDL ($\mu g/m^3$)	Residential Air Screening Level ($\mu g/m^3$)	Industrial Air Screening Level ($\mu g/m^3$)	Screening Decision	Rationale
Cis-1,2-dichloroethene	0.79 U	0.2	None	None	no	Non-detect, no screening levels available
Trans-1,2-dichloroethene	0.79 U	0.2	63	260	no	Non-detect, MDL below SL
Trichloroethene	1.1 U	0.075	0.43	3	no	MDL below Residential SL
Vinyl chloride	0.51 U	0.064	0.16	2.8	no	MDL below Residential SL

MDL: Method detection limit, SL: Screening level, U: non-detect value, TCE: trichloroethene, µg/m3: micrograms per cubic meter

Table 6-10 Summary Statistics and Exposure Point Concentrations for Chemicals of Potential Concern in Surface and Subsurface Soil in the North Burning Grounds and Potential Landfill Area

	# Detects	# Non-detects	% Non-detects	Minimum (mg/kg)	Maximum (mg/kg)	Mean (mg/kg)	Median (mg/kg)	ProUCL EPC (mg/kg)	Distribution	Basis for ProUCL Exposure Point Concentration	EPC (mg/kg)	Basis for EPC
Surface Soil (0 - 0.5 ft bgs)												
Antimony	25	7	21.9%	0.38	47.1	3.56	1.2	12.14	--	97.5% KM (Chebyshev) UCL	12.14	ProUCL Recommended
Arsenic	40	0	0.0%	1.2	9.9	6.775	6.8	7.324	--	95% Student's-t UCL	7.324	ProUCL Recommended
Suface and Subsurface Soil (0 - 8 ft bgs)												
Antimony	48	34	41.46%	0.29	47.1	3.688	1.15	5.444	--	95% KM (BCA) UCL	5.444	ProUCL Recommended
Arsenic	105	3	2.78%	0.8	20.2	7.603	7.8	7.972	--	95% KM (BCA) UCL	7.972	ProUCL Recommended
Cobalt	108	0	0.00%	0.36	37.7	8.803	8.8	10.32	--	95% Chebyshev (Mean, Sd) UCL	10.32	ProUCL Recommended
Iron	108	0	0.00%	1100	113,000	18,582	18,400	23146	--	95% Chebyshev (Mean, Sd) UCL	23146	ProUCL Recommended

EPC: Exposure Point Concentration, ft bgs: feet below ground surface, mg/kg: milligrams per kilogram, UCL: Upper Confidence Limit

Table 6-11 Summary Statistics and Exposure Point Concentrations for Chemicals of Potential Concern in Johnson Creek, Clear Creek, and Silver Creek

Compound	CAS #	# Detects [1]	# Non-detects	% Non-detects	Statistics for Detected Values: Minimum (µg/L)	Maximum (µg/L)	Mean (µg/L)	Median (µg/L)	Standard Deviation (µg/L)	ProUCL recommended UCL95 (µg/L)	UCL95 Calculation Method	Distribution	EPC (µg/L)	Basis for EPC
Johnson Creek (SW-08, SW-16, SW-10)														
Acetone	67-64-1	17	34	66.67%	1.4	7.2	3.288	2.9	1.71	2.898	95% KM(t) UCL	Gamma	2.898	ProUCL recommended UCL
Chloroform	67-66-3	5	46	90.20%	0.2	0.26	0.23	0.22	0.0245	0.248	95% KM (t) UCL	Normal	0.248	ProUCL recommended UCL
cis-1,2-Dichloroethene	156-59-2	42	13	23.64%	0.24	4.27	0.705	0.425	0.742	0.825	95% KM (BCA) UCL	--	0.825	ProUCL recommended UCL
Toluene	108-88-3	1	50	98.04%	0.28	0.28	0.28	0.28	N/A	NA			0.28	Max. detected concentration
Trichloroethene (TCE)	79-01-6	54	1	1.82%	0.47	56.1	18.18	15.1	11.59	20.61	95% KM (BCA) UCL	Gamma	20.61	ProUCL recommended UCL
1,3-Dinitrobenzene	99-65-0	4	47	92.16%	0.13	0.18	0.165	0.175	0.0238	0.144	95% KM (t) UCL	Normal	0.144	ProUCL recommended UCL
2,6-Dinitrotoluene	606-20-2	1	54	98.18%	0.05	0.05	0.05	0.05	N/A	NA			0.05	Max. detected concentration
4-Amino-2,6-Dinitrotoluene	19406-51-0	25	30	54.55%	0.034	1.5	0.238	0.074	0.452	0.224	95% KM (BCA) UCL	--	0.224	ProUCL recommended UCL
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	55	0	0.00%	0.16	6.78	1.557	1.3	1.305	2.324	Use 95% Chebyshev (Mean, Sd) UCL	--	2.324	ProUCL recommended UCL
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetraocine (HMX)	2691-41-0	37	14	27.45%	0.07	0.962	0.216	0.14	0.184	0.232	95% KM (BCA) UCL	--	0.232	ProUCL recommended UCL
Clear Creek (SW-12, SW-13)														
Acetone	67-64-1	12	22	64.71%	1.6	4.3	2.85	2.85	0.768	2.895	95% KM (t) UCL	Normal	2.895	ProUCL recommended UCL
2-Butanone	78-93-3	1	33	97.06%	4.8	4.8	4.8	4.8	N/A	NA			4.80	Max. detected concentration
Trichloroethene (TCE)	79-01-6	35	3	7.89%	0.56	4.1	1.751	1.6	0.925	1.982	95% KM (BCA) UCL	Gamma	1.982	ProUCL recommended UCL
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	25	13	34.21%	0.067	1.7	0.327	0.25	0.316	0.345	95% KM (Percentile Bootstrap) UCL	Gamma	0.345	ProUCL recommended UCL
Silver Creek														
Acetone	67-64-1	15	50	77%	1.4	8.1	3.827	2.8	2.109	2.659	95% KM (t) UCL	Gamma	2.659	ProUCL recommended UCL
4-Amino-2,6-Dinitrotoluene	19406-51-0	4	67	94%	0.202	1.8	1.351	1.7	0.767	NA	NA	NA	1.80	Max. detected concentration

[1] See Tables 6-3 and 6-4 for detection limits.

NA: Statistical parameters or UCL95 not be calculated because of the limited number of detections.

CAS: Chemical Abstract Service, COPC: chemical of potential concern, EPC: Exposure Point Concentration, NA: Not Applicable, ND: non-detect, UCL: Upper confidence limit, UCL95: 95% Upper confidence limit on the mean, µg/L: micrograms per liter

Table 6-12 Summary Statistics and Exposure Point Concentrations for Chemicals of Potential Concern in Indoor Air

Unit	Analyte	CAS #	# Detects	# Non-detects	% Non-detects	Minimum ($\mu g/m^3$)	Maximum ($\mu g/m^3$)	EPC ($\mu g/m^3$)	Basis for EPC
Current-Use scenario									
Unit 001 (Dairy Farm Manager Residence)	Trichloroethene (TCE)	79-01-6	2	3	60%	0.1	0.7	0.7	Maximum Detected Concentration
Unit 003 (Feed Mill)	No chemicals of potential concern; analytes were not detected in samples								
Unit 006 (UNL Equipment Storage)	Trichloroethene (TCE)	79-01-6	2	0	0.0%	5.2	9.2	9.2	Maximum Detected Concentration
Unit 011 (Feed Mill Office)	No chemicals of potential concern; analytes were not detected in samples								

Table 6-13 Exposure Parameters for Receptors Exposed to Surface and Subsurface Soil at the North Burning Ground and Potential Landfill Area

Parameter	Units	Construction Worker*	Source/ Note	Ground Maintenance Worker†	Source/ Note	Adult Trespasser†	Source/ Note	Juvenile Trespasser†	Source/ Note
Incidental Ingestion of Soil									
Soil Ingestion Rate (IRs)	(mg/day)	480	a	480	a	100	a	100	a
Exposure Frequency (EF)	(days/year)	130	b	40	b	24	b	24	b
Exposure Duration (ED)	(years)	0.5	c	25	c	70	d	5	d
Body Weight (BW)	(kg)	70	e	70	e	70	e	37	f
Carcinogen Average Time (AT)	(days)	25,550	g	25,550	g	25,550	g	25,550	g
Non-carcinogen Averaging Time (AT)	(days)	183	h	9125	h	25,550	h	1825	h
Fraction ingested (FI)	(-)	1	i	1	i	1	i	1	i
Dermal Contact with Soil									
Conversion factor	(kg/mg)	1.00E-06							
Adherence Factor (AF)	(mg/cm^2)	1	j	1	j	1	j	1	j
Absorption Factor (ABS)	(-)	Chemical-specific		Chemical-specific		Chemical-specific		Chemical-specific	
Skin Area (SA)	(cm^2)	5230	k	5230	k	5230	k	4602	k
Event Frequency (EV)	(events/day)	1	m	1	m	1	m	1	m
Exposure Frequency (EF)	(days/year)	130	b	40	b	24	b	24	b
Exposure Duration (ED)	(years)	0.5	c	25	c	70	d	5	d
Body weight (BW)	(kg)	70	e	70	e	70	e	37	f
Carcinogen Averaging Time (AT)	(days)	25,550	g	25,550	g	25,550	g	25,550	g
Non-carcinogen Averaging Time (AT)	(days)	183	h	9125	h	25,550	h	1825	h
Inhalation of Dust									
Particulate Emission factor (PEF)	(m^3/kg)	1.36E+09	n	1.36E+09	n	1.36E+09	n	1.36E+09	n
Exposure Frequency (EF)	(days/year)	130	b	40	b	24	b	24	b
Exposure Duration (ED)	(years)	0.5	c	25	c	70	d	5	d
Exposure Time (ET)	(hrs/day)	8	o	8	o	2	o	2	o
Carcinogen averaging time (AT)	(days)	25,550	g	25,550	g	25,550	g	25,550	g
Non-carcinogen averaging time (AT)	(days)	183	h	9125	h	25,550	h	1825	h

* Exposure scenarios for both soil and sub-surface soils.

† Exposure scenarios for surface soils only.

(a) These values were used in the OU-3 BLRA (URS 2000). For conservatism, the upperbound soil ingestion rate from Standard Default Exposure Factors (USEPA 1991b) was used for the construction worker; this value will also be used for the maintenance worker.

(b) The exposure frequency for the construction worker is the same as that used in the OU-3 BLRA (URS 2000b), which was based on 5 working days per week for 6 months. It is assumed that ground maintenance is conducted one day a week for 40 of 52 weeks (excludes winter), and site trespasser/visitor enters the areas 2 days per month.

(c) Construction activity is assumed to occur for 6 months (consistent with OU-3 BLRA (URS 2000b). Exposure duration for the grounds maintenance worker is the default value in USEPA (1991) for commercial/industrial land use.

(d) The exposure durations for adult trespasser are assumed to be the same as the exposure time for residents in the OU-3 BLRA (URS 2000b), the exposure

(e) A body-weight of 70 kg is assumed for all adult receptors (USEPA 1989).

(f) Body weight for 8 to 13-year old children are based on time-weighted average values from the Exposure Factors Handbook (USEPA 1989).

(g) Averaging time for carcinogenic effects is based on assumed lifetime of 70 years.

(h) Averaging time for non-carcinogenic effects is based on the exposure duration.

(i) For conservatism, the upper bound value is assumed.

(j) The recommended dermal adherence for soil is 1.0 mg/cm^2 for RME (USEPA 1992).

(k) Exposed dermal surface area for adult RME is based on head, hands, forearms, and lower legs; the exposed surface areas for a juvenile are based on a time-weighted average for 8 to 13 year old children (USEPA 1989).

(m) Risk Assessment Guidance for Superfund, Volume I Human Health Evaluation Manual (USEPA 2004).

(n) Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, OSWER 9355.4-24. Office of Solid Waste and Emergency Response. (USEPA 2002).

(o) Risk Assessment Guidance for Superfund, Volume I Human Health Evaluation Manual, Part F (USEPA 2009b).

Table 6-14 Exposure Parameters for Receptors Exposed to Surface Water at Johnson Creek and Clear Creek for Recreational Fishing Scenarios

Parameter	Units	Adult Recreational	Source/ Note	Child Recreational	Source/ Note
Ingestion of Surface Water					
Water ingestion rate	(L/hour)	0.005	b	0.005	b
Exposure Frequency	(days/year)	26	d	52	e
Exposure Duration	(year)	70	f	6	f
Body weight	(kg)	70	g	15	h
Carcinogen Averaging Time	(days)	25,550	i	25,550	i
Non-carcinogen Averaging Time	(days)	25,550	j	2190	j
Dermal Contact with Surface Water/Sediment while Fishing					
Skin Area	(cm^2)	2800	k	1800	k
Permeability Constant	(cm/hr)	Chemical-Specific		Chemical-Specific	
Conversion Factor	(L/cm^3)	0.001		0.001	
Exposure Time	(hrs/day)	4	n, *	6	n, *
Exposure Frequency	(days/year)	26	d	52	e
Exposure duration	(year)	70	f	6	f
Body weight	(kg)	70	g	15	h
Carcinogen Averaging Time	(days)	25,550	i	25,550	i
Non-carcinogen Averaging Time	(days)	25,550	j	2190	j
Ingestion of Fish					
Ingestion (Fish) Rate	(kg/day)	0.025	o	0.0125	o
Fraction Ingested from Contaminated Sources	(-)	0.2	p	0.2	p
Exposure Frequency	(days/year)	365	o	365	o
Bioconcentration Factor	(-)	Chemical-Specific		Chemical-Specific	

* Recommended by USACE/CENWK 2009b, USACE/CENWK 2009c

(a) Reasonable Maximum Exposure (RME) is defined by USEPA as the reasonable upperbound exposure among potential exposed populations

(b) Assumed to be one-tenth of the RAGS (USEPA 1989a) recommended surface water ingestion rate while swimming (50 mL/hour)

(d) Assume 2 days a week over 13 weeks of summer = 26 days for the year.

(e) Assume 4 days a week over 13 weeks of summer = 52 days for the year.

(f) The exposure duration for an adult recreational fisherman are assumed to be the same for residents. The exposure duration for a child recreational fisherman (age 0 to 6) is assumed to be the entire 6 year period.

(g) The body weight of an adult is assumed to be 70 kg for all receptors.

(h) The body weight for 0 to 6 year old child is based on time-weighted average values from the Exposure Factors Handbook (USEPA 1989b)

(i) Averaging time for carcinogenic effects is based on assumed lifetime of 70 years

(j) Averaging time for non-carcinogenic effects is based on the exposure duration

(k) The surface area of the hands, forearms, and feet is used.

(m) Dermal Adherence based on Dermal Exposure Assessment: Principles and Applications (USEPA 1992)

(n) Assumes 4 hours of fishing per day for an adult and 6 hours a day for a child

(o) The recommended adult daily intake value over a year (365 days) is used to evaluate adult exposure (USEPA 1997), one-half of the adult rate is assumed for a 0 to 6 year old child.

(p) Assumed that 20% of the fish consumed were from the Creeks.

Table 6-15 Exposure Parameters for Inhalation of Volatiles, Vapor Intrusion Assessment

Parameter	Units	Industrial Worker/ Normal Daily Use	Industrial Worker/ Limited Daily Use	Source/ Note	Resident Adult	Source/ Note	Resident Child	Source/ Note
Exposure Time	(hours/day)	8	1	a	24	b	24	b
Exposure Frequency	(days/year)	250	250	1	350	b	350	b
Exposure duration	(years)	25	25	1	70	b	6	b
Averaging Time - non-carcinogens	(hours)	219,000	219,000	c	219,000	c	219,000	c
Averaging Time - carcinogens	(hours)	613,200	613,200	d	613,200	d	613,200	d

(1) USEPA 1991, (2) USEPA 2009b

(a) Assumes an hour per work day based on building usage as a Storage Building

(b) Risk Assessment Guidance for Superfund, Volume I Human Health Evaluation Manual, Part F (USEPA 2009b).

(c) Based on Exposure Duration

(d) Based on lifetime of 70 years

Table 6-16a Toxicity Values for Chemicals of Potential Concern in Surface and Subsurface Soil

Chemical of Potential Concern	IRIS Carcinogenicity Assessment	Oral Slope Factor $(mg/kg\text{-}day)^{-1}$	Source	Inhalation Unit Risk $(mg/m^3)^{-1}$	Source	Dermal Slope Factor $(mg/kg\text{-}day)^{-1}$	Oral Reference Dose (mg/kg-day)	Source	Reference Concentration (mg/m^3)	Source	Dermal Reference Dose (mg/kg-day)	ABS_D [1]	ABS_{GI}[2]	Source
Antimony	Not evaluated	None	None	None	None	None	4.00E-04	IRIS	None	None	4.00E-04	None	0.15	RAGS Part E
Arsenic	A-Human Carcinogen	1.50E+00	IRIS	4.30E+00	IRIS	1.50E+00	3.00E-04	IRIS	1.50E-05	Cal EPA	3.00E-04	0.03	1.00	RAGS Part E
Cobalt	Not in IRIS	None	None	9.00E+00	PPRTV	None	3.00E-04	PPRTV	6.00E-06	PPRTV	3.00E-04	None	1.00	RAGS Part E
Iron	Not in IRIS	None	None	None	None	None	7.00E-01	PPRTV	None	None	7.00E-01	None	1.00	RAGS Part E

1. Dermal absorption fraction, fraction of contaminant absorbed dermally from soil (unitless).
2. Gastrointestinal absorpance fraction, fraction of contaminant absorbed gastrointestinal tract (unitless)
Cal EPA: California EPA, IRIS: Integrated Risk Information System, PPRTV: Provisional Peer Reviewed Toxicity Value, RAGS: Risk Assessment Guidance for Superfund

Table 6-16b Toxicity Values for Chemicals of Potential Concern in Surface Water

Chemical of Potential Concern	IRIS Carcinogenicity Assessment	Oral Slope Factor $(mg/kg\text{-}day)^{-1}$	Source	Dermal Slope Factor $(mg/kg\text{-}day)^{-1}$	Oral Reference Dose (mg/kg-day)	Source	Dermal Reference Dose (mg/kg-day)	ABS_{GI}[1]	Source	Fish Bioconcentration Factor (L/kg)	Source
Acetone	D-Not Classifiable as a Carcinogen	None	None	None	0.9	IRIS	0.9	1.00	RAGS Part E	3.16E+00	RAIS/EPI Suite
4-amino-2,6-dinitrotoluene	Not evaluated	None	None	None	2.0E-03	IRIS	2.0E-03	1.00	RAGS Part E	7.56E+00	RAIS/EPI Suite
2-butanone	Inadequate Data	None	None	None	6.0E-01	IRIS	6.0E-01	1.00	RAGS Part E	3.16E+00	RAIS/EPI Suite
Chloroform	B2-Probable Carcinogen	NA		NA	1.00E-02	IRIS	1.00E-02	1.00	RAGS Part E	1.30E+01	RAIS/EPI Suite
cis-1,2-dichloroethene	Inadequate Data	None	None	None	2.0E-03	IRIS	2.0E-03	1.00	RAGS Part E	1.11E+01	RAIS/EPI Suite
1,3-dinitrobenzene	D-Not Classifiable as a Carcinogen	None	None	None	1.0E-04	IRIS	1.0E-04	1.00	RAGS Part E	5.93E+00	RAIS/EPI Suite
2,6-dinitrotoluene	B2-Probable Carcinogen	None	None	None	1.0E-03	IRIS	1.0E-03	1.00	RAGS Part E	2.20E+01	RAIS/EPI Suite
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetraocine (HMX)	D-Not Classifiable as a Carcinogen	None	None	None	5.0E-02	IRIS	5.0E-02	1.00	RAGS Part E	5.00E-01	RAIS/EPI Suite
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	C-Possible Carcinogen	1.10E-01	None	1.10E-01	3.0E-03	IRIS	3.0E-03	1.00	RAGS Part E	2.00E+00	RAIS/EPI Suite
Trichloroethene	Carcinogenic to Humans	4.60E-02	IRIS	5.90E-03	0.0005	IRIS	None	1.00	RAGS Part E	1.60E+01	RAIS/EPI Suite
		9.33E-03	IRIS, kidney								
		2.16E-02	IRIS, NHL								
		1.55E-02	IRIS, liver								
Toluene	Inadequate Data	None	None	None	8.0E-02	IRIS	8.0E-02	1.00	RAGS Part E	8.32E+00	RAIS/EPI Suite

1. Gastrointestinal absorpance fraction, fraction of contaminant absorbed gastrointestinal tract (unitless)
Cal EPA: California EPA, IRIS: Integrated Risk Information System, NHL: non-Hodgkin's lymphoma, PPRTV: Provisional Peer Reviewed Toxicity Value, RAGS: Risk Assessment Guidance for Superfund

Table 6-16c Toxicity Values for Chemicals of Potential Concern in Indoor Air

Chemical of Potential Concern	IRIS Carcinogenicity Assessment	Inhalation Unit Risk $(mg/m^3)^{-1}$	Source	Reference Concentration (mg/m^3)	Source
Trichloroethene	Carcinogenic to Humans	4.10E-03	IRIS	2.00E-03	IRIS

IRIS: Integrated Risk Information System

Table 6-17a Summary of Incremental Lifetime Cancer Risks from Exposure to Soil for Site Receptors in the North Burning Grounds and Potential Landfill Area

Chemical of Potential Concern	Background Threshold Value (mg/kg)	Exposure Point Concentration (mg/kg)		Construction Worker		Maintenance Worker	Trespasser Juvenile	Trespasser Adult
		Surface Soils	Surface plus Subsurface Soils	Surface Soils	Surface plus Subsurface Soils	Surface Soils	Surface Soils	Surface Soils
Antimony	None	12.1	5.44	---	--	--	--	--
Arsenic	9.5	7.32	7.97	2.5E-07	2.1E-07	3.9E-06	1.2E-06	3.2E-06
Cobalt	10.3		10.3		5.8E-11			
Iron	21,000		23,146		--			
$ILCR_{total}$ from soil				**3E-07**	**2E-07**	**4E-06**	**1E-06**	**3E-06**

--: No value calculated due to lack of carcinogenic toxicity values

No value calculated, the compound was not included in risk assessment for soil type

Table 6-17b Summary of Hazard Indices from Exposure to Soil for Site Receptors in the North Burning Grounds and Potential Landfill Area

Chemical of Potential Concern	Background Threshold Value (mg/kg)	Exposure Point Concentration (mg/kg)		Construction Worker		Maintenance Worker	Trespasser Juvenile	Trespasser Adult
		Surface Soils	Surface plus Subsurface Soils	Surface Soils	Surface plus Subsurface Soils	Surface Soils	Surface Soils	Surface Soils
Antimony	None	12.1	5.44	0.074	0.033	0.023	0.0054	0.0030
Arsenic	9.5	7.32	7.97	0.080	0.086	0.025	0.010	0.0061
Cobalt	10.3		10.3		0.084			
Iron	21,000		23,146		0.081			
HI from soil				**0.2**	**0.3**	**0.05**	**0.02**	**0.01**

--: No value calculated due to lack of non-carcinogenic toxicity values.

No value calculated, the compound was not included in risk assessment for soil type

Table 6-18a Summary of Incremental Lifetime Cancer Risks from Exposure to Surface Water for Site Receptors at Johnson Creek

Chemical of Potential Concern	CAS #	Exposure Point Concentration Surface Water (µg/L)	Basis for Exposure Point Concentration	Chemical-specific Incremental Lifetime Cancer Risk (ILCR) Adult Recreational Fisherman	Child Recreational Fisherman
Acetone	67-64-1	2.898	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	--	--
cis-1,2-Dichloroethene	156-59-2	0.825	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	--	--
Toluene	108-88-3	0.28	Number of detections below 5, EPC based on MDL	--	--
Trichloroethene (TCE)	79-01-6	20.61	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	1.8E-06	4.8E-07
1,3-Dinitrobenzene	99-65-0	0.144	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	--	--
2,6-Dinitrotoluene	606-20-2	0.05	Number of detections below 5, EPC based on MDL	--	--
4-Amino-2,6-Dinitrotoluene	19406-51-0	0.224	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	--	--
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	2.324	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	5.2E-08	1.4E-08
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetraocine (HMX)	2691-41-0	0.232	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	--	--
ILCRtotal from Johnson Creek				**2E-06**	**5E-07**

CAS: Chemical Abstract Service, EPC: Exposure Point Concentration, ILCR: Incremental Lifetime Cancer Risk, MDL: Method Detection Limit

'--: Unable to calculate risk due to unavailability of carcinogenic exposure assessment and/or toxicity values.

Table 6-18b Contributions of Chemicals of Potential Concern/Pathways to Adult Incremental Carcinogenic Risk from Exposure to Johnson Creek

Chemical of Potential Concern	CAS #	Exposure Point Concentration Surface Water (µg/L)	Pathway	ILCR	Percentage of Total ILCR
Trichloroethene (TCE)	79-01-6	20.61	Ingestion of surface water	6.4E-08	3%
Trichloroethene (TCE)	79-01-6	20.61	Ingestion of fish	1.4E-06	73%
Trichloroethene (TCE)	79-01-6	20.61	Dermal contact with surface water	3.8E-07	20%
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	2.324	Ingestion of surface water	1.1E-08	1%
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	2.324	Ingestion of fish	3.8E-08	2%
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	2.324	Dermal contact with surface water	3.0E-09	0%
ILCRtotal from Johnson Creek				2E-06	100%

CAS: Chemical Abstract Service, EPC: Exposure Point Concentration, ILCR: Incremental Lifetime Cancer Risk

Table 6-18c Summary of Hazard Indices from Exposure to Surface Water for Site Receptors at Johnson Creek

Chemical of Potential Concern	CAS #	Exposure Point Concentration Surface Water (µg/L)	Basis for Exposure Point Concentration	Chemical-specific Hazard Adult Recreational Fisherman	Child Recreational Fisherman
Acetone	67-64-1	2.898	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	9.8E-07	2.8E-06
Chloroform	67-66-3	0.248	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	3.1E-05	8.1E-05
cis-1,2-Dichloroethene	156-59-2	0.825	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	4.5E-04	1.2E-03
Toluene	108-88-3	0.28	Number of detections below 5, EPC based on MDL	4.7E-06	1.7E-05
Trichloroethene (TCE)	79-01-6	20.61	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	6.5E-02	1.8E-01
1,3-Dinitrobenzene	99-65-0	0.144	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	8.1E-04	2.2E-03
2,6-Dinitrotoluene	606-20-2	0.05	Number of detections below 5, EPC based on MDL	9.5E-05	2.2E-04
4-Amino-2,6-Dinitrotoluene	19406-51-0	0.224	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	7.9E-05	2.1E-04
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	2.324	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	1.7E-04	5.2E-04
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetraocine (HMX)	2691-41-0	0.232	UCL95 calculated using ProUCL from data from SW-08, SW-16, SW-10	4.0E-07	1.8E-06
Total Hazard Index from Johnson Creek				**0.07**	**0.2**

--: Unable to calculate risk due to unavailability of carcinogenic exposure assessment and/or toxicity values.

CAS: Chemical Abstract Service, EPC: Exposure Point Concentration, HI: Hazard Index, MDL: Method Detection Limit

Table 6-19a Summary of Incremental Lifetime Cancer Risks from Exposure to Surface Water for Site Receptors at Clear Creek

Chemical of Potential Concern	CAS #	Exposure Point Concentration (µg/L)	Basis for Exposure Point Concentration	Chemical-specific Incremental Lifetime Cancer Risk (ILCR) Adult Recreational Fisherman	Child Recreational Fisherman
Acetone	67-64-1	2.895	UCL95 calculated using ProUCL from data from SW-12, SW-13	--	--
2-Butanone	78-93-3	4.80	Number of detections below 5, EPC based on MDL	--	--
Trichloroethene (TCE)	79-01-6	1.982	UCL95 calculated using ProUCL from data from SW-12, SW-13	1.7E-07	4.6E-08
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	0.345	UCL95 calculated using ProUCL from data from SW-12, SW-13	7.8E-09	2.1E-09
ILCRtotal from Clear Creek				**2E-07**	**5E-08**

CAS: Chemical Abstract Service, EPC: Exposure Point Concentration, ILCR: Incremental Lifetime Cancer Risk, MDL: Method Detection Limit

Table 6-19b Summary of Hazard Indices from Exposure to Surface Water for Site Receptors at Clear Creek

Chemical of Potential Concern	CAS #	Exposure Point Concentration (µg/L)	Basis for Exposure Point Concentration	Chemical-specific Hazard Index Adult Recreational Fisherman	Child Recreational Fisherman
Acetone	67-64-1	2.895	UCL95 calculated using ProUCL from data from SW-12, SW-13	9.8E-07	2.8E-06
2-Butanone	78-93-3	4.80	Number of detections below 5, EPC based on MDL	2.5E-06	7.4E-06
Trichloroethene (TCE)	79-01-6	1.982	UCL95 calculated using ProUCL from data from SW-12, SW-13	6.3E-03	1.7E-02
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	0.345	UCL95 calculated using ProUCL from data from SW-12, SW-13	2.5E-05	7.8E-05
Total Hazard Index from Clear Creek				**0.006**	**0.02**

--: Unable to calculate risk due to unavailability of carcinogenic exposure assessment and/or toxicity values.

CAS: Chemical Abstract Service, EPC: Exposure Point Concentration, ILCR: Incremental Lifetime Cancer Risk, MDL: Method Detection Limit

Table 6-20a Summary of Incremental Lifetime Cancer Risks from Exposure to Surface Water for Site Receptors at Silver Creek

Chemical of Potential Concern	CAS #	Exposure Point Concentration Surface Water (µg/L)	Basis for Exposure Point Concentration	Chemical-specific Incremental Lifetime Cancer Risk (ILCR)	
				Adult Recreational Fisherman	Child Recreational Fisherman
Acetone	67-64-1	2.659	UCL95 calculated using ProUCL from data	--	--
4-Amino-2,6-Dinitrotoluene	19406-51-0	1.80	Number of detections below 5, EPC based on MDL	--	--
ILCRtotal from Silver Creek				**--**	**--**

CAS: Chemical Abstract Service, EPC: Exposure Point Concentration, ILCR: Incremental Lifetime Cancer Risk, MDL: Method Detection Limit

'--: Unable to calculate risk due to unavailability of carcinogenic exposure assessment and/or toxicity values.

Table 6-20b Summary of Hazard Indices from Exposure to Surface Water for Site Receptors at Silver Creek

Chemical of Potential Concern	CAS #	Exposure Point Concentration Surface Water (µg/L)	Basis for Exposure Point Concentration	Chemical-specific Hazard Index (HI)	
				Adult Recreational Fisherman	Child Recreational Fisherman
Acetone	67-64-1	2.659	UCL95 calculated using ProUCL from data	9.0E-07	2.6E-06
4-Amino-2,6-Dinitrotoluene	19406-51-0	1.80	Number of detections below 5, EPC based on MDL	6.4E-04	1.7E-03
Total Hazard Index from Silver Creek				**0.0006**	**0.002**

--: Unable to calculate risk due to unavailability of carcinogenic exposure assessment and/or toxicity values.

CAS: Chemical Abstract Service, EPC: Exposure Point Concentration, HI: Hazard Index, MDL: Method Detection Limit

Table 6-21a Summary of Incremental Lifetime Cancer Risks from Exposure to VOCs in Air for Site Receptors

Chemical of Potential Concern	Exposure Point Concentration ($\mu g/m^3$)	Industrial Worker - Normal	Industrial Worker - Limited	Residential Adult	Residential Child
Unit 001 - Dairy Farm Manager Residence					
Trichloroethene (TCE)	0.7	NA	NA	3.2E-06	4.9E-07
$ILCR_{total}$		**NA**	**NA**	**3E-06**	**5E-07**
Unit 006 - UNL Equipment Storage					
Trichloroethene (TCE)	9.2	3.1E-06	3.8E-07	4.2E-05	6.4E-06
$ILCR_{total}$		**3E-06**	**4E-07**	**4E-05**	**6E-06**

Table 6-21b Summary of Hazard Indices from Exposure to VOCs in Air for Site Receptors

Chemical of Potential Concern	Exposure Point Concentration ($\mu g/m^3$)	Industrial Worker - Normal	Industrial Worker - Limited	Residential Adult	Residential Child
Unit 001 - Dairy Farm Manager Residence					
Trichloroethene (TCE)	0.70	NA	NA	0.34	0.34
HI_{total}		**NA**	**NA**	**0.3**	**0.3**
Unit 006 - UNL Equipment Storage					
Trichloroethene (TCE)	9.2	1.1	0.13	4.4	4.4
HI_{total}		**1**	**0.1**	**4**	**4**

Table 7-1 Preliminary Remedial Action Objectives and Preliminary Remediation Goals for the OU-3 Supplemental RI Investigation Areas

Investigation Area	Medium of Concern	Remedial Action Objective	Target Receptors with Highest Risk	Chemical of Potential Concern Contributing to Carcinogenic Risk	Preliminary Remediation Goal	Target risk or hazard corresponding to PRG	Background Threshold Value
North Burning Ground/Potential Landfill Area	Surface Soil	Prevent exposure of site receptors to surface soils that would result in incremental lifetime carcinogenic risks greater than the target range of 10^{-6} to 10^{-4}.	Maintenance Worker	Arsenic	1.8 mg/kg	10^{-6}	9.5 mg/kg
	Subsurface Soil	Prevent exposure of site receptors to surface soils that would result in incremental lifetime carcinogenic risks greater than the target range of 10^{-6} to 10^{-4}.	Construction Worker	Arsenic	38 mg/kg	10^{-6}	9.5 mg/kg
Johnson Creek, Clear Creek, Silver Creek	Surface Water	Prevent exposure of site receptors to surface water that would result in incremental lifetime carcinogenic risks greater than the target range of 10^{-6} to 10^{-4}.	Adult Recreational Fisherman	TCE	12 µg/L	10^{-6}	Not applicable
				Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	44 µg/L	10^{-6}	Not applicable
Buildings Overlying TCE Groundwater Plumes	Indoor Air	Prevent exposure of industrial workers to building indoor air that would result in incremental lifetime carcinogenic risks greater than the target risk of 10^{-5} (USEPA 2002b) and HI of 1.	Industrial Worker (Normal Exposure, 8-hour Day)	TCE	8.8 µg/m^3 (a)	1	Not applicable
		Prevent exposure of residents to residential building indoor air that would result in incremental lifetime carcinogenic risks greater than the target risk of 10^{-5} (USEPA 2002b) and HI of 1.	Resident Adult	TCE	2.2 µg/m^3 (a)	1	Not applicable

(a) Only the PRG corresponding to a HI of 1 is shown in the table because it is less than the PRG corresponding to a target risk of 10^{-5}.

APPENDICES

APPENDIX A

SUMMARIES OF PREVIOUS REMEDIAL INVESTIGATIONS AND BLRA

Table A-1a OU-3 Investigation Areas and Summary of OU-3 Remedial Investigations

Investigation Area	Phase I/II (1995/1996)		Phase III (1999)		Screening Results	Status of Areas Based on Previous Work
	Geophysical survey (EM-31 Terrain Conductivity Meter)	Soil sampling from boreholes (Depth; Analyte Groups)	Geophysical survey	Test Pits; Soil sampling		
Ammonium Nitrate Plant (former) - Potential Waste Area	Anomalies detected; soil samples collected adjacent to anomalies	0 to 20 ft; Metals, Explosives, VOCs, SVOCs	NS	NS	No VOCs, SVOCs, explosives or metals exceeded screening levels	Identified as No Further Action required (W-C 1997)
Atlas Missile Area (former) - Potential Waste Area	No anomalies	0 to 20 ft; Metals, Explosives, VOCs, SVOCs	NS	NS	Manganese exceeded screening level (i.e., background) but only in one location (i.e., isolated occurrence); other metals explosives, VOCs, and SVOCs were below screening levels.	Identified as No Further Action required (W-C 1997)
Bermed Area southwest of LL 1	NS	0 to 3 ft; Metals, Explosives, VOCs, SVOCs	NS	NS	No VOCs, SVOCs, explosives or metals exceeded screening levels	Identified as No Further Action required (W-C 1997)
Former Potential Waste Area SE of the Bomb Booster Area	Anomalies detected; soil samples collected adjacent to anomalies	0 to 20 ft; Metals, Explosives, VOCs, SVOCs, and PCBs	NS	NS	No VOCs, SVOCs, explosives or metals exceeded screening levels	Identified as No Further Action required (W-C 1997)
Demolition Ground (former)	Anomalies detected	0 to 20 ft; Metals, Explosives, VOCs, SVOCs	NS	NS	No VOCs, SVOCs, explosives or metals exceeded screening levels	Identified as No Further Action required (W-C 1997)
Detonation Craters (former)	No anomalies	0 to 3 ft; Metals, Explosives, VOCs, SVOCs	NS	NS	Manganese exceeded background but only in one location (i.e., isolated occurrence); other metals explosives, VOCs, and SVOCs were below screening levels.	Identified as No Further Action required (W-C 1997)
NOP Landfill Area (former)	NS	NS	NS	NS	NS	Identified as No Further Action required (W-C 1997)
Raw Product Igloo Storage Areas (former)	NS	0 to 1 ft; Metals, High explosives (screening), Explosives	NS	NS	No explosives above screening levels; no metals exceeded risk-based criteria	Identified as No Further Action required (W-C 1997)
Tetryl Pelleting Area (former)	NS	0 to 2 ft; Metals, Explosives	NS	NS	No explosives above screening levels; barium, copper and zinc background but at isolated occurrences of limited horizontal and vertical extent.	Identified as No Further Action required (W-C 1997)
Geophysical Anomaly at LL3	Anomalies detected; soil samples collected adjacent to anomalies	0 to 20 ft; Metals, Explosives, VOCs, SVOCs	NS	NS	No VOCs, SVOCs, explosives or metals exceeded screening levels	Identified as No Further Action required (W-C 1997)
LL1, Bomb Production Buildings (former)	NS	0 to 2 ft; Metals, Explosives	NS	NS	Metals and explosives above screening levels	Included in BLRA (URS 2000b)
LL2, Bomb Production Buildings (former)	NS	0 to 2 ft; Metals, Explosives	NS	NS	Metals and explosives above screening levels	Included in BLRA (URS 2000b)
LL3, Bomb Production Buildings (former)	NS	0 to 2 ft; Metals, Explosives	NS	NS	Metals and explosives above screening levels	Included in BLRA (URS 2000b)
LL4, Bomb Production Buildings (former)	NS	0 to 2 ft; Metals, Explosives	NS	NS	Metals and explosives above screening levels	Included in BLRA (URS 2000b)

Source: Woodward-Clyde 1997; URS 2000a
[a] Nature and extent of explosives not included because this was addressed in the OU-1 RI (Woodward-Clyde 1997)
EM—electromagnetics
ft—feet or foot
NS—Not Sampled
PCB—polychlorinated biphenyl
SE – southeast
SVOC – semi-volatile organic compound
VOC – volatile organic compound

Table A-1a OU-3 Investigation Areas and Summary of OU-3 Remedial Investigations (continued)

Investigation Area	Phase I/II (1995/1996)		Phase III (1999)		Screening Results	Status of Areas Based on Previous Work
	Geophysical survey (EM-31 Terrain Conductivity Meter)	Soil sampling from boreholes (Depth; Analyte Groups)	Geophysical survey	Test Pits; Soil sampling		
LL1, Paint Operation Areas (former)	NS	0 to 2 ft; Metals	NS	NS	Metals above screening levels	Included in BLRA (URS 2000b)
LL2, Paint Operation Areas (former)	NS	0 to 2 ft; Metals	NS	NS	Metals above screening levels	Included in BLRA (URS 2000b)
LL3, Paint Operation Areas (former)	NS	0 to 2 ft; Metals	NS	NS	Metals above screening levels	Included in BLRA (URS 2000b)
LL4, Paint Operation Areas (former)	NS	0 to 2 ft; Metals	NS	NS	Metals above screening levels	Included in BLRA (URS 2000b)
Potential Waste Disposal Area north of the former Nike Maintenance Area	Anomalies detected; soil samples collected adjacent to anomalies	0 to 2 ft; Metals, Explosives, VOCs, SVOCs	NS	NS	No VOCs, SVOCs, explosives or metals exceeded screening levels	Identified as No Further Action required (W-C 1997)
Northeast Boundary Area	NS	NS	No Anomalies	Three test pits (4 ft deep); topsoil overlying loess or alluvium observed in test pits. Soils samples collected for explosives, metals, SVOCs, VOCs, high explosives screening.	Metals exceeded screening levels; included in BLRA (URS 2000b)	Included in BLRA (URS 2000b)
North Burning Ground (former)	NS	0 to 20 ft; Metals; VOCs; SVOCS [a]	NS	Two test pits (6 ft deep) at assumed location of revetments: Fill overlying loess with trace metals observed in test pits. Soil samples collected for High explosives field screening.	Metals exceeded screening levels (background) but in isolated locations (URS 2000a); no explosives above screening levels.	Identified as No Further Action required (W-C 1997); however, "Burn layer" found during UNL Removal Action (2009).
Proving Grounds (former)	NS	0 to 10 ft, Metals, VOCs, SVOCs [a]	Anomalies identified; test pits locations selected to investigate anomalies	Thirty-three test pits (3 to 10 ft deep); various buried debris including wood, burnt wood, plastic sheeting. Ash was noted, but only in 3 test pits. Soil samples collected for explosives.	Metals above screening in isolated locations; explosives exceeded screening levels.	Included in BLRA (URS 2000b)
Potential Landfill Area	Anomalies detected	0 to 10 ft; Explosives; Metals; SVOCs; VOCs	Anomalies identified; test pits locations selected to investigate anomalies	Thirty-nine test pits; various buried debris including nails, wire, wood, burnt wood and ash. Soil samples collected for explosives.	Metals and explosives exceeded screening levels.	Included in BLRA (URS 2000b)
South Burning Ground (former)	NS	0 to 3 ft; Metals; VOCs; SVOCs [a]	NS	NS	No VOCs exceeded screening levels; no metals exceeded background; SVOCs 2,4-DNT and 2,6-DNT exceeded screening criteria at one location; the location was excavated and remediated as part of OU-1 Removal Actions.	Identified as No Further Action required after SVOC exceedence was addressed during OU-1 Removal Action (OHM 1998)

Source: Woodward-Clyde 1997; URS 2000a
[a] Nature and extent of explosives not included because this was addressed in the OU-1 RI (Woodward-Clyde 1997)
DNT—dinitotoluene
EM—electromagnetics
ft—feet or foot
NS—Not Sampled
SVOC—semi-volatile organic compound
VOC—volatile organic compound

Table A-1a OU-3 Investigation Areas and Summary of OU-3 Remedial Investigations (continued)

Investigation Area	Phase I/II (1995/1996)		Phase III (1999)		Screening Results	Status of Areas Based on Previous Work
	Geophysical survey (EM-31 Terrain Conductivity Meter)	Soil sampling from boreholes (Depth; Analyte Groups)	Geophysical survey	Test Pits; Soil sampling		
Administration (former)- underground storage tank	Anomalies detected; soil samples collected adjacent to anomalies	0 to 30 ft; BTEX, SVOCs, and TRPH	NS	NS	BTEX not detected. SVOCs and TRPH detected at greater than screening levels in uppermost surface soil. Area was used by private businesses and source of SVOCs and TRPH may be from recent activities (W-C 1997).	Underground storage tanks are being addressed outside of OU-3.
Air Force Global Communication Center (former)- underground storage tanks	Anomalies detected; soil samples collected adjacent to anomalies	0 to 47 ft; BTEX, SVOCs, and TRPH	NS	NS	PAHs were detected above screening levels (W-C 1997). PAHs commonly occur in surface soils from road run-off and vehicle emissions.	Underground storage tanks are being addressed outside of OU-3.
Atlas Missile Area (former) - underground storage tanks	Anomalies detected, but may be due to interferences from surface features	0 to 39 ft; BTEX, SVOCs, and TRPH	NS	NS	Only TRPH detected at concentration greater than screening level and only at one surface location. Area was being used by the National Guard and TRPH maybe from recent activities (W-C 1997).	Underground storage tanks are being addressed outside of OU-3.
Bomb Booster Area (former) - Above Ground Storage tanks	NS	0 to 30 ft; BTEX, SVOCs, and TRPH	NS	NS	Only SVOCs detected at concentrations below screening.	Underground storage tanks are being addressed outside of OU-3.

Source: Woodward-Clyde 1997; URS 2000a
[a] Nature and extent of explosives not included because this was addressed in the OU-1 RI (Woodward-Clyde 1997)
BTEX – benzene, toluene, ethylbenzene, and xylenes
EM—electromagnetics
ft—feet or foot
NS—Not Sampled
PAHs—polynuclear aromatic hydrocarbons
SVOC—semi-volatile organic compound
TRPH—total recoverable petroleum hydrocarbon
VOC—volatile organic compound

Table A-1b Summary of Previous OU-3 Remedial Investigations at Johnson Creek, Clear Creek, Silver Creek, and the NRD Reservoir

Surface Water	Phase I/II (1995/1996)		Phase III (1999)		
	Surface water Sampling Dates of sampling Analyte Groups	**Sediment Sampling**	**Surface Water Sampling Date of Sampling Analyte Groups**	**Sediment Sampling**	**Fish Sampling**
Johnson Creek and Clear Creek	March 1995; May 1996; July 1996 Explosives, metals, VOCs, and SVOCs	April 1995 Explosives, metals, VOCs, and SVOCs	April 1999 Metals	April 1999 Metals	NS
Silver Creek	March 1995; May 1996; July 1996 Explosives, metals, VOCs, and SVOCs	March 1995 Explosives, metals, VOCs, and SVOCs	April 1999 Metals	April 1999 Metals	NS
NRD Reservoir	NS	NS	April 1999 Explosives, metals, and total suspended solids	April 1999 Explosives and metals	Metals and lipid content [a]

Source: (Woodward-Clyde 1997, URS 2000a)\
NRD—Natural Resources District
NS—Not sampled

[a] Fish tissue samples were analyzed for explosives but data were considered unreliable due to difficulties in extraction.

Table A-2a Summary of Environmental Media and Chemicals Included in the OU-3 BLRA

Investigation Area	Media [a]	Chemicals included in BLRA
LL1, Bomb Production Buildings (former)	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft)	TNB, TNT, 2-Am-DNT, 4-Am-DNT, RDX, Tetryl, HMX, Al, Sb, As, Ba, Be, Cd, Co, Pb, Ni, V
LL2, Bomb Production Buildings (former)	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft)	TNB, TNT, 2-Am-DNT, 4-Am-DNT, RDX, Tetryl, HMX, Sb, As, Ba, Cd, Ni
LL3, Bomb Production Buildings (former)	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft)	TNB, TNT, 2-Am-DNT, 4-Am-DNT, RDX, HMX, Sb, Ba, Cd, Pb, Hg, Ni
LL4, Bomb Production Buildings (former)	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft)	TNT, 2-Am-DNT, 4-Am-DNT, RDX, HMX, Sb, Ba, Cd, Pb, Hg, Ni
LL1, Paint Operation Areas (former)	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft)	Sb, Cd, Pb, Ni
LL2, Paint Operation Areas (former)	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft)	Sb, As, Cd, Co, Pb, Hg, Ni
LL3, Paint Operation Areas (former)	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft)	Sb, Ba, Cd, Co, Pb, Hg, Ni
LL4, Paint Operation Areas (former)	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft)	Sb, Cd, Pb
Northeast Boundary Area	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft); Surface Soil + Subsurface Soil	Al, Cd, Co, V, 2,6-DNT, benzo(g,h,i)perylene, fluoranthene, pyrene
Proving Grounds (former)	Surface Soil (0 to 2 ft) and Surface Soil (0 to 0.5 ft); Surface Soil + Subsurface Soil	TNT, 2-Am-DNT, 4-Am-DNT, 4-Nitrotoluene, RDX, Tetryl, HMX, Sb, Cd, Pb, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, Di-n-butylphthalate, pyrene, 2-hexanone, acetone, methylene chloride, toluene, TCE
Potential Landfill Area (former)	Surface Soil (0 to 2 ft); Surface Soil (0 to 0.5 ft); Surface Soil + Subsurface Soil	TNB, TNT, DNT, 2-Am-DNT, 4-Am-DNT, RDX, Tetryl, HMX, Sb, Cd, Co, Pb, Si, Tl, Benzo(b)fluoranthene, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, chrysene, diethylphthalate, di-n-butylphthalate, phenol, pyrene
Johnson Creek and Clear Creek	Surface Water	RDX, HMX, Al, As, Ba, Be, Co, Fe, Pb, Hg, Ni, Tl, V, Toluene, TCE
	Sediment	4-Methylphenol, Di-n-butylphthalate, Phenol, bis(2-Ethylhexyl)phthalate (DEHP), HMX
	Fish	-same as surface water
Silver Creek	Surface Water	Al, Ba, Be, Co, Fe, Pb, Ni, Tl, V, methylene chloride, toluene
	Sediment:	Ag, 4-Methylphenol, Di-n-butylphthalate, pyrene, acetone, toluene
	Fish	-same as surface water
NRD Reservoir	Surface Water	2-Am-DNT, Hg
	Sediment	Nitrobenzene, Al, As, Ba, Be, Cd, Ni, Tl
	Fish	2-Am-DNT, Al, Ba, Cd, Cu, Pb, Ni, Se, Ag

Source : (URS 2000b)
[a] Separate risk assessments were conducted for surface soil including data from 0-0.5 ft bgs, and surface soil including data from 0-2 ft bgs. The risk assessment for surface soil + subsurface soil considered data from all depth intervals.

ft—feet or foot; TNB—1,3,5-Trinitrobenzene; TNT—2,4,6-Trinitrotoluene; 2-Am-DNT—2-Amino-4,6-dinitrotoluene; 4-Am-DNT—4-Amino-2,6-dinitrotoluene; RDX—hexahydro-1,3,5-trinitro-1,3,5 triazine ; DNT—2,4-dinitrotoluene; Tetryl—2,4,6-trinitrophenyl-*n*-methylnitramine ; HMX—Octahydro-1,3,5,7-tetranitro-1,3,5,7 tetrazocine; DEHP—bis(2-Ethylhexyl)phthalate; TCE—Trichloroethene; As—Arsenic; Ba—Barium; Be—Beryllium; Cd—Cadmium; Co—Cobalt; Hg—Mercury; Ni— Nickel; V—Vanadium; Sb—Antimony; Cd—Cadmium; Pb—Lead; Fe—Iron; Ag—Silver; Se—Selenium; Cu—Copper ; Tl—Thallium

Table A-2b Summary of Incremental Lifetime Cancer Risks for OU-3 Investigation Areas (Excluding Surface Waters)

Investigation Area	Media [a]	Resident Farmer (Adult)	Resident Farmer (Child)	Adult Trespasser	Juvenile Trespasser	On-site Worker	Construction Worker
LL1, Bomb Production Buildings (former)	Soil (0 to 2 ft)	5.0E-05	2.4E-05	2.4E-06	3.0E-07	5.9E-06	Not a receptor for area
	Soil (0.5 ft)	1.7E-05	2.3E-06	4.9E-06	6.0E-09	1.7E-07	
LL2, Bomb Production Buildings (former)	Soil (0 to 2 ft)	4.1E-05	1.7E-05	1.3E-06	1.7E-07	2.1E-06	Not a receptor for area
	Soil (0.5 ft)	4.7E-05	1.8E-05	1.7E-06	2.2E-07	4.3E-06	
LL3, Bomb Production Buildings (former)	Soil (0 to 2 ft)	4.7E-05	1.8E-05	1.7E-06	2.2E-07	4.3E-06	Not a receptor for area
	Soil (0.5 ft)	2.2E-05	2.9E-06	5.1E-08	6.2E-09	1.7E-07	
LL4, Bomb Production Buildings (former)	Soil (0 to 2 ft)	4.4E-05	1.9E-05	1.8E-06	2.3E-07	4.5E-06	Not a receptor for area
	Soil (0.5 ft)	4.4E-05	1.8E-05	1.7E-06	2.2E-07	4.3E-06	
LL1, Paint Operation Areas (former)	Soil (0 to 2 ft)	No carcinogens	No carcinogens	No carcinogens	No carcinogens	No carcinogens	Not a receptor for area
	Soil (0.5 ft)						
LL2, Paint Operation Areas (former)	Soil (0 to 2 ft)	2.9E-05	1.8E-05	2.0E-06	2.6E-07	4.9E-06	Not a receptor for area
	Soil (0.5 ft)	2.9E-05	1.8E-05	2.0E-06	2.6E-07	4.9E-06	
LL3, Paint Operation Areas (former)	Soil (0 to 2 ft)	No carcinogens	No carcinogens	No carcinogens	No carcinogens	No carcinogens	Not a receptor for area
	Soil (0.5 ft)						
LL4, Paint Operation Areas (former)	Soil (0 to 2 ft)	No carcinogens	No carcinogens	No carcinogens	No carcinogens	No carcinogens	Not a receptor for area
	Soil (0.5 ft)						
Northeast Boundary Area	Soil (0 to 2 ft)	No carcinogens	No carcinogens	No carcinogens	No carcinogens	Not a receptor for this area	No carcinogens
	Soil (0.5 ft)						
	Soil (0 to 2 ft) + Soil (> 2 ft)						
Proving Grounds (former)	Soil (0 to 2 ft)	3.4E-06	4.4E-07	7.2E-09	8.7E-10	Not a receptor for this area	
	Soil (0.5 ft)	1.4E-06	1.8E-07	3.7E-09	4.5E-10		
	Soil (0 to 2 ft) + Soil (> 2 ft)	Pathway incomplete	Pathway incomplete	Pathway incomplete	Pathway incomplete		1.0E-09
Potential Landfill Area (former)	Soil (0 to 2 ft)	2.8E-05	3.9E-06	1.2E-07	1.5E-08	Not a receptor for this area	
	Soil (0.5 ft)	4.6E-06	6.3E-07	4.7E-08	5.7E-09		
	Soil (0 to 2 ft) + Soil (> 2 ft)	Pathway incomplete	Pathway incomplete	Pathway incomplete	Pathway incomplete		2.6E-08

Source: (URS 2000b)

[a] Separate risk assessments were conducted for surface soil including data from 0-0.5 ft bgs, and surface soil including data from 0-2 ft bgs. The risk assessment for surface soil + subsurface soil considered data from all depth intervals.

ft—feet or foot

Table A-2c Summary of Hazard Indices for OU-3 Investigation Areas (Excluding Surface Waters) and Removal Actions Performed to Address Areas where HI >1

Investigation Area (Figure 2-2 2-3 ID No.)	Media [a]	Receptors						Removal Actions
		Resident (Adult)	Resident (Child)	Adult Trespasser	Juvenile Trespasser	On-site Worker	Construction Worker	
LL1, Bomb Production Buildings (former)	Soil (0 to 2 ft)	0.130	0.500	0.006	0.010	0.052	Not a receptor for this area	
	Soil (0.5 ft)	0.130	0.500	0.006	0.010	0.052		None required
LL2, Bomb Production Buildings (former)	Soil (0 to 2 ft)	0.130	0.650	0.004	0.008	0.025	Not a receptor for this area	
	Soil (0.5 ft)	0.190	0.880	0.009	0.015	0.070		None required
LL3, Bomb Production Buildings (former)	Soil (0 to 2 ft)	0.190	0.880	0.009	0.015	0.010	Not a receptor for this area	
	Soil (0.5 ft)	0.100	0.290	0.003	0.004	0.048		None required
LL4, Bomb Production Buildings (former)	Soil (0 to 2 ft)	0.130	0.580	0.005	0.009	0.036	Not a receptor for this area	
	Soil (0.5 ft)	0.130	0.580	0.005	0.009	0.036		None required
LL1, Paint Operation Areas (former)	Soil (0 to 2 ft)	0.023	0.170	0.002	0.003	0.011	Not a receptor for this area	
	Soil (0.5 ft)	0.100	0.790	0.007	0.013	0.051		None required
LL2, Paint Operation Areas (former)	Soil (0 to 2 ft)	0.140	0.840	0.008	0.014	0.055	Not a receptor for this area	Risk driven by Sb; Sb-impacted soil removed (Kingston 2008)
	Soil (0.5 ft)	0.270	2.000	0.018	0.033	0.130		
LL3, Paint Operation Areas (former)	Soil (0 to 2 ft)	0.054	0.390	0.004	0.007	0.027	Not a receptor for this area	
	Soil (0.5 ft)	0.099	0.730	0.007	0.012	0.048		None required
LL4, Paint Operation Areas (former)	Soil (0 to 2 ft)	0.087	0.650	0.006	0.010	0.040	Not a receptor for this area	Risk driven by Sb; Sb-impacted soil removed (Kingston 2008)
	Soil (0.5 ft)	0.560	4.200	0.039	0.070	0.270		
Northeast Boundary Area	Soil (0 to 2 ft)	0.066	0.490	0.005	0.008	Not a receptor for this area		
	Soil (0.5 ft)	0.003	0.021	0.0002	0.0004			
	Soil (0 to 2 ft) + Soil (> 2 ft)	Pathway Incomplete	Pathway Incomplete	Pathway Incomplete	Pathway Incomplete		0.160	None required
Proving Grounds (former)	Soil (0 to 2 ft)	0.035	0.190	0.002	0.003	Not a receptor for this area		
	Soil (0.5 ft)	0.014	0.079	0.001	0.001			
	Soil (0 to 2 ft) + Soil (> 2 ft)	Pathway Incomplete	Pathway Incomplete	Pathway Incomplete	Pathway Incomplete		0.009	None required
Potential Landfill Area (former)	Soil (0 to 2 ft)	0.400	2.400	0.022	0.039	Not a receptor for this area		Risk driven by Sb; Sb-impacted soil removed (Kingston 2008). Ash noted in trench logs from Phase III RI (URS 2000a) but no metals data were collected.
	Soil (0.5 ft)	0.087	0.470	0.004	0.008			
	Soil (0 to 2 ft) + Soil (> 2 ft)	Pathway Incomplete	Pathway Incomplete	Pathway Incomplete	Pathway Incomplete		0.460	

Source: URS 2000b
ft—feet or foot
Sb—Antimony
Hazard index greater than 1

[a] Separate risk assessments were conducted for surface soil including data from 0-0.5 ft bgs, and surface soil including data from 0-2 ft bgs. The risk assessment for surface soil + subsurface soil considered data from all depth intervals.

Table A-2d Summary of Incremental Lifetime Cancer Risks and Hazard Indices for Site Receptors from Exposure to Surface Waters

Surface Water	Incremental Lifetime Cancer Risk Adult Recreational Fisherman	Incremental Lifetime Cancer Risk Child Recreational Fisherman	Remarks
Johnson Creek and Clear Creek	0.000070	0.000015	Need to be updated based on surface water data collected 2004 to 2009
Silver Creek	0.000018	0.000004	Need to be updated based on surface water data collected 2004 to 2009
NRD Reservoir	No Carcinogens	No Carcinogens	

Surface Water	Hazard Index Adult Recreational Fisherman	Hazard Index Child Recreational Fisherman	Remarks
Johnson Creek and Clear Creek	**2.00**	**4.00**	Ingestion of fish contributed the most to this hazard. The fish tissue concentrations were estimated from the surface water concentrations of Hg and Tl. The bioconcentration model is very conservative (URS 2000a). Hg and Tl were not detected in fish samples from NRD reservoir. Thus, it is unlikely that these metals are truly present in the fish at Johnson Creek and Clear Creek at levels that pose unacceptable risks to fishermen.
Silver Creek	0.08	0.20	
NRD Reservoir	0.40	**1.20**	Selenium (Se) contributed the most to the hazard. The target organs for Se toxicity are skin, hair, nervous system; the only other chemical that affects the skin is silver. The Hazard Index for Se and Ag is 0.6, < target hazard of one.

NRD—Natural Resources District
Ag—Silver
Hg—Mercury
Se—Selenium
Tl—Thallium
1 – bolded numbers indicate a HI value greater than 1

Table A-3 Summary of Characteristics of Buildings of Interest for Vapor Intrusion

Plume	Unit#/Building Identification	Description	Current Use	Approx Age (Years)	Type of Construction	Nearby Wells or Direct-push groundwater samples[1]
LL1	001/103	Dairy Farm Manager Residence	Residential	40	Basement (concrete floor)	GP-108 (4020)
LL1	002/105	Swine Farm Manager Residence	Residential	20	Basement (concrete floor)	GP-08 (283), MW-89, MW-90
LL1	003/---	Feed Mill (970 County Road-10)	Industrial			Not available
LL1	004/104	Entomology Building (1033 County Road-H)	Industrial	40	Slab-on-grade	MW-21, MW-24
LL1	005/102	Dairy Science Building	Industrial	40	Slab-on-grade	MW-02
LL1	006/101	UNL storage/maintenance	Industrial	60+	Slab-on-grade	MW-23
LL1	011/401	Feed Lot Office	Industrial	60+	Slab-on-grade	MW-142
Atlas	007/403	Agronomy Building (650 County Road-H)	Industrial	60	Slab-on-grade	GP-84 (620)
Atlas	008/406	Four Winds Winery	Industrial	10	Slab-on-grade suspected	MW-44, WSW-52
Atlas	009/405	1041 County Road-5	Residential	30+	Pier-and-beam suspected	WSW-53
Atlas	010/404	1061 County Road-5	Residential	30+	Basement (concrete floor)	WSW-54
Atlas	012/402	North end of LL4	Industrial	60+	Slab-on-grade	MW-09

[1] TCE concentrations measured in "GP" direct-push groundwater samples are shown in parenthesis in µg/L (Lockheed Martin 2007a). TCE concentrations in monitoring and water supply wells are shown in Table 2-4.
LL—Load Line

Table A-4 Summary of TCE Analysis in Lockheed Martin/USEPA Vapor Intrusion Study

TCE Screening Levels (compare with Indoor Air Values or 0.1 x SubSlab Soil Gas):
Residential: 0.22 ppbv, May 2010; (0.08 ppbv in November 2011)
Industrial: 1.14 ppbv, May 2010; (0.55 ppbv in November 2011)

Location	Bldg. No.	Building Type	Real Time Monitoring by TAGA	SUMMA® Canister Samples		
			Indoor Air Result ppbv	Indoor Air/ 1st floor Result ppbv	Indoor Air/Basement Result ppbv	Sub-Slab Soil Gas Result ppbv
Unit 001	103	Residential/ UNL Dairy Farm Manager	0.27 J	0.12	0.13	0.024
Unit 002	105	Residential/UNL Swine Farm manager	ND (<0.11)	ND (<0.07)	ND (<0.007)	ND (<0.01)
Unit 003		Industrial/UNL Feed Mill	NA	NA	NA	ND (<0.01)
Unit 004	104	Industrial/ UNL Entomology Building	ND (<0.052)	NA	NA	0.018
Unit 005	102	Industrial/UNL Dairy Science Building	ND (<0.052)	NA	NA	ND (<0.01)
Unit 006	101	Industrial/UNL Farm Equipment Storage	0.54	NA	NA	190
Unit 007	403	Industrial/UNL Agronomy Building	ND (<0.019)	NA	NA	0.072
Unit 008	406	Industrial/Private-Four Winds Winery	0.060 J	0.0083	NA	0.021
Unit 009	405	Residential/Private	NA	NA	0.015	NA
Unit 010	404	Residential/Private	ND (<0.019)	0.01	0.012	0.027
Unit 011	401	Industrial/Feed Lot Office	NA	NA	NA	0.54
Unit 012	402	Industrial/ UNL Building	ND (<0.019)	NA	NA	ND (<0.01)

Source: Lockheed Martin/REAC 2007
DL—Detection Limit; RL—Reporting Limit

APPENDIX B

SOILS DATA

Table B-1 Summary of Explosives Soil Statistics for Ammonium Nitrate Investigation Area

Metal	CAS	d = 1 to 2 ft bgs (N=1)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0
Nitrobenzene	98-95-3	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	0.100	0.100	1

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-2 Summary of Explosives Soil Statistics for Atlas Waste Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=8)			d = 1 to 2 ft bgs (N=8)			d > 2 ft bgs (N=15)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0	0.063	0.063	1
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	0.057	1	ND	ND	0	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	0.042	1	ND	0.044	1	ND	0.098	1
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.140	5	ND	0.081	5	ND	0.140	6

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-3 Summary of Explosives Soil Statistics for the LL1 Bomb Building Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=74)			d = 0 to 1 ft bgs (N=38)			d = 1 to 2 ft bgs (N=74)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	27.000	16	ND	0.200	2	ND	5.300	10
1,3-Dinitrobenzene	99-65-0	ND	0.630	1	ND	0.000	1	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	13,000	40	ND	32.000	5	ND	4,300	27
2,4-Dinitrotoluene	121-14-2	ND	6.800	5	ND	0.230	2	ND	0.890	2
2,6-Dinitrotoluene	606-20-2	ND	1.000	5	ND	0.000	1	ND	0.190	3
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	54.000	28	ND	0.370	7	ND	15.000	24
2-Nitrotoluene	88-72-2	ND	0.480	1	ND	0.690	2	ND	0.500	3
3-Nitrotoluene	99-08-1	ND	0.520	3	ND	0.000	1	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	30.000	26	ND	0.230	4	ND	10.000	17
4-Nitrotoluene	99-99-0	ND	ND	0	ND	0.000	1	ND	0.480	1
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	2.100	13	ND	5.100	8	ND	3.000	10
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	0.460	6	ND	0.071	2	ND	0.280	2
Nitrobenzene	98-95-3	ND	ND	0	ND	0.000	1	ND	0.410	1
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.690	15	ND	1.200	7	ND	1.100	13

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-4 Summary of Explosives Soil Statistics for the LL2 Bomb Building Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=74)			d = 0 to 1 ft bgs (N=38)			d = 1 to 2 ft bgs (N=74)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	32.000	8	ND	1.900	3	ND	16.000	7
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	14,000	28	ND	3.300	7	ND	37.000	15
2,4-Dinitrotoluene	121-14-2	ND	3.700	2	ND	0.390	3	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	12.000	1	ND	ND	0	ND	7.600	1
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	4.500	18	ND	0.320	3	ND	1.400	16
2-Nitrotoluene	88-72-2	ND	0.720	1	ND	ND	0	ND	0.520	1
3-Nitrotoluene	99-08-1	ND	0.480	5	ND	ND	0	ND	0.240	1
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	2.400	16	ND	0.210	1	ND	1.100	9
4-Nitrotoluene	99-99-0	ND	0.720	1	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	4,300	29	ND	2.200	10	ND	61.000	30
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	0.530	5	ND	0.140	3	ND	0.320	5
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	300	28	ND	35.000	15	ND	9.900	26

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-5 Summary of Explosives Soil Statistics for the LL3 Bomb Building Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=74)			d = 0 to 1 ft bgs (N=38)			d > 2 ft bgs (N=74)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	1.400	10	ND	0.210	7	ND	0.270	6
1,3-Dinitrobenzene	99-65-0	ND	0.370	2	ND	ND	0	ND	0.420	1
2,4,6-Trinitrotoluene	118-96-7	ND	87,000	39	ND	0.820	3	ND	6.500	14
2,4-Dinitrotoluene	121-14-2	ND	3.400	1	ND	3.500	1	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	0.000	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	6.000	34	ND	0.073	1	ND	1.700	16
2-Nitrotoluene	88-72-2	ND	0.000	0	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	0.620	2	ND	0.190	1	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	2.700	37	ND	0.240	2	ND	2.700	16
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	1,600	23	ND	3.600	5	ND	35.000	22
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	0.250	3	ND	ND	0	ND	0.410	3
Nitrobenzene	98-95-3	ND	1.100	2	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	730	24	ND	0.520	22	ND	5.000	26

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-6 Summary of Explosives Soil Statistics for the LL4 Bomb Building Investigation Area

		d = 0 to 0.5 ft bgs (N=73)			d = 0 to 1 ft bgs (N=37)			d = 1 to 2 ft bgs (N=73)		
Explosive	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**
1,3,5-Trinitrobenzene	99-35-4	ND	0.120	3	ND	0.120	0	ND	0.100	4
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	37.000	25	ND	37.000	1	ND	0.940	26
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	0.088	1
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	1.000	12	ND	1.000	0	ND	1.100	13
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	0.140	1
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	1	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	0.870	13	ND	0.870	1	ND	0.670	15
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	0.140	1
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	74.000	15	ND	74.000	10	ND	11.000	14
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0	ND	ND	0	ND	ND	0
Nitrobenzene	98-95-3	ND	0.730	2	ND	0.730	1	ND	1.600	1
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	7.500	24	ND	7.500	5	ND	1.700	25

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-7 Summary of Explosives Soil Statistics for the Bomb Booster Assembly Investigation Area

		d = 0 to 0.5 ft bgs (N=8)			d = 1 to 2 ft bgs (N=8)			d > 2 ft bgs (N=20)		
Explosive	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0	ND	0.001	1
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	0.003	1	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	0.002	1	ND	ND	0	ND	0.003	1
2-Nitrotoluene	88-72-2	ND	0.002	1	ND	ND	0	ND	0.0004	1
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0	ND	0.002	2
4-Nitrotoluene	99-99-0	ND	0.002	1	ND	ND	0	ND	0.0004	1
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0	ND	ND	0	ND	0.0003	1
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.015	1	ND	0.027	2	ND	0.390	6

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-8 Summary of Explosives Soil Statistics for the Bermed Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=3)			d = 1 to 2 ft bgs (N=3)			d > 2 ft bgs (N=3)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0	ND	ND	0	ND	ND	0
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.027	1	ND	ND	0	ND	0.022	2

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-9 Summary of Explosives Soil Statistics for the Demolition Ground Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=4)			d = 1 to 2 ft bgs (N=4)			d > 2 ft bgs (N=12)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0	ND	ND	0	ND	ND	0
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.020	1	ND	ND	0	ND	0.066	1

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-10 Summary of Explosives Soil Statistics for the Detonation Crater Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=5)			d = 1 to 2 ft bgs (N=5)			d > 2 ft bgs (N=1)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	0.074	1	ND	ND	0	ND	ND	0
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.071	4	ND	0.012	1	ND	ND	0

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-11 Summary of Explosives Soil Statistics for the Geophysical Anomaly Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=2)			d = 1 to 2 ft bgs (N=2)			d > 2 ft bgs (N=8)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0	ND	ND	0	ND	ND	0
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.027	2	ND	0.032	2	ND	0.062	5

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-12 Summary of Explosives Soil Statistics for the Igloo Storage Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=5)			d = 0 to 1 ft bgs (N=9)			d = 1 to2 ft bgs (N=2)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	1.400	4	ND	0.170	2	ND	0.670	1
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0	ND	0.100	2	ND	ND	0
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	ND	0	ND	0.093	1	ND	ND	0

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-13 Summary of Explosives Soil Statistics for the North Burning Ground Investigation Area

Metal	CAS	d = 0 to 0.5 ft bgs (N=3) Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0
Nitrobenzene	98-95-3	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.071	1

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram

N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-14 Summary of Explosives Soil Statistics for the Nike Missile Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=7)			d = 1 to 2 ft bgs (N=7)			d > 2 ft bgs (N=28)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	NA	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	NA	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0	ND	NA	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	NA	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	NA	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0	ND	ND	0	ND	NA	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	NA	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	NA	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0	ND	NA	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	NA	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0	ND	0.460	2
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0	ND	ND	0	ND	NA	0
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	NA	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.018	1	ND	0.220	2	ND	0.940	8

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-15 Summary of Explosives Soil Statistics for the Potential Landfill Investigation Area

Explosive	CAS	d = 0 to 0.5 ft bgs (N=6)			d = 1 to 2 ft bgs (N=6)			d > 2 ft bgs (N=2)		
		Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects	Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	0.068	1	ND	0.047	1	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	0.260	1	ND	0.180	1	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	0.130	2	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0	ND	ND	0	ND	ND	0
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.068	2	ND	0.022	2	ND	ND	0

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-16 Summary of Explosives Soil Statistics for the Proving Grounds Investigation Area

Metal	CAS	d = 0 to 0.5 ft bgs (N=33) Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	30.000	3
1,3-Dinitrobenzene	99-65-0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	1,500	24
2,4-Dinitrotoluene	121-14-2	ND	1.800	1
2,6-Dinitrotoluene	606-20-2	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	14.000	23
2-Nitrotoluene	88-72-2	ND	0.220	1
3-Nitrotoluene	99-08-1	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	6.700	13
4-Nitrotoluene	99-99-0	ND	0.034	6
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	43.000	15
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	1.700	4
Nitrobenzene	98-95-3	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	10.000	8

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-17 Summary of Explosives Soil Statistics for the Tetryl Pelleting Investigation Area

		d = 0 to 0.5 ft bgs (N=6)			d > 2 ft bgs (N=6)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	9.30E-5	3	ND	4.80E-5	2
Nitrobenzene	98-95-3	ND	ND	0	ND	ND	0
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	0.370	3	ND	0.470	2

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-18 Summary of Explosives sediment statistics for the Johnson Creek, Clear Creek, and Silver Creek Investigation Areas

		Clear Creek (N=2)			Johnson Creek (N=5)			Clear Creek (N=2)		
Explosive	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0	ND	ND	0	ND	0.013	1
1,3-Dinitrobenzene	99-65-0	ND	ND	0	ND	ND	0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0	ND	ND	0	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0	ND	ND	0	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0	ND	ND	0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0	ND	ND	0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0	ND	ND	0	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0	ND	ND	0	ND	ND	0
Nitrobenzene	98-95-3	ND	0.027	1	ND	ND	0	ND	0.049	1
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	ND	0	ND	ND	0	ND	ND	0

mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value

Table B-19 Summary of the Explosives sediment statistics for the NRD Reservoir Investigation Area

Metal	CAS	NRD Reservoir (N=5) Minimum (mg/kg)	Maximum (mg/kg)	# Detects
1,3,5-Trinitrobenzene	99-35-4	ND	ND	0
1,3-Dinitrobenzene	99-65-0	ND	ND	0
2,4,6-Trinitrotoluene	118-96-7	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0
2-Amino-4,6-dinitrotoluene	35572-78-2	ND	ND	0
2-Nitrotoluene	88-72-2	ND	ND	0
3-Nitrotoluene	99-08-1	ND	ND	0
4-Amino-2,6-dinitrotoluene	1946-51-0	ND	ND	0
4-Nitrotoluene	99-99-0	ND	ND	0
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	ND	ND	0
Methyl-2,4,6-trinitrophenylnitramine	479-45-8	ND	ND	0
Nitrobenzene	98-95-3	ND	0.074	1
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	ND	ND	0

mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
ND – non-detect value
NRD – Natural Resources District

Table B-20 Summary of Metals Soil Statistics for Ammonium Nitrate Investigation Area

		d = 0 to 0.5 ft bgs (N=2)			d = 1 to 2 ft bgs (N=2)			d > 2 ft bgs (N=8)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	10,200	18,000	14,100	6,750	16,200	11,475	504	16,000	9,856
Antimony	7440-36-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	3.90	6.70	5.30	2.90	8.20	5.55	2.90	10.10	6.25
Barium	7440-39-3	205.00	246.00	225.50	212.00	213.00	212.50	18.00	303.00	190.94
Beryllium	7440-41-7	0.52	0.74	0.63	0.43	0.68	0.56	0.05	0.81	0.51
Cadmium	7440-43-9	0.72	1.10	0.91	0.34	0.82	0.58	0.44	1.20	0.83
Chromium	7440-47-3	12.90	19.50	16.20	10.10	16.40	13.25	1.80	20.50	12.60
Cobalt	7440-48-4	6.70	9.00	7.85	5.30	9.10	7.20	0.25	12.10	7.10
Copper	7440-50-8	13.00	20.50	16.75	9.90	19.60	14.75	0.69	23.60	15.59
Iron	7439-89-6	11,800	18,900	15,350	10,300	19,000	14,650	1,810	20,100	13,095
Lead	7439-92-1	15.60	30.20	22.90	12.60	14.00	13.30	1.30	15.60	10.48
Magnesium	7439-95-4	1,990	3,340	2,665	1,630	3,610	2,620	192	9,150	3,488
Manganese	7439-96-5	400.00	499.00	449.50	173.00	500.00	336.50	34.60	708.00	313.13
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	12.30	20.30	16.30	9.60	21.90	15.75	0.76	30.20	16.16
Selenium	7782-49-2	NA	NA	NA	1.20	1.20	1.20	1.10	1.30	1.20
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	24.90	41.30	33.10	21.90	33.70	27.80	1.50	43.80	22.71
Zinc	7440-66-6	52.20	87.40	69.80	29.90	62.80	46.35	2.90	78.80	52.65

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-21 Summary of Metals Soil Statistics for the Atlas Waste Area Investigation Area

		d = 0 to 0.5 ft bgs (N=8)			d = 1 to 2 ft bgs (N=8)			d > 2 ft bgs (N=15)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	7,300	19,100	13,885	9,850	21,000	13,194	499	25,600	8,243
Antimony	7440-36-0	NA	NA	NA	0.55	0.55	0.55	0.67	0.67	0.67
Arsenic	7440-38-2	4.80	7.20	5.99	4.20	9.30	6.96	6.60	10.00	8.17
Barium	7440-39-3	169.00	231.00	206.25	157.00	277.00	225.25	8.60	341.00	127.51
Beryllium	7440-41-7	0.44	0.77	0.65	0.46	0.92	0.68	0.04	1.00	0.40
Cadmium	7440-43-9	0.26	0.68	0.52	0.31	0.85	0.55	0.31	1.10	0.61
Chromium	7440-47-3	10.60	21.20	15.95	10.40	22.00	15.79	1.50	27.20	10.73
Cobalt	7440-48-4	7.20	9.90	8.91	6.60	12.50	9.69	0.29	14.30	5.42
Copper	7440-50-8	13	19	16	12	21	17	1	25	10
Iron	7439-89-6	11,800	18,700	16,388	11,900	22,600	17,563	671	24,800	10,358
Lead	7439-92-1	11	18	15	9	17	14	1	17	8
Magnesium	7439-95-4	2,330	3,690	3,168	2,570	4,790	3,559	178	5,210	2,266
Manganese	7439-96-5	496.00	596.00	556.50	217.00	680.00	536.25	13.90	1,150	308.77
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	15.60	22.50	19.00	14.30	24.80	20.24	0.43	37.60	13.47
Selenium	7782-49-2	1.10	2.40	1.61	1.50	2.60	1.78	1.10	1.70	1.42
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	19.20	44.00	30.64	19.30	44.10	28.90	1.30	59.50	20.41
Zinc	7440-66-6	46.10	77.60	60.95	35.60	72.60	62.71	3.10	90.60	37.09

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-22 Summary of Metals Soil Statistics for the LL1 Bomb Building Investigation Area

		d = 0 to 0.5 ft bgs (N=75)			d = 0 to 1 ft bgs (N=38)			d = 1 to 2 ft bgs (N=75)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	6,450	23,600	15,279	9,940	21,900	14,825	6,820	47,500	16,268
Antimony	7440-36-0	0.47	3.20	0.77	0.51	0.55	0.53	0.47	1.20	0.62
Arsenic	7440-38-2	4.80	11.60	7.92	4.80	10.60	8.32	3.70	17.50	8.27
Barium	7440-39-3	151.00	446.00	243.33	161.00	334.00	242.26	123.00	4,710.00	307.11
Beryllium	7440-41-7	0.43	0.99	0.74	0.53	0.95	0.75	0.38	1.90	0.81
Cadmium	7440-43-9	0.17	17.20	1.29	0.17	0.84	0.37	0.14	2.60	0.48
Chromium	7440-47-3	9.00	40.80	19.88	12.00	24.10	17.00	7.90	47.00	18.24
Cobalt	7440-48-4	6.30	16.90	9.86	6.90	14.70	10.04	5.40	20.80	10.57
Copper	7440-50-8	12.60	75.30	23.86	12.70	44.30	19.65	8.70	46.70	20.62
Iron	7439-89-6	10,600	24,500	18,181	13,700	23,600	18,513	8,820	46,900	19,680
Lead	7439-92-1	14.00	417.00	98.83	10.00	26.60	14.15	7.70	225.00	24.85
Magnesium	7439-95-4	1,770	5,350	3,667	2,290	6,280	3,788	1,620	8,950	3,789
Manganese	7439-96-5	258.00	1,180.00	581.13	396.00	897.00	602.53	284.00	1,110.00	631.09
Mercury	7439-97-6	0.15	0.93	0.37	NA	NA	NA	0.13	0.24	0.17
Nickel	7440-02-0	13.60	39.30	23.62	15.70	32.70	23.22	10.30	51.70	24.56
Selenium	7782-49-2	0.88	2.40	1.42	1.10	2.00	1.39	1.00	3.10	1.56
Silver	7440-22-4	9.90	9.90	9.90	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	1.90	1.90	1.90	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	17.20	53.00	34.54	23	46.2	32.72	16.4	102	35.48
Zinc	7440-66-6	40.8	1890	140.44	39	64	53.3	26.8	224	69.82

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-23 Summary of Metals Soil Statistics for the LL2 Bomb Building Investigation Area

		d = 0 to 0.5 ft bgs (N=76)			d = 0 to 1 ft bgs (N=39)			d = 1 to 2 ft bgs (N=76)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	7,150	21,600	13,652	8,920	20,200	13,547	7,400	23,600	15,702
Antimony	7440-36-0	0.51	2.80	0.98	0.59	0.59	0.59	0.46	1.30	0.68
Arsenic	7440-38-2	3.70	15.50	7.37	6.00	11.50	8.69	5.60	11.90	8.63
Barium	7440-39-3	128.00	516.00	223.78	147.00	324.00	222.64	170.00	357.00	253.03
Beryllium	7440-41-7	0.35	0.95	0.67	0.53	0.92	0.72	0.53	0.95	0.78
Cadmium	7440-43-9	0.13	12.60	1.37	0.13	0.66	0.42	0.13	2.20	0.45
Chromium	7440-47-3	10.40	70.60	19.22	11.60	23.70	15.84	10.30	28.80	18.57
Cobalt	7440-48-4	5.00	14.00	9.04	7.50	12.50	9.97	7.20	13.00	10.37
Copper	7440-50-8	12.30	145.00	29.44	14.20	25.80	19.73	11.90	69.80	21.96
Iron	7439-89-6	9,970	118,000	19,122	13,400	23,700	18,526	13,900	33,900	19,741
Lead	7439-92-1	13.80	1,040.00	248.13	10.50	36.30	14.53	12.80	406.00	29.55
Magnesium	7439-95-4	1,720	5,680	3,741	2,500	5,150	3,766	2,620	5,970	3,968
Manganese	7439-96-5	279.00	1,090	541.50	461.00	898.00	595.38	373.00	985.00	612.00
Mercury	7439-97-6	0.12	0.39	0.24	0.38	0.38	0.38	0.13	0.13	0.13
Nickel	7440-02-0	11.50	52.40	23.23	17.30	29.60	23.57	16.70	45.60	24.49
Selenium	7782-49-2	0.97	3.30	1.47	1.10	1.90	1.35	1.10	2.40	1.45
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	1.40	1.40	1.40	NA	NA	NA
Vanadium	7440-62-2	18.40	57.90	34.57	21.90	53.10	31.89	17.80	53.30	37.86
Zinc	7440-66-6	45.20	654.00	144.71	36.20	66.90	52.86	44.00	215.00	63.78

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-24 Summary of Metals Soil Statistics for the LL3 Bomb Building Investigation Area

		d = 0 to 0.5 ft bgs (N=74)			d = 0 to 1 ft bgs (N=38)			d = 1 to 2 ft bgs (N=74)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	3,500	21,700	13,676	6,220	22,600	14,551	9,900	23,300	16,580
Antimony	7440-36-0	0.43	1.50	0.77	0.46	0.63	0.55	0.46	0.59	0.53
Arsenic	7440-38-2	2.10	10.50	7.11	2.90	11.20	8.07	6.00	11.80	8.91
Barium	7440-39-3	85.40	2,380.00	247.98	76.80	391.00	233.99	144.00	466.00	246.89
Beryllium	7440-41-7	0.19	0.94	0.66	0.33	0.99	0.73	0.63	1.00	0.80
Cadmium	7440-43-9	0.14	3.10	0.81	0.14	0.61	0.38	0.13	0.96	0.32
Chromium	7440-47-3	5.00	26.80	17.88	7.00	23.30	16.19	12.20	24.40	18.55
Cobalt	7440-48-4	3.10	12.40	8.79	4.00	12.90	10.10	8.40	15.40	10.45
Copper	7440-50-8	5.70	157.00	26.95	7.20	31.60	18.56	15.40	30.40	21.28
Iron	7439-89-6	4,890	25,000	17,238	7,710	22,300	18,261	15,500	24,900	20,150
Lead	7439-92-1	17.20	4,670	194.30	6.20	69.00	15.10	12.60	104.00	20.26
Magnesium	7439-95-4	910.00	8,390	3,380	1,480	4,780	3,627	2,860	4,970	3,867
Manganese	7439-96-5	190.00	826.00	531.19	223.00	853.00	555.39	201.00	1,040	615.77
Mercury	7439-97-6	0.11	0.72	0.20	0.17	0.17	0.17	0.14	0.34	0.19
Nickel	7440-02-0	6.00	60.00	25.36	9.40	29.80	22.52	19.20	30.10	24.92
Selenium	7782-49-2	1.10	2.80	1.51	1.10	2.10	1.60	1.10	2.50	1.68
Silver	7440-22-4	0.33	79.30	17.05	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	1.80	1.80	1.80	NA	NA	NA	1.70	1.70	1.70
Vanadium	7440-62-2	9.50	51.50	32.41	14.60	48.30	31.96	19.60	49.00	35.81
Zinc	7440-66-6	36.40	408.00	116.01	19.80	63.50	51.37	46.40	134.00	61.77

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-25 Summary of Metals Soil Statistics for the LL4 Bomb Building Investigation Area

		d = 0 to 0.5 ft bgs (N=74)			d = 0 to 1 ft bgs (N=38)			d = 1 to 2 ft bgs (N=74)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	4950	22,200	14,113	6570	18,300	13,707	10,200	25,600	16,271
Antimony	7440-36-0	0.48	1.40	0.71	NA	NA	NA	0.50	0.52	0.51
Arsenic	7440-38-2	2.30	15.30	7.22	4.10	10.00	7.99	3.10	11.30	7.98
Barium	7440-39-3	68.20	325.00	214.93	109.00	302.00	222.14	153.00	347.00	239.97
Beryllium	7440-41-7	0.25	0.97	0.68	0.42	0.89	0.73	0.59	1.00	0.78
Cadmium	7440-43-9	0.15	10.30	0.96	0.16	0.96	0.46	0.13	0.77	0.36
Chromium	7440-47-3	8.70	57.00	19.41	7.40	27.30	15.65	12.60	25.80	18.12
Cobalt	7440-48-4	3.70	13.60	9.33	6.20	13.70	9.97	7.60	14.90	10.29
Copper	7440-50-8	11.80	112.00	25.74	9.80	80.60	20.79	11.70	31.90	20.42
Iron	7439-89-6	7250	70,600	19,318	9040	22,000	18,269	10,900	26,300	19,900
Lead	7439-92-1	16.50	313.00	106.90	8.70	16.80	13.98	12.70	130.00	19.98
Magnesium	7439-95-4	1110	5120	3383	1610	4780	3493	2360	5260	3686
Manganese	7439-96-5	218.00	960.00	570.96	158.00	972.00	583.86	277.00	942.00	617.40
Mercury	7439-97-6	0.13	0.38	0.18	0.00	0.00	NA	0.14	0.21	0.16
Nickel	7440-02-0	7.80	61.70	23.01	11.20	28.60	22.29	14.20	33.50	23.49
Selenium	7782-49-2	0.96	3.30	1.63	1.10	2.40	1.46	1.10	2.50	1.56
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	1.50	1.50	1.50	NA	NA	NA	1.40	1.40	1.40
Vanadium	7440-62-2	12.70	49.20	32.31	16.10	43.10	30.20	24.90	52.30	34.83
Zinc	7440-66-6	47.50	355.00	109.91	24.40	60.60	51.60	42.10	130.00	60.20

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-26 Summary of Metals Soil Statistics for the Bomb Booster Assembly Area Investigation Area

		d = 0 to 0.5 ft bgs (N=8)			d = 1 to 2 ft bgs (N=8)			d > 2 ft bgs (N=20)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	8,190	20,400	11,284	8,410	20,700	13,976	1,060	19,700	10,573
Antimony	7440-36-0	NA	NA	NA	NA	NA	NA	0.54	0.54	0.54
Arsenic	7440-38-2	4.40	7.80	5.43	5.50	8.40	7.00	2.20	9.80	7.49
Barium	7440-39-3	167.00	294.00	206.00	172.00	315.00	231.88	15.00	360.00	191.89
Beryllium	7440-41-7	0.52	0.96	0.61	0.55	0.85	0.71	0.07	0.85	0.54
Cadmium	7440-43-9	0.27	0.93	0.57	0.27	0.77	0.52	0.23	1.40	0.73
Chromium	7440-47-3	9.80	20.70	13.05	11.50	20.70	15.18	2.30	21.40	12.50
Cobalt	7440-48-4	7.30	9.60	7.94	7.90	10.40	9.34	0.57	12.70	7.99
Copper	7440-50-8	14.20	25.80	17.41	13.70	21.10	17.99	1.10	22.40	14.71
Iron	7439-89-6	11,800	21,200	14,025	13,900	21,000	17,388	1,400	22,000	14,421
Lead	7439-92-1	12.70	25.90	17.73	13.00	18.50	14.89	1.70	28.00	11.88
Magnesium	7439-95-4	2,060	3,780	2,706	2,560	3,690	3,260	393.00	4,900	2,972
Manganese	7439-96-5	440.00	544.00	477.00	477.00	659.00	545.63	29.80	818.00	468.55
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	13.60	21.00	15.54	16.80	23.80	19.98	1.10	30.00	17.53
Selenium	7782-49-2	1.20	2.10	1.70	1.40	2.20	1.74	1.20	2.10	1.73
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	18.30	44.70	25.54	23.60	38.80	28.51	2.90	48.40	23.97
Zinc	7440-66-6	56.20	103.00	75.03	56.00	78.10	65.75	5.50	92.80	53.79

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-27 Summary of Metals Soil Statistics for the Bermed Investigation Area

		d = 0 to 0.5 ft bgs (N=3)			d = 1 to 2 ft bgs (N=3)			d > 2 ft bgs (N=3)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	11,400	13,100	12,033	5470	10,100	8503	19,200	23,100	20,667
Antimony	7440-36-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	4.50	7.00	6.13	1.80	5.00	3.90	6.70	7.20	6.97
Barium	7440-39-3	182.00	205.00	192.00	93.30	193.00	150.10	245.00	278.00	264.33
Beryllium	7440-41-7	0.58	0.66	0.62	0.28	0.59	0.48	0.82	0.88	0.85
Cadmium	7440-43-9	0.37	0.38	0.38	0.25	0.35	0.30	0.48	0.56	0.52
Chromium	7440-47-3	2,920	3,540	3,317	2,380	178,000	61,047	2,870	3,320	3,083
Cobalt	7440-48-4	13.30	18.30	15.47	7.70	11.90	10.43	20.50	24.10	22.03
Copper	7440-50-8	7.70	8.60	8.30	3.90	8.20	6.70	10.30	11.50	10.90
Iron	7439-89-6	13.60	16.60	15.43	7.10	11.60	10.07	14.10	16.30	15.30
Lead	7439-92-1	13,900	15,900	15,200	6680	12,900	10,693	20,300	21,300	20,733
Magnesium	7439-95-4	11.90	13.00	12.33	11.00	11.90	11.50	14.70	15.80	15.20
Manganese	7439-96-5	2740	3430	3146	2130	2550	2310	3780	4010	3866
Mercury	7439-97-6	478.00	507.00	496.33	414.00	548.00	500.67	538.00	674.00	608.00
Nickel	7440-02-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	16.50	20.30	18.77	7.20	14.70	12.07	19.00	21.20	19.93
Silver	7440-22-4	1960	2740	2317	1920	1950	1933	3030	3970	3357
Thallium	7440-28-0	1.40	1.50	1.45	1.50	1.60	1.55	1.60	2.00	1.83
Vanadium	7440-62-2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	NA	NA	NA	NA	NA	NA	NA	NA	NA

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-28 Summary of Metals Soil Statistics for the Demolition Ground Investigation Area

		d = 0 to 0.5 ft bgs (N=4)			d = 1 to 2 ft bgs (N=4)			d > 2 ft bgs (N=12)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	10,200	18,100	13,800	11,100	16,700	13,425	309	11,300	6642
Antimony	7440-36-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	5.30	8.60	7.30	5.80	8.80	7.65	6.40	9.40	8.59
Barium	7440-39-3	205.00	337.00	253.25	153.00	434.00	263.25	6.00	261.00	156.50
Beryllium	7440-41-7	0.61	0.74	0.68	0.65	0.76	0.69	0.03	0.67	0.42
Cadmium	7440-43-9	0.33	0.70	0.43	0.22	0.47	0.36	0.40	0.82	0.58
Chromium	7440-47-3	13.50	18.50	15.18	13.90	16.60	14.90	1.10	14.50	9.06
Cobalt	7440-48-4	7.90	10.40	9.70	6.10	10.80	8.75	0.21	11.40	6.48
Copper	7440-50-8	13.20	19.60	16.48	11.80	20.70	16.95	0.66	21.30	13.29
Iron	7439-89-6	14,400	19,000	17,225	16,200	19,900	18,150	560	18,400	11,543
Lead	7439-92-1	11.80	15.60	13.73	12.50	14.30	13.35	1.30	14.60	9.58
Magnesium	7439-95-4	2820	3580	3328	2940	3680	3415	123	3970	2452
Manganese	7439-96-5	470.00	653.00	561.50	253.00	621.00	484.25	14.20	889.00	433.84
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	0.13	0.13	0.13
Nickel	7440-02-0	15.00	23.10	19.20	15.70	25.10	20.15	0.53	30.10	16.80
Selenium	7782-49-2	1.50	1.50	1.50	1.10	1.80	1.37	1.10	1.30	1.23
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	26.80	40.10	31.33	26.10	29.10	27.95	1.00	30.50	18.53
Zinc	7440-66-6	59.50	68.40	64.65	56.70	65.70	62.28	2.40	66.40	42.47

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-29 Summary of Metals Soil Statistics for the Detonation Crater Investigation Area

		d = 0 to 0.5 ft bgs (N=54)			d = 1 to 2 ft bgs (N=5)			d > 2 ft bgs (N=1)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	5230	12,600	8508	5910	10,900	8446	6480	6480	6480
Antimony	7440-36-0	NA	NA	NA	0.48	0.48	0.48	NA	NA	NA
Arsenic	7440-38-2	1.40	5.10	3.34	2.00	4.10	3.26	1.80	1.80	1.80
Barium	7440-39-3	75.70	184.00	127.14	102.00	178.00	141.00	87.40	87.40	87.40
Beryllium	7440-41-7	0.26	0.59	0.42	0.33	0.46	0.41	0.28	0.28	0.28
Cadmium	7440-43-9	0.08	0.20	0.14	0.08	0.11	0.10	2.20	2.20	2.20
Chromium	7440-47-3	6.20	14.30	9.66	7.10	11.50	9.56	16.20	16.20	16.20
Cobalt	7440-48-4	4.40	6.70	5.42	3.70	7.20	5.96	3.70	3.70	3.70
Copper	7440-50-8	6.20	13.30	9.24	6.20	9.30	8.16	6.20	6.20	6.20
Iron	7439-89-6	6550	14800	10172	7020	12200	9986	6400	6400	6400
Lead	7439-92-1	7.70	13.00	10.16	6.00	9.10	7.88	177.00	177.00	177.00
Magnesium	7439-95-4	1120	2720	1848	1220	2180	1746	1120	1120	1120
Manganese	7439-96-5	245.00	645.00	408.60	220.00	1320.00	653.20	199.00	199.00	199.00
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	6.90	13.70	10.26	7.30	13.50	11.22	6.80	6.80	6.80
Selenium	7782-49-2	1.20	2.10	1.60	1.10	2.10	1.50	1.00	1.00	1.00
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	12.00	25.00	17.50	11.60	21.20	16.62	11.70	11.70	11.70
Zinc	7440-66-6	24.10	55.30	38.28	25.70	38.90	32.90	30.10	30.10	30.10

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-30 Summary of Metals Soil Statistics for the Geophysical Anomaly Investigation Area

		d = 0 to 0.5 ft bgs (N=2)			d = 1 to 2 ft bgs (N=2)			d > 2 ft bgs (N=7)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	16,200	19,100	17,650	10,100	17,700	13,900	1330	15,300	8099
Antimony	7440-36-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	7.30	8.50	7.90	3.50	8.70	6.10	8.50	8.50	8.50
Barium	7440-39-3	208.00	215.00	211.50	137.00	214.00	175.50	17.00	222.00	119.50
Beryllium	7440-41-7	0.76	0.79	0.78	0.40	0.79	0.60	0.08	0.58	0.33
Cadmium	7440-43-9	0.43	0.52	0.48	0.21	0.60	0.41	0.50	0.50	0.50
Chromium	7440-47-3	3140	3300	3220	1580	3550	2565	472	8050	4261
Cobalt	7440-48-4	18.20	20.90	19.55	11.60	19.70	15.65	2.00	13.90	7.95
Copper	7440-50-8	9.60	10.00	9.80	4.70	10.10	7.40	0.69	8.90	4.80
Iron	7439-89-6	16.80	17.80	17.30	8.80	18.00	13.40	0.99	18.10	9.55
Lead	7439-92-1	19,700	19,800	19,750	10,100	20,400	15,250	1730	17,600	9665
Magnesium	7439-95-4	14.80	15.60	15.20	5.80	15.80	10.80	1.70	11.50	6.60
Manganese	7439-96-5	3680	3760	3720	2340	3940	3140	497	6080	3289
Mercury	7439-97-6	3680	3760	3720	2340	3940	3140	497	6080	3289
Nickel	7440-02-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	22.40	23.30	22.85	10.90	24.40	17.65	1.40	19.80	10.60
Silver	7440-22-4	3000	3190	3095	1300	2960	2130	350	2070	1210
Thallium	7440-28-0	2.00	2.00	2.00	2.00	2.00	2.00	NA	NA	NA
Vanadium	7440-62-2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	NA	NA	NA	150.00	150.00	150.00	208.00	208.00	208.00

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-31 Summary of Metals Soil Statistics for the Igloo Storage Investigation Area

		d = 0 to 1 ft bgs (N=15)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	6200	15,600	10,671
Antimony	7440-36-0	NA	NA	NA
Arsenic	7440-38-2	3.80	11.00	7.84
Barium	7440-39-3	117.00	281.00	182.69
Beryllium	7440-41-7	NA	NA	NA
Cadmium	7440-43-9	NA	NA	NA
Chromium	7440-47-3	7.90	24.20	14.25
Cobalt	7440-48-4	4.40	11.00	7.95
Copper	7440-50-8	8.30	36.10	17.92
Iron	7439-89-6	9400	48,700	17,925
Lead	7439-92-1	18.70	118.00	45.61
Magnesium	7439-95-4	1650	4280	2785
Manganese	7439-96-5	294.00	635.00	479.46
Mercury	7439-97-6	0.12	0.44	0.24
Nickel	7440-02-0	13.50	66.10	23.67
Selenium	7782-49-2	1.30	1.30	1.30
Silver	7440-22-4	25.20	25.20	25.20
Thallium	7440-28-0	NA	NA	NA
Vanadium	7440-62-2	16.00	35.80	25.47
Zinc	7440-66-6	68.20	199.00	113.19

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-32 Summary of Metals Soil Statistics for the LL1 Paint Building Investigation Area

		d = 0 to 0.5 ft bgs (N=29)			d = 1 to 2 ft bgs (N=29)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	4620	22,200	12,570	5550	24,800	15,276
Antimony	7440-36-0	0.50	47.20	7.82	0.49	4.70	1.26
Arsenic	7440-38-2	2.60	9.60	6.67	2.10	10.70	8.09
Barium	7440-39-3	109.00	296.00	217.41	84.80	339.00	257.96
Beryllium	7440-41-7	0.24	0.84	0.64	0.27	0.94	0.77
Cadmium	7440-43-9	0.14	144.00	6.06	0.14	0.46	0.27
Chromium	7440-47-3	9.50	140.00	24.90	6.20	25.90	17.99
Cobalt	7440-48-4	4.20	11.40	9.18	4.00	13.40	10.76
Copper	7440-50-8	12.20	53.60	23.73	6.00	27.30	19.19
Iron	7439-89-6	7210	21,100	16,227	6820	23,800	19,290
Lead	7439-92-1	13.50	794.00	104.62	7.00	50.90	18.46
Magnesium	7439-95-4	1,470	6,360	3,314	1,240	4,950	3,756
Manganese	7439-96-5	200.00	705.00	521.52	224.00	878.00	649.45
Mercury	7439-97-6	0.16	0.24	0.20	NA	NA	NA
Nickel	7440-02-0	9.10	49.50	21.11	7.70	30.30	22.60
Selenium	7782-49-2	1.00	1.90	1.38	1.10	2.00	1.41
Silver	7440-22-4	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	1.50	1.50	1.50
Vanadium	7440-62-2	14.30	51.80	29.44	14.70	53.10	32.29
Zinc	7440-66-6	40.30	266.00	92.78	20.00	75.40	60.93

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-33 Summary of Metals Soil Statistics for the LL2 Paint Building Investigation Area

		d = 0 to 0.5 ft bgs (N=28)			d = 1 to 2 ft bgs (N=28)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	3,380	20,200	14,043	10,700	27,000	17,179
Antimony	7440-36-0	0.60	501.00	49.69	0.62	20.90	4.62
Arsenic	7440-38-2	1.70	14.60	7.95	5.80	12.70	9.39
Barium	7440-39-3	69.50	423.00	223.59	150.00	372.00	247.93
Beryllium	7440-41-7	0.22	0.95	0.70	0.62	1.10	0.82
Cadmium	7440-43-9	0.15	13.80	1.11	0.12	0.90	0.35
Chromium	7440-47-3	2,770	16,100	5,569	1,350	7,050	4,357
Cobalt	7440-48-4	5.80	840.00	50.76	13.40	35.80	20.52
Copper	7440-50-8	3.20	44.90	10.69	7.60	13.40	10.54
Iron	7439-89-6	12.80	86.00	23.89	16.90	29.10	21.78
Lead	7439-92-1	5,320	26,800	17,936	16,200	26,200	20,996
Magnesium	7439-95-4	11.40	3,960	200.30	13.00	128.00	23.62
Manganese	7439-96-5	1,390	5,520	3,578	3,330	6,110	4,279
Mercury	7439-97-6	205.00	1,080	547.50	352.00	969.00	603.61
Nickel	7440-02-0	0.16	0.76	0.40	0.13	0.16	0.15
Selenium	7782-49-2	6.90	63.00	23.59	19.10	35.10	25.01
Silver	7440-22-4	1,080	3,930	2,984	2,180	4,430	3,173
Thallium	7440-28-0	1.20	1.90	1.42	1.10	1.90	1.34
Vanadium	7440-62-2	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	2,020	6,100	4,060	258.00	3,010	1,634

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-34 Summary of Metals Soil Statistics for the LL3 Paint Building Investigation Area

		d = 0 to 0.5 ft bgs (N=28)			d = 1 to 2 ft bgs (N=28)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	6430	24,200	12,541	10,500	21,900	15,479
Antimony	7440-36-0	0.58	54.80	7.26	0.59	17.80	7.04
Arsenic	7440-38-2	2.90	10.40	6.81	5.00	13.40	8.60
Barium	7440-39-3	58.00	516.00	223.04	194.00	350.00	250.96
Beryllium	7440-41-7	0.31	0.95	0.66	0.65	0.93	0.78
Cadmium	7440-43-9	0.16	5.80	0.86	0.13	0.61	0.29
Chromium	7440-47-3	11.30	806.00	52.94	12.80	59.60	20.55
Cobalt	7440-48-4	4.30	25.20	9.83	7.70	13.50	10.43
Copper	7440-50-8	8.50	218.00	32.50	14.50	98.30	23.84
Iron	7439-89-6	8050	30,100	16,718	15,100	45,000	20,386
Lead	7439-92-1	15.80	3730.00	236.42	12.70	271.00	32.50
Magnesium	7439-95-4	1670	4650	3395	2860	6150	4061
Manganese	7439-96-5	243.00	742.00	522.68	270.00	813.00	612.79
Mercury	7439-97-6	0.14	0.29	0.19	0.11	0.22	0.15
Nickel	7440-02-0	10.40	194.00	30.26	16.80	35.00	25.07
Selenium	7782-49-2	1.10	1.70	1.39	1.10	1.80	1.44
Silver	7440-22-4	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	1.20	1.20	1.20
Vanadium	7440-62-2	19.70	59.10	29.96	24.10	50.00	34.59
Zinc	7440-66-6	34.40	551.00	106.34	44.60	96.00	61.64

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-35 Summary of Metals Soil Statistics for the LL4 Paint Building Investigation Area

		d = 0 to 0.5 ft bgs (N=28)			d = 1 to 2 ft bgs (N=28)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	3520	18,900	11,673	7550	20,300	14,878
Antimony	7440-36-0	0.70	171.00	20.10	0.46	10.00	2.51
Arsenic	7440-38-2	1.50	8.50	5.89	3.90	9.00	6.78
Barium	7440-39-3	78.20	246.00	180.04	152.00	278.00	212.55
Beryllium	7440-41-7	0.19	0.83	0.54	0.58	0.88	0.70
Cadmium	7440-43-9	0.13	19.70	2.00	0.17	0.64	0.38
Chromium	7440-47-3	8.50	123.00	22.12	12.50	21.30	16.60
Cobalt	7440-48-4	2.80	13.00	7.79	6.20	11.40	9.03
Copper	7440-50-8	9.30	37.20	19.48	9.80	28.60	16.32
Iron	7439-89-6	5460	20400	14285	9680	22000	17203
Lead	7439-92-1	9.50	600.00	85.68	10.90	34.50	15.69
Magnesium	7439-95-4	1370	3660	2774	1610	4090	3072
Manganese	7439-96-5	151.00	810.00	478.76	347.00	770.00	546.00
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	6.70	34.20	17.74	9.90	29.90	19.08
Selenium	7782-49-2	1.10	2.10	1.49	1.10	2.30	1.55
Silver	7440-22-4	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	1.40	1.80	1.60
Vanadium	7440-62-2	9.90	42.00	27.37	24.60	40.40	32.84
Zinc	7440-66-6	31.40	264.00	83.02	30.80	100.00	50.61

bgs – below ground surface
d – depth
ft – foot/feet
LL – Load Line
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-36 Summary of Metals Soil Statistics for the Nike Missile Area Investigation Area

		d = 0 to 0.5 ft bgs (N=7)			d = 1 to 2 ft bgs (N=7)			d > 2 ft bgs (N=28)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	6310	13,600	10,049	4110	20,400	11,003	743	15,800	6667
Antimony	7440-36-0	NA	NA	NA	NA	NA	NA	0.57	0.65	0.61
Arsenic	7440-38-2	4.20	8.70	6.59	3.30	9.30	6.63	1.10	11.30	7.58
Barium	7440-39-3	155.00	254.00	213.14	154.00	368.00	227.43	12.30	327.00	150.64
Beryllium	7440-41-7	0.48	0.65	0.61	0.30	0.84	0.61	0.04	0.79	0.43
Cadmium	7440-43-9	0.55	0.99	0.69	0.25	1.30	0.65	0.14	1.10	0.57
Chromium	7440-47-3	9.50	16.10	12.79	6.00	21.00	12.83	2.20	19.10	8.96
Cobalt	7440-48-4	8.70	10.90	9.41	4.60	11.10	8.90	0.39	15.80	6.47
Copper	7440-50-8	13.30	20.80	18.09	10.20	20.90	16.13	0.46	23.50	12.64
Iron	7439-89-6	10,600	17,700	15,200	7480	20,900	15,526	1100	21,700	10,945
Lead	7439-92-1	13.40	18.40	15.37	8.50	20.30	14.51	1.40	16.20	9.77
Magnesium	7439-95-4	2200	4380	3147	1840	4690	3204	229	4370	2306
Manganese	7439-96-5	488.00	785.00	581.14	262.00	782.00	535.57	13.90	780.00	385.49
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	15.60	28.00	21.10	10.50	26.40	19.77	1.20	27.70	14.45
Selenium	7782-49-2	1.30	2.10	1.57	1.10	1.60	1.30	1.10	2.00	1.47
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	17.80	31.70	24.90	12.30	39.90	25.47	1.90	35.10	16.34
Zinc	7440-66-6	57.20	94.70	70.27	40.20	86.40	60.41	4.10	75.90	39.64

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-37 Summary of Metals Soil Statistics for the North Burning Ground Area Investigation Area

		d = 0 to 0.5 ft bgs (N=12)			d = 1 to 2 ft bgs (N=12)			d > 2 ft bgs (N=6)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	4360	15,800	11,995	11,000	16,900	14,392	589	17,300	8945
Antimony	7440-36-0	0.70	2.00	1.27	0.92	31.60	16.26	NA	NA	NA
Arsenic	7440-38-2	1.20	7.00	5.05	4.00	13.40	6.04	7.40	8.20	7.80
Barium	7440-39-3	54.10	223.00	175.32	169.00	244.00	202.25	7.50	231.00	133.30
Beryllium	7440-41-7	0.19	0.72	0.57	0.61	3.10	0.88	0.03	0.79	0.47
Cadmium	7440-43-9	0.12	0.74	0.47	0.32	3.10	0.74	0.31	0.48	0.39
Chromium	7440-47-3	6.10	18.90	13.96	13.90	19.60	15.92	1.50	17.70	10.78
Cobalt	7440-48-4	2.80	9.50	7.43	7.80	37.70	11.23	0.24	10.50	6.50
Copper	7440-50-8	6.20	206.00	36.37	11.20	57.90	19.18	0.63	19.00	11.67
Iron	7439-89-6	5470	17,800	14,118	14,200	19,000	16,700	778.00	20,500	12,664
Lead	7439-92-1	8.00	43.00	21.17	11.70	16.00	13.26	1.10	14.00	8.97
Magnesium	7439-95-4	1820	3570	2932	2540	3710	3023	184.00	4040	2516
Manganese	7439-96-5	169.00	590.00	433.33	459.00	718.00	553.00	8.00	656.00	377.08
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	6.00	25.50	16.27	15.70	42.70	20.06	0.62	22.30	14.55
Selenium	7782-49-2	1.10	2.20	1.48	1.20	3.70	1.75	1.10	1.80	1.45
Silver	7440-22-4	1.80	17.10	9.45	1.20	1.20	1.20	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	4.40	4.40	4.40	NA	NA	NA
Vanadium	7440-62-2	9.30	35.20	24.48	25.40	52.20	30.03	1.50	34.50	19.33
Zinc	7440-66-6	27.80	101.00	66.05	52.90	73.80	57.87	3.50	67.40	52.36

bgs – below ground surface
d – depth
ft – foot/feet
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-38 Summary of Metals Soil Statistics for the Northeast Boundary Area Investigation Area

		d = NA ft bgs (N=10)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	16,000	35,000	24,000
Antimony	7440-36-0	NA	NA	NA
Arsenic	7440-38-2	6.50	11.00	8.86
Barium	7440-39-3	230.00	350.00	279.00
Beryllium	7440-41-7	0.80	1.30	1.05
Cadmium	7440-43-9	0.90	0.90	0.90
Chromium	7440-47-3	21.00	38.00	27.10
Cobalt	7440-48-4	9.80	18.00	12.78
Copper	7440-50-8	13.00	210.00	46.60
Iron	7439-89-6	15,000	28,000	23,000
Lead	7439-92-1	17.00	48.00	22.90
Magnesium	7439-95-4	3,000	6,500	4,750
Manganese	7439-96-5	630.00	890.00	737.00
Mercury	7439-97-6	NA	NA	NA
Nickel	7440-02-0	17.00	32.00	24.60
Selenium	7782-49-2	1.60	2.70	2.03
Silver	7440-22-4	NA	NA	NA
Thallium	7440-28-0	0.28	2.00	0.55
Vanadium	7440-62-2	41.00	82.00	54.90
Zinc	7440-66-6	50.00	110.00	78.80

bgs – below ground surface
d – depth
ft – foot/feet
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-39 Summary of Metals Soil Statistics for the Potential Landfill Area Investigation Area

		d = 0 to 0.5 ft bgs (N=9)			d = 1 to 2 ft bgs (N=10)			d > 2 ft bgs (N=12)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	6240	17,600	11,984	4120	17,900	13,880	636	16,800	10,591
Antimony	7440-36-0	0.50	9.10	2.75	11.60	11.60	11.60	23.00	23.00	23.00
Arsenic	7440-38-2	2.30	8.20	5.74	1.60	9.40	7.03	6.10	10.50	8.70
Barium	7440-39-3	74.40	237.00	166.93	60.90	325.00	220.88	12.30	353.00	211.23
Beryllium	7440-41-7	0.29	0.64	0.51	0.23	0.82	0.58	0.04	0.60	0.19
Cadmium	7440-43-9	0.51	1.30	0.82	0.15	0.84	0.54	0.62	1.40	1.07
Chromium	7440-47-3	8.50	27.60	15.22	4.70	23.10	16.37	1.20	37.50	15.44
Cobalt	7440-48-4	4.70	12.70	8.19	2.90	14.60	9.70	0.36	14.30	7.95
Copper	7440-50-8	11.70	30.40	19.93	4.70	25.40	18.72	0.91	25.60	18.24
Iron	7439-89-6	9540	23,600	17,004	5290	23,800	17,899	845.00	23,200	15,169
Lead	7439-92-1	15.10	325.00	60.23	5.10	61.90	21.80	1.80	173.00	27.99
Magnesium	7439-95-4	2240	16,700	5027	1010	4850	3657	207.00	5440	3431
Manganese	7439-96-5	303.00	690.00	476.33	205.00	1130.00	645.89	26.70	796.00	478.50
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	11.40	31.20	19.57	6.60	37.30	23.81	0.63	32.90	19.56
Selenium	7782-49-2	1.30	3.10	1.83	1.70	1.90	1.80	NA	NA	NA
Silver	7440-22-4	6.00	6.00	6.00	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	12.70	38.90	25.16	8.60	42.50	30.16	1.80	38.00	25.93
Zinc	7440-66-6	42.00	728.00	140.79	20.50	93.30	65.54	4.70	96.30	66.83

bgs – below ground surface
d – depth
ft – feet/foot
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-40 Summary of Metals Soil Statistics for the Proving Grounds Investigation Area

		d = 0 to 0.5 ft bgs (N=10)			d = 1 to 2 ft bgs (N=10)			d > 2 ft bgs (N=9)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	7540	19,300	12,638	5470	17,400	11,885	583	14,700	6689
Antimony	7440-36-0	0.47	1.40	0.89	1.80	4.10	2.95	NA	NA	NA
Arsenic	7440-38-2	1.80	11.20	6.20	2.20	9.90	6.48	6.20	11.10	8.14
Barium	7440-39-3	89.50	237.00	178.75	64.40	260.00	189.24	7.80	298.00	142.04
Beryllium	7440-41-7	0.50	0.60	0.54	0.53	0.70	0.61	0.06	0.61	0.46
Cadmium	7440-43-9	0.32	0.92	0.60	0.12	0.81	0.56	0.91	0.99	0.95
Chromium	7440-47-3	7.00	18.50	14.02	6.40	17.80	13.36	1.90	17.70	10.60
Cobalt	7440-48-4	4.00	11.70	8.21	2.70	11.30	8.20	0.52	12.00	8.37
Copper	7440-50-8	9.90	26.00	19.20	5.30	22.90	16.70	1.30	23.50	13.60
Iron	7439-89-6	7470	22,800	15,127	4990	22,900	15,099	971.00	22,100	10,486
Lead	7439-92-1	14.10	37.00	23.61	12.90	83.50	24.19	1.10	18.50	10.24
Magnesium	7439-95-4	1,580	5,430	3,112	1,210	7,000	3,497	339.00	5,090	2,715
Manganese	7439-96-5	86.60	620.00	451.76	81.70	788.00	497.57	8.00	791.00	435.29
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	9.60	28.00	18.18	14.50	31.50	21.12	0.96	34.40	21.24
Selenium	7782-49-2	1.20	2.10	1.60	1.30	1.90	1.63	1.40	1.40	1.40
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	NA	NA	NA	1.30	1.30	1.30
Vanadium	7440-62-2	14.60	41.50	27.21	10.50	36.40	23.89	3.40	35.40	17.66
Zinc	7440-66-6	53.10	127.00	77.80	49.80	88.80	60.88	5.70	68.20	43.78

bgs – below ground surface
d – depth
ft – feet/foot
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-41 Summary of Metals Soil Statistics for the South Burning Grounds Investigation Area

		d = 0 to 0.5 ft bgs (N=17)			d = 1 to 2 ft bgs (N=17)			d > 2 ft bgs (N=17)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	9990	19,800	14,294	10,000	21,300	15,282	10,500	22,500	14,988
Antimony	7440-36-0	0.56	0.56	0.56	NA	NA	NA	0.51	0.51	0.51
Arsenic	7440-38-2	5.50	8.60	6.84	5.10	9.80	7.45	4.10	10.10	7.12
Barium	7440-39-3	156.00	231.00	190.35	162.00	290.00	206.53	162.00	277.00	215.71
Beryllium	7440-41-7	0.51	0.79	0.66	0.60	0.85	0.72	0.58	0.86	0.71
Cadmium	7440-43-9	0.32	1.00	0.62	0.15	1.10	0.52	0.12	1.00	0.54
Chromium	7440-47-3	10.10	22.10	15.72	13.10	21.90	16.68	12.20	24.00	16.48
Cobalt	7440-48-4	7.70	10.60	9.03	7.90	10.60	9.39	7.70	10.90	9.69
Copper	7440-50-8	13.70	19.10	16.64	10.80	22.50	17.16	12.10	21.10	16.94
Iron	7439-89-6	11,900	20,300	16,441	14,200	22,700	18,282	13,800	21,300	18,012
Lead	7439-92-1	13.80	17.10	15.09	11.00	14.70	13.05	11.80	18.00	13.92
Magnesium	7439-95-4	2210	3690	2994	2270	4660	3503	2440	6180	3658
Manganese	7439-96-5	420.00	613.00	534.53	453.00	648.00	535.65	441.00	678.00	562.76
Mercury	7439-97-6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	15.00	23.40	19.28	15.00	27.10	21.66	14.90	28.70	21.51
Selenium	7782-49-2	1.20	2.20	1.69	1.10	2.20	1.48	1.10	2.10	1.47
Silver	7440-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	1.30	1.30	1.30	1.40	1.40	1.40
Vanadium	7440-62-2	23.10	47.20	32.71	19.40	46.60	33.13	19.50	52.70	32.64
Zinc	7440-66-6	52.10	89.70	64.19	47.40	74.10	60.44	50.40	69.90	61.44

bgs – below ground surface
d – depth
ft – feet/foot
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-42 Summary of Metals Soil Statistics for the Tetryl Pelleting Investigation Area

		d = 0 to 0.5 ft bgs (N=13)			d = 1 to 2 ft bgs (N=13)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**Mean (mg/kg)**
Aluminum	7429-90-5	9000	14,600	11,365	11,200	18,200	15,333
Antimony	7440-36-0	0.73	9.30	4.68	0.57	0.57	0.57
Arsenic	7440-38-2	6.30	13.00	7.60	5.60	8.90	6.83
Barium	7440-39-3	179.00	520.00	250.33	179.00	252.00	208.00
Beryllium	7440-41-7	0.54	0.67	0.60	0.65	0.78	0.72
Cadmium	7440-43-9	0.13	1.40	0.51	NA	NA	NA
Chromium	7440-47-3	11.50	20.50	15.97	12.70	18.50	16.42
Cobalt	7440-48-4	7.30	11.40	8.47	7.70	9.80	8.73
Copper	7440-50-8	16.80	34.60	21.98	13.80	20.10	15.73
Iron	7439-89-6	13,300	16,500	14,800	15,100	19,400	17,150
Lead	7439-92-1	25.00	248.00	130.52	13.70	37.10	20.18
Magnesium	7439-95-4	2,220	2,970	2,610	2,550	3,430	2,958
Manganese	7439-96-5	440.00	523.00	474.83	435.00	575.00	506.67
Mercury	7439-97-6	0.60	0.60	0.60	NA	NA	NA
Nickel	7440-02-0	15.90	22.50	18.33	16.30	29.30	19.77
Selenium	7782-49-2	1.60	1.90	1.75	1.40	1.40	1.40
Silver	7440-22-4	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	22.00	32.20	26.52	25.90	37.20	32.72
Zinc	7440-66-6	50.80	275.00	119.35	44.60	65.20	53.45

bgs – below ground surface
d – depth
mg/kg – milligrams per kilogram
N – number of soil samples in database, does not imply statistics on all samples
NA – Not enough data to calculate statistics

Table B-43 Summary of Metals Sediment Statistics for the Johnson Creek, Clear Creek, and Silver Creek Investigation Areas

		Clear Creek (N=2)			Johnson Creek (N=5)			Silver Creek (N=3)		
Metal	**CAS**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**	**Minimum (mg/kg)**	**Maximum (mg/kg)**	**# Detects**
Aluminum	7429-90-5	6400	8000	2	1830	21,000	5	7300	10,000	2
Antimony	7440-36-0	ND	ND	0	ND	ND	0	ND	ND	0
Arsenic	7440-38-2	1.60	1.80	2	ND	10.00	3	6.90	6.90	1
Barium	7440-39-3	100.00	130.00	2	33.00	280.00	5	180.00	237.00	2
Beryllium	7440-41-7	0.26	0.32	2	ND	1.00	3	ND	0.44	1
Cadmium	7440-43-9	ND	ND	0	ND	0.42	1	ND	ND	0
Chromium	7440-47-3	8.00	9.50	2	4.10	23.00	5	10.00	12.80	2
Cobalt	7440-48-4	3.80	4.00	2	2.90	12.60	5	6.20	6.50	2
Copper	7440-50-8	2.90	4.10	2	2.20	21.00	5	7.60	14.10	2
Iron	7439-89-6	6400	7700	2	2520	23,000	5	11,000	14,500	2
Lead	7439-92-1	4.50	6.20	2	2.40	27.00	5	11.30	11.30	1
Magnesium	7439-95-4	1900	2400	2	469.00	4100	5	2000	3020	2
Manganese	7439-96-5	170.00	170.00	2	136.00	706.00	5	480.00	896.00	2
Mercury	7439-97-6	ND	ND	0	ND	ND	0	ND	ND	0
Nickel	7440-02-0	6.30	6.70	2	ND	24.00	3	11.00	16.10	2
Selenium	7782-49-2	ND	ND	0	ND	0.97	1	2.00	2.00	1
Silver	7440-22-4	ND	ND	0	ND	2.30	2	ND	2.30	1
Thallium	7440-28-0	ND	ND	0	ND	ND	0	ND	ND	0
Vanadium	7440-62-2	15.00	19.00	2	5.00	50.00	5	18.00	23.20	2
Zinc	7440-66-6	17.00	22.00	2	20.10	90.20	5	35.00	58.50	2

mg/kg – milligrams per kilogram

N – number of sediment samples in database, does not imply statistics on all samples

ND – non-detect value

Table B-44 Summary of Metals Sediment Statistics for the NRD Reservoir Investigation Area

Metal	CAS	NRD Reservoir Minimum (mg/kg)	NRD Reservoir Maximum (mg/kg)	# Detects
Aluminum	7429-90-5	21,000	47,000	5
Antimony	7440-36-0	ND	ND	0
Arsenic	7440-38-2	8.20	12.00	5
Barium	7440-39-3	260.00	450.00	5
Beryllium	7440-41-7	1.00	1.90	5
Cadmium	7440-43-9	0.19	0.61	5
Chromium	7440-47-3	23.00	48.00	5
Cobalt	7440-48-4	8.60	15.00	5
Copper	7440-50-8	20.00	35.00	5
Iron	7439-89-6	24,000	40,000	5
Lead	7439-92-1	17.00	30.00	5
Magnesium	7439-95-4	4900	8400	5
Manganese	7439-96-5	560.00	820.00	5
Mercury	7439-97-6	ND	ND	0
Nickel	7440-02-0	27	42	5
Selenium	7782-49-2	ND	1.9	4
Silver	7440-22-4	ND	ND	0
Thallium	7440-28-0	0.31	0.57	5
Vanadium	7440-62-2	40.00	100.00	5
Zinc	7440-66-6	83.00	140.00	5

mg/kg – milligrams per kilogram
ND – non-detect value
NRD – Natural Resources District

Table B-45 Summary of VOC Detects for Soils and Sediments from Investigation Areas

Investigation area	Borehole Number	Depth from	Depth To	2-Hexanone 591-78-6 (µg/kg)	Q	Acetone 67-64-1 (µg/kg)	Q	M/P-Xylenes 106-42-3 (µg/kg)	Q	Methylene Chloride 75-09-2 (µg/kg)	Q	Tetrachloroethene 127-18-4 (µg/kg)	Q	Toluene 108-88-3 (µg/kg)	Q	TCE 79-01-6 (µg/kg)	Q
Demolition Ground	DG-002	1	2											0.4	J		
	DG-004	4	5											0.6	J		
		9	10													2	J
North Burning Ground	NG-006	1	2											1	J	2	J
Proving Grounds	PG-001	4	5			11	J										
		9	10			18	J									1	J
	PG-002	1	2			14	J										
	PG-005	1	2													1	J
		4	5			9	J							0.5	J		
	PG-007	1	2			10	J			19				4	J		
		4	5			5	J			3	J						
		9	10			5	J			2	J						
						3	J			3	J						
	PG-008	1	2			5	J			7	J						
	PG-009	1	2							2	J			2	J		
		4	5							2	J						
		9	10							3	J						
	PG-010	1	2	1	J	4	J			1	J						

DG – Demolition Ground
J – Value is above the detection limit but below the reporting limit
NG – North Burning Ground
PG – Proving Grounds
Q – Laboratory Qualifier
TCE – trichloroethene
VOC – volatile organic compound

Table B-45 Summary of VOC Detects for Soils and Sediments from Investigation Areas (continued)

Investigation area	Borehole Number	Depth from	Depth To	2-Hexanone 591-78-6 (µg/kg)	Q	Acetone 67-64-1 (µg/kg)	Q	M/P-Xylenes 106-42-3 (µg/kg)	Q	Methylene Chloride 75-09-2 (µg/kg)	Q	Tetrachloroethene 127-18-4 (µg/kg)	Q	Toluene 108-88-3 (µg/kg)	Q	TCE 79-01-6 (µg/kg)	Q
South Burning Ground	SGA-003	1	2													42	
		2	3														
	SGA-004	2	3													38	
	SGA-009	1	2			17											
	SGA-010	2	3													2	J
Bomb Booster Assembly	BB-006	9	10									1	J				
	BB-007	1	2			17											
		2	3											0.4	J		
		4	5											0.6	J	2	J
Nike Missile	NM-004	4	5					1	J								
Johnson Creek	JC-001	NA	NA			48	J										
	JC-004	NA	NA			46	J										
Silver Creek	SC-001	NA	NA											246	J		
	SC-005	NA	NA											97			

BB – Bomb Booster Assembly
J – Value is above the detection limit but below the reporting limit
JC – Johnson Creek
NA – Not Applicable
SC – Silver Creek
SGA – South Burning Ground
Q – Laboratory Qualifier
TCE – trichloroethene
VOC – volatile organic compound
µg/kg – microgram(s) per kilogram

Table B-46 SVOCs Found to be Non-detect Values at all Investigation Areas

SVOC	CAS
1,2,4-Trichlorobenzene	120-82-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
2,2'-oxybis(1-Chloropropane)	108-60-1
2,4,5-Trichlorophenol	95-95-4
2,4,6-Trichlorophenol	88-06-2
2,4-Dichlorophenol	120-83-2
2,4-Dinitrophenol	51-28-5
2-Chloronaphthalene	91-58-7
2-Chlorophenol	95-57-8
2-Methylnaphthalene	91-57-6
2-Nitrophenol	88-75-5
3,3'-Dichlorobenzidine	91-94-1
3-Nitroaniline	99-09-2
4,6-Dinitro-2-methylphenol	534-52-1
4-Bromophenyl-phenylether	101-55-3
4-Chloroaniline	106-47-8
4-Chlorophenyl-phenylether	7005-72-3
4-Nitroaniline	100-01-6
4-Nitrophenol	100-02-7
Acenaphthylene	208-96-8
bis(2-Chloroethoxy)methane	111-91-1
bis(2-Chloroethyl)ether	111-44-4
Dibenzofuran	132-64-9
Dimethylphthalate	131-11-3
Di-n-octylphthalate	117-84-0
Hexachlorobenzene	118-74-1
Hexachlorobutadiene	87-68-3
Hexachlorocyclopentadiene	77-47-4
Hexachloroethane	67-72-1
Isophorone	78-59-1
Nitrobenzene	98-95-3

Table B-47 Summary of SVOC Soil Statistics for Ammonium Nitrate Investigation Area

SVOC	CAS	d = 0 to 0.5 ft bgs (N=2)			d = 1 to 2 ft bgs (N=2)			d > 2 ft bgs (N=10)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	ND	0
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0	ND	ND	0	ND	ND	0
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	ND	0	ND	229	1
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	527	1	ND	ND	0	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	ND	0	ND	ND	0	ND	2330	1
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Phenol	108-95-2	ND	ND	0	ND	ND	0	ND	ND	0

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – Non-detect value
SVOC – semi-volatile organic compound
µg/kg – microgram(s) per kilogram

Table B-48 Summary of SVOC Soil Statistics for Atlas Waste Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=8)			d = 1 to 2 ft bgs (N=8)			d > 2 ft bgs (N=15)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	ND	0
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	2108	2	ND	ND	0	ND	ND	0
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	311	3	ND	403	3
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	161	1	ND	30	1	ND	18	2
Di-n-butylphthalate	84-74-2	ND	2999	3	ND	4247	5	ND	3215	4
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	ND	0	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Phenanthrene	85-01-8	ND	ND	0	ND	ND	0	ND	ND	0
Phenol	108-95-2	ND	ND	0	ND	ND	0	ND	ND	0
Pyrene	129-00-0	ND	ND	0	ND	154	2	ND	54	1

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-49 Summary of SVOC Soil Statistics for the Bomb Booster Assembly Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=8)			d = 1 to 2 ft bgs (N=8)			d > 2 ft bgs (N=20)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	63	1	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	111	1	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	ND	0
4-Methylphenol	106-44-5	ND	148	1	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0	ND	ND	0	ND	ND	0
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	95	1	ND	401	2
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	ND	0	ND	ND	0	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	2952	3	ND	1828	1	ND	3089	7
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	ND	0	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Phenanthrene	85-01-8	ND	ND	0	ND	ND	0	ND	ND	0
Phenol	108-95-2	ND	139	3	ND	ND	0	ND	ND	0
Pyrene	129-00-0	ND	123	2	ND	ND	0	ND	ND	0

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-50 Summary of SVOC Soil Statistics for the Bermed Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=3)			d = 1 to 2 ft bgs (N=3)			d > 2 ft bgs (N=3)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthylene	208-96-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0	ND	ND	0	ND	ND	0
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	ND	0	ND	ND	0
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	ND	0	ND	18	1	ND	22	2
Di-n-butylphthalate	84-74-2	ND	2331	1	ND	ND	0	ND	ND	0
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Pyrene	129-00-0	ND	ND	0	ND	ND	0	ND	121	1

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-51 Summary of SVOC Soil Statistics for the Demolition Ground Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=4)			d = 1 to 2 ft bgs (N=4)			d > 2 ft bgs (N=8)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	ND	0
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0	ND	ND	0	ND	ND	0
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	ND	0	ND	337	1
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	ND	0	ND	ND	0	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	2706	2	ND	ND	0	ND	1691	4
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	ND	0	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Phenanthrene	85-01-8	ND	ND	0	ND	ND	0	ND	ND	0
Phenol	108-95-2	ND	ND	0	ND	ND	0	ND	ND	0
Pyrene	129-00-0	ND	153	1	ND	ND	0	ND	ND	0

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-52 Summary of SVOC Soil Statistics for the Geophysical Anomaly Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=2)			d = 1 to 2 ft bgs (N=2)			d > 2 ft bgs (N=8)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	69	1
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	ND	0
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	101	1
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	69	1
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	140	2
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	148	2
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0	ND	ND	0	ND	1691	2
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	ND	0	ND	ND	0
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	76	1
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	ND	0	ND	ND	0	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	ND	0	ND	ND	0	ND	2666	2
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	56	1
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	ND	0	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Phenanthrene	85-01-8	ND	ND	0	ND	ND	0	ND	ND	0
Phenol	108-95-2	ND	ND	0	ND	ND	0	ND	86	1
Pyrene	129-00-0	ND	ND	0	ND	ND	0	ND	134	2

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-53 Summary of SVOC Soil Statistics for the North Burning Ground Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=12)			d = 1 to 2 ft bgs (N=12)			d > 2 ft bgs (N=6)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	ND	0
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	1222	2	ND	ND	0	ND	378	1
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	57	1	ND	ND	0
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	27	1	ND	31	1	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	2989	2	ND	3518	4	ND	ND	0
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	ND	0	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Phenanthrene	85-01-8	ND	ND	0	ND	ND	0	ND	ND	0
Phenol	108-95-2	ND	ND	0	ND	ND	0	ND	ND	0
Pyrene	129-00-0	ND	54	2	ND	ND	0	ND	ND	0

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-54 Summary of SVOC Soil Statistics for the Nike Missile Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=7)			d = 1 to 2 ft bgs (N=7)			d > 2 ft bgs (N=28)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	ND	0
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0	ND	ND	0	ND	ND	0
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	740	1	ND	ND	0
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	ND	0	ND	ND	0	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	802	1	ND	3150	1	ND	1947	2
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	ND	0	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Phenanthrene	85-01-8	ND	ND	0	ND	ND	0	ND	ND	0
Phenol	108-95-2	ND	ND	0	ND	ND	0	ND	ND	0
Pyrene	129-00-0	ND	60	2	ND	164	1	ND	ND	0

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-55 Summary of SVOC Soil Statistics for the Northeast Boundary Investigation Area

SVOCs	CAS	d = NA (N=8)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	28	1
2-Methylphenol	95-48-7	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0
4-Methylphenol	106-44-5	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0
Anthracene	120-12-7	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	14	1
Benzo(g,h,i)perylene	191-24-2	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0
Butylbenzylphthalate	85-68-7	ND	ND	0
Carbazole	86-74-8	ND	ND	0
Chrysene	218-01-9	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0
Diethylphthalate	84-66-2	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	21	1
Fluoranthene	206-44-0	ND	ND	0
Fluorene	86-73-7	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0
Naphthalene	91-20-3	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0
Phenanthrene	85-01-8	ND	ND	0
Phenol	108-95-2	ND	16	1
Pyrene	129-00-0	ND	ND	0

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-56 Summary of SVOC Soil Statistics for the Potential Landfill Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=6)			d = 1 to 2 ft bgs (N=6)			d > 2 ft bgs (N=4)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	ND	0
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	77	1	ND	ND	0	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0	ND	701	1	ND	91	1
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	1204	1	ND	769	1
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	27	1	ND	ND	0	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	ND	0	ND	72	1	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	2789	1	ND	2700	3	ND	2823	1
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	ND	0	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Phenanthrene	85-01-8	ND	ND	0	ND	ND	0	ND	ND	0
Phenol	108-95-2	ND	48	1	ND	ND	0	ND	ND	0
Pyrene	129-00-0	ND	89	1	ND	ND	0	ND	ND	0

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-57 Summary of SVOC Soil Statistics for the Proving Grounds Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=10)			d = 1 to 2 ft bgs (N=10)			d > 2 ft bgs (N=9)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	93	1
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	18	1
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	18	1
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	25	1
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	26	1
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	8	1
bis(2-Ethylhexyl)phthalate	117-81-7	ND	46	2	ND	49	4	ND	ND	0
Butylbenzylphthalate	85-68-7	ND	344	1	ND	120	1	ND	ND	0
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	16	1
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	ND	0	ND	ND	0
Diethylphthalate	84-66-2	ND	ND	0	ND	ND	0	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	3542	4	ND	3196	4	ND	199	4
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	13	1
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	ND	0	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	14	1
Phenanthrene	85-01-8	ND	ND	0	ND	ND	0	ND	ND	0
Phenol	108-95-2	ND	ND	0	ND	ND	0	ND	ND	0
Pyrene	129-00-0	ND	145	1	ND	128	1	ND	243	2

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-58 Summary of SVOC Soil Statistics for the South Burning Grounds Investigation Area

SVOCs	CAS	d = 0 to 0.5 ft bgs (N=17)			d = 1 to 2 ft bgs (N=17)			d > 2 ft bgs (N=17)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	45	1	ND	ND	0	ND	48	1
2,4-Dimethylphenol	105-67-9	ND	48,771	1	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	4534	1	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	198	2	ND	ND	0	ND	421	1
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	306	2	ND	ND	0	ND	597	1
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	ND	0	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	ND	0	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0	ND	486	2	ND	192	2
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	ND	0	ND	ND	0
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	ND	0	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	53	1	ND	ND	0	ND	871	1
Diethylphthalate	84-66-2	ND	17,826	3	ND	3298	8	ND	2426	5
Di-n-butylphthalate	84-74-2	ND	ND	0	ND	ND	0	ND	ND	0
Fluoranthene	206-44-0	ND	ND	0	ND	ND	0	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	16	1	ND	ND	0	ND	21	1
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	4633	1	ND	29	1	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Phenanthrene	85-01-8	ND	230	2	ND	ND	0	ND	477	1
Phenol	108-95-2	ND	ND	0	ND	ND	0	ND	89	1
Pyrene	129-00-0	ND	45	1	ND	ND	0	ND	48	1

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

Table B-59 Summary of SVOC sediment statistics for Clear, Johnson, and Silver Creek Investigation Areas.

SVOCs	CAS	Clear Creek (N=2)			Johnson Creek (N=5)			Silver Creek (N=3)		
		Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects	Minimum (µg/kg)	Maximum (µg/kg)	# Detects
1,2-Dichlorobenzene	95-50-1	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dimethylphenol	105-67-9	ND	ND	0	ND	ND	0	ND	ND	0
2,4-Dinitrotoluene	121-14-2	ND	ND	0	ND	ND	0	ND	ND	0
2,6-Dinitrotoluene	606-20-2	ND	ND	0	ND	ND	0	ND	ND	0
2-Methylphenol	95-48-7	ND	ND	0	ND	ND	0	ND	ND	0
2-Nitroaniline	88-74-4	ND	ND	0	ND	ND	0	ND	ND	0
4-Chloro-3-methylphenol	59-50-7	ND	ND	0	ND	ND	0	ND	ND	0
4-Methylphenol	106-44-5	ND	ND	0	ND	ND	0	ND	ND	0
Acenaphthene	83-32-9	ND	ND	0	ND	ND	0	ND	ND	0
Anthracene	120-12-7	ND	ND	0	ND	29	1	ND	ND	0
Benzo(a)anthracene	56-55-3	ND	ND	0	ND	55	1	ND	ND	0
Benzo(a)pyrene	50-32-8	ND	ND	0	ND	190	1	ND	ND	0
Benzo(b)fluoranthene	205-99-2	ND	ND	0	ND	260	1	ND	ND	0
Benzo(g,h,i)perylene	191-24-2	ND	ND	0	ND	120	1	ND	ND	0
Benzo(k)fluoranthene	207-08-9	ND	ND	0	ND	60	1	ND	ND	0
bis(2-Ethylhexyl)phthalate	117-81-7	ND	ND	0	ND	ND	0	ND	ND	0
Butylbenzylphthalate	85-68-7	ND	ND	0	ND	ND	0	ND	ND	0
Carbazole	86-74-8	ND	ND	0	ND	ND	0	ND	ND	0
Chrysene	218-01-9	ND	ND	0	ND	140	1	ND	ND	0
Dibenzo(a,h)anthracene	53-70-3	ND	ND	0	ND	20	1	ND	ND	0
Diethylphthalate	84-66-2	ND	ND	0	ND	ND	0	ND	ND	0
Di-n-butylphthalate	84-74-2	ND	ND	0	ND	ND	0	ND	ND	0
Fluoranthene	206-44-0	ND	ND	0	ND	47	1	ND	ND	0
Fluorene	86-73-7	ND	ND	0	ND	ND	0	ND	ND	0
Indeno(1,2,3-cd)pyrene	193-39-5	ND	ND	0	ND	59	1	ND	ND	0
Naphthalene	91-20-3	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitroso-di-n-propylamine	621-64-7	ND	ND	0	ND	ND	0	ND	ND	0
N-Nitrosodiphenylamine (1)	86-30-6	ND	ND	0	ND	ND	0	ND	ND	0
Pentachlorophenol	87-86-5	ND	ND	0	ND	ND	0	ND	ND	0
Phenanthrene	85-01-8	ND	ND	0	ND	27	1	ND	ND	0
Phenol	108-95-2	ND	ND	0	ND	ND	0	ND	ND	0
Pyrene	129-00-0	ND	ND	0	ND	55	1	ND	107	1

d – depth
bgs – below ground surface
ft – foot/feet
N – number of soil samples in database
ND – non-detect value
SVOC – semi-volatile organic compound(s)
µg/kg – microgram(s) per kilogram

APPENDIX C

SURFACE WATER DATA

Table C-1 Summary of Explosives in Surface Water for Johnson Creek SW-01

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-01-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175
3/19/2005 14:00	SW-001-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/12/2005 11:05	SW-001-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 11:00	SW-001-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 12:05	SW-001-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:50	SW-001-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/20/2006 10:30	SW-001-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 8:20	SW-001-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:50	SW-001-122006	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076
2/27/2007 14:00	SW-001-032007	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078

µg/L: micrograms per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-1 Summary of Explosives in Surface Water for Johnson Creek SW-01 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-01-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096
3/19/2005 14:00	SW-001-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/12/2005 11:05	SW-001-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 11:00	SW-001-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 12:05	SW-001-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:50	SW-001-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/20/2006 10:30	SW-001-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 8:20	SW-001-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:50	SW-001-122006	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076
2/27/2007 14:00	SW-001-032007	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-1 Summary of Explosives in Surface Water for Johnson Creek SW-01 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	0.62	U	0.144	0.62	U	0.147	0.62	U	0.069	0.62	U	0.085
3/19/2005 14:00	SW-001-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/12/2005 11:05	SW-001-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 11:00	SW-001-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 12:05	SW-001-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:50	SW-001-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/20/2006 10:30	SW-001-062006	0.158	U	0.079	0.158	U	0.079	0.878	J	0.079	0.158	U	0.079
9/25/2006 8:20	SW-001-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:50	SW-001-122006	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076
2/27/2007 14:00	SW-001-032007	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-1 Summary of Explosives in Surface Water for Johnson Creek SW-01 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	0.62	U	0.085	0.62	U	0.141
3/19/2005 14:00	SW-001-032005	0.316	U	0.105	0.316	U	0.105
6/12/2005 11:05	SW-001-062005	0.188	U	0.094	0.188	U	0.094
9/17/2005 11:00	SW-001-092005	0.158	U	0.079	0.158	U	0.079
11/30/2005 12:05	SW-001-122005	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:50	SW-001-032006	0.158	U	0.079	0.158	U	0.079
6/20/2006 10:30	SW-001-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 8:20	SW-001-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:50	SW-001-122006	0.152	U	0.076	0.152	U	0.076
2/27/2007 14:00	SW-001-032007	0.156	U	0.078	0.156	U	0.078

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-2 Summary of Explosives in Surface Water for Johnson Creek SW-02

	Compound	1,3,5-Trinitrobenzene		1,3-Dinitrobenzene		2,4,6-Trinitrotoluene		2,4-Dinitrotoluene	
	CAS #	99-35-4		99-65-0		118-96-7		121-14-2	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-02-112004	0.62 U	0.033	0.62 U	0.062	0.62 U	0.054	0.62 U	0.175

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-2 Summary of Explosives in Surface Water for Johnson Creek SW-02 (continued)

	Compound	2,6-Dinitrotoluene		2-Amino-4,6-Dinitrotoluene		2-Nitrotoluene		3-Nitrotoluene	
	CAS #	606-20-2		35572-78-2		88-72-2		99-08-1	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-02-112004	0.62 U	0.37	0.62 U	0.146	0.62 U	0.122	0.62 U	0.096

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-2 Summary of Explosives in Surface Water for Johnson Creek SW-02 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene		4-Nitrotoluene		Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)		Nitrobenzene	
	CAS #	19406-51-0		99-99-0		121-82-4		98-95-3	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-02-112004	0.62 U	0.144	0.62 U	0.147	0.62 U	0.069	0.62 U	0.085

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-2 Summary of Explosives in Surface Water for Johnson Creek SW-02 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)		Tetryl	
	CAS #	2691-41-0		479-45-8	
	Units	µg/L		µg/L	
Sample Date	Sample ID	Result Q	MDL	Result Q	MDL
12/1/2004	SW-02-112004	0.62 U	0.085	0.62 U	0.141

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-3 Summary of Explosives in Surface Water for Johnson Creek SW-03

	Compound	1,3,5-Trinitrobenzene		1,3-Dinitrobenzene		2,4,6-Trinitrotoluene		2,4-Dinitrotoluene	
	CAS #	99-35-4		99-65-0		118-96-7		121-14-2	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-03-112004	0.62 U	0.033	0.62 U	0.062	0.62 U	0.054	0.62 U	0.175

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-3 Summary of Explosives in Surface Water for Johnson Creek SW-03 (continued)

	Compound	2,6-Dinitrotoluene		2-Amino-4,6-Dinitrotoluene		2-Nitrotoluene		3-Nitrotoluene	
	CAS #	606-20-2		35572-78-2		88-72-2		99-08-1	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-03-112004	0.62 U	0.37	0.62 U	0.146	0.62 U	0.122	0.62 U	0.096

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-3 Summary of Explosives in Surface Water for Johnson Creek SW-03 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene		4-Nitrotoluene		Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)		Nitrobenzene	
	CAS #	19406-51-0		99-99-0		121-82-4		98-95-3	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-03-112004	0.62 U	0.144	0.62 U	0.147	0.62 U	0.069	0.62 U	0.085

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-3 Summary of Explosives in Surface Water for Johnson Creek SW-03 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)		Tetryl	
	CAS #	2691-41-0		479-45-8	
	Units	µg/L		µg/L	
Sample Date	Sample ID	Result Q	MDL	Result Q	MDL
12/1/2004	SW-03-112004	0.62 U	0.085	0.62 U	0.141

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-4 Summary of Explosives in Surface Water for Johnson Creek SW-05

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-05-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175
3/20/2005 9:00	SW-005-032005	0.375	U	0.125	0.375	U	0.125	0.375	U	0.125	0.375	U	0.125
6/12/2005 15:00	SW-005-062005	0.25	U	0.125	0.25	U	0.125	0.25	U	0.125	0.25	U	0.125
11/30/2005 12:00	SW-005-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:30	SW-005-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 9:10	SW-005-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
2/27/2007 14:45	SW-005-032007	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077
5/29/2007 12:37	SW-005-052007	0.25	U	0.021	0.25	U	0.021	0.063	J	0.021	0.25	U	0.028
9/4/2007 10:15	SW-005-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/3/2007 12:10	SW-005-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/3/2008 13:00	SW-005-032008	0.25	U	0.011	0.25	J	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 12:45	SW-005-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 10:25	SW-005-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 13:45	SW-005-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 13:45	SW-005-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 10:50	SW-005-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 14:35	SW-005-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 10:45	SW-005-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 11:15	SW-005-012010	0.079	J	0.014	--			0.2	U	0.058	0.2	U	0.023
5/6/2010 11:45	SW-005-042010	0.2	U	0.014	--			0.2	U	0.058	0.22	J	0.023

µg/L: microgram per liter; ID: identification; J: Estimated Value; MDL: Method detection limit; Q: Laboratory Qualifier; R: Rejected Data; U: Not detected;
--: no data available

Table C-4 Summary of Explosives in Surface Water for Johnson Creek SW-05 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-05-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096
3/20/2005 9:00	SW-005-032005	0.375	U	0.125	0.375	U	0.125	0.375	U	0.125	0.375	U	0.125
6/12/2005 15:00	SW-005-062005	0.25	U	0.125	0.25	U	0.125	0.25	U	0.125	0.25	U	0.125
11/30/2005 12:00	SW-005-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:30	SW-005-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 9:10	SW-005-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
2/27/2007 14:45	SW-005-032007	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077
5/29/2007 12:37	SW-005-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/4/2007 10:15	SW-005-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/3/2007 12:10	SW-005-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/3/2008 13:00	SW-005-032008	0.16	J	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
6/18/2008 12:45	SW-005-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 10:25	SW-005-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 13:45	SW-005-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 13:45	SW-005-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 10:50	SW-005-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 14:35	SW-005-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 10:45	SW-005-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 11:15	SW-005-012010	--			0.2	U	0.015	--			--		
5/6/2010 11:45	SW-005-042010	--			0.2	U	0.015	--			--		

µg/L: microgram per liter; ID: identification; J: Estimated Value; MDL: Method detection limit; Q: Laboratory Qualifier; R: Rejected Data; U: Not detected;
--: no data available

Table C-4 Summary of Explosives in Surface Water for Johnson Creek SW-05 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	0.62	U	0.144	0.62	U	0.147	0.62	U	0.069	0.62	U	0.085
3/20/2005 9:00	SW-005-032005	0.375	U	0.125	0.375	U	0.125	0.375	U	0.125	0.375	U	0.125
6/12/2005 15:00	SW-005-062005	0.25	U	0.125	0.25	U	0.125	0.25	U	0.125	0.25	U	0.125
11/30/2005 12:00	SW-005-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:30	SW-005-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 9:10	SW-005-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
2/27/2007 14:45	SW-005-032007	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077
5/29/2007 12:37	SW-005-052007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
9/4/2007 10:15	SW-005-092007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
12/3/2007 12:10	SW-005-122007	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
3/3/2008 13:00	SW-005-032008	1.8	J	0.022	1.7	J	0.026	6.2	J	0.017	0.25	U	0.04
6/18/2008 12:45	SW-005-062008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
8/27/2008 10:25	SW-005-092008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2008 13:45	SW-005-122008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
2/26/2009 13:45	SW-005-032009	0.25	U	0.032	0.25	U	0.053	0.092	J	0.056	0.25	U	0.035
5/18/2009 10:50	SW-005-062009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
8/4/2009 14:35	SW-005-092009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2009 10:45	SW-005-122009	0.25	U	0.05	0.25	U	0.05	0.25	U	0.038	0.25	U	0.038
1/28/2010 11:15	SW-005-012010	0.2	U	0.032	--			0.2	U	0.037	--		
5/6/2010 11:45	SW-005-042010	0.2	U	0.032	--			0.2	U	0.037	--		

µg/L: microgram per liter; ID: identification; J: Estimated Value; MDL: Method detection limit; Q: Laboratory Qualifier; R: Rejected Data; U: Not detected;
--: no data available

Table C-4 Summary of Explosives in Surface Water for Johnson Creek SW-05 (continued)

		Octahydro-1,3,5,7-Tetranitro-					
	Compound	**1,3,5,7-Tetrazocine (HMX)**			**Tetryl**		
	CAS #	**2691-41-0**			**479-45-8**		
	Units	**µg/L**			**µg/L**		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-05-112004	0.62	U	0.085	0.62	U	0.141
3/20/2005 9:00	SW-005-032005	0.375	U	0.125	0.375	U	0.125
6/12/2005 15:00	SW-005-062005	0.25	U	0.125	0.25	U	0.125
11/30/2005 12:00	SW-005-122005	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:30	SW-005-032006	0.158	U	0.079	0.158	U	0.079
9/25/2006 9:10	SW-005-092006	0.15	U	0.075	0.15	U	0.075
2/27/2007 14:45	SW-005-032007	0.155	U	0.077	0.155	U	0.077
5/29/2007 12:37	SW-005-052007	0.25	U	0.067	0.25	UJ	0.025
9/4/2007 10:15	SW-005-092007	0.25	U	0.067	0.25	U	0.025
12/3/2007 12:10	SW-005-122007	0.25	U	0.018	0.25	U	0.04
3/3/2008 13:00	SW-005-032008	0.62	J	0.018	0.25	U	0.04
6/18/2008 12:45	SW-005-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 10:25	SW-005-092008	0.25	U	0.05	0.25	U	0.056
11/12/2008 13:45	SW-005-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 13:45	SW-005-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 10:50	SW-005-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 14:35	SW-005-092009	0.25	U	0.05	0.25	U	0.056
11/12/2009 10:45	SW-005-122009	0.25	U	0.037	0.25	U	0.047
1/28/2010 11:15	SW-005-012010	--			--		
5/6/2010 11:45	SW-005-042010	--			--		

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected; '--: no data available

Table C-5 Summary of Explosives in Surface Water for Johnson Creek SW-06

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/2/2004	SW-06-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175
3/15/2005 10:05	SW-006-032005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/11/2005 15:05	SW-006-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 12:00	SW-006-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 12:05	SW-006-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:15	SW-006-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 9:30	SW-006-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 9:55	SW-006-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/27/2007 15:00	SW-006-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 13:10	SW-006-052007	0.25	U	0.021	0.25	U	0.021	0.064	J	0.021	0.25	U	0.028
9/4/2007 10:40	SW-006-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/4/2007 11:15	SW-006-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/4/2008 8:45	SW-006-032008	0.25	U	0.011	0.2	J	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 13:10	SW-006-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 10:40	SW-006-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 13:30	SW-006-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 13:25	SW-006-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 11:30	SW-006-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 13:05	SW-006-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 10:20	SW-006-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 10:35	SW-006-012010	0.2	U	0.014	--			0.2	U	0.058	0.2	U	0.023
5/6/2010 10:45	SW-006-042010	0.2	U	0.014	--			0.2	U	0.058	0.17	J	0.023

µg/L: microgram per liter; ID: identification; J: Estimated Value; MDL: Method detection limit; Q: Laboratory Qualifier; R: Rejected Data; U: Not detected;
--: no data available

Table C-5 Summary of Explosives in Surface Water for Johnson Creek SW-06 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/2/2004	SW-06-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096
3/15/2005 10:05	SW-006-032005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/11/2005 15:05	SW-006-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 12:00	SW-006-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 12:05	SW-006-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 14:15	SW-006-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 9:30	SW-006-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 9:55	SW-006-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/27/2007 15:00	SW-006-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 13:10	SW-006-052007	0.25	U	0.034	0.25	U	0.023	0.13	J	0.041	0.25	U	0.063
9/4/2007 10:40	SW-006-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/4/2007 11:15	SW-006-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/4/2008 8:45	SW-006-032008	0.13	J	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
6/18/2008 13:10	SW-006-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 10:40	SW-006-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 13:30	SW-006-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 13:25	SW-006-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 11:30	SW-006-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 13:05	SW-006-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 10:20	SW-006-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 10:35	SW-006-012010	--			0.2	U	0.015	--			--		
5/6/2010 10:45	SW-006-042010	--			0.2	U	0.015	--			--		

µg/L: microgram per liter; ID: identification; J: Estimated Value; MDL: Method detection limit; Q: Laboratory Qualifier; R: Rejected Data; U: Not detected;
--: no data available

Table C-5 Summary of Explosives in Surface Water for Johnson Creek SW-06 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	0.62	U	0.144	0.62	U	0.147	1.3		0.069	0.62	U	0.085
3/15/2005 10:05	SW-006-032005	0.158	U	0.079	0.158	U	0.079	0.583	J	0.079	0.158	U	0.079
6/11/2005 15:05	SW-006-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 12:00	SW-006-092005	0.158	U	0.079	0.158	U	0.079	1.12		0.079	0.158	U	0.079
11/30/2005 12:05	SW-006-122005	0.158	U	0.079	0.158	U	0.079	1.48		0.079	0.158	U	0.079
3/27/2006 14:15	SW-006-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 9:30	SW-006-092006	0.15	U	0.075	0.15	U	0.075	0.957		0.075	0.15	U	0.075
12/7/2006 9:55	SW-006-122006	0.158	U	0.079	0.158	U	0.079	0.959		0.079	0.158	U	0.079
2/27/2007 15:00	SW-006-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 13:10	SW-006-052007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
9/4/2007 10:40	SW-006-092007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
12/4/2007 11:15	SW-006-122007	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
3/4/2008 8:45	SW-006-032008	1.5	J	0.022	1.3	J	0.026	5.5	J	0.017	0.25	U	0.04
6/18/2008 13:10	SW-006-062008	0.25	U	0.022	0.042	J	0.026	0.25	U	0.017	0.25	U	0.04
8/27/2008 10:40	SW-006-092008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2008 13:30	SW-006-122008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
2/26/2009 13:25	SW-006-032009	0.25	U	0.032	0.25	U	0.053	0.13	J	0.056	0.25	U	0.035
5/18/2009 11:30	SW-006-062009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
8/4/2009 13:05	SW-006-092009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2009 10:20	SW-006-122009	0.25	U	0.05	0.25	U	0.05	0.14	J	0.038	0.25	U	0.038
1/28/2010 10:35	SW-006-012010	0.2	U	0.032	--			0.2	U	0.037	--		
5/6/2010 10:45	SW-006-042010	0.2	U	0.032	--			0.094	J	0.037	--		

µg/L: microgram per liter; ID: identification; J: Estimated Value; MDL: Method detection limit; Q: Laboratory Qualifier; R: Rejected Data; U: Not detected;
--: no data available

Table C-5 Summary of Explosives in Surface Water for Johnson Creek SW-06 (continued)

		Octahydro-1,3,5,7-Tetranitro-					
	Compound	**1,3,5,7-Tetrazocine (HMX)**			**Tetryl**		
	CAS #	**2691-41-0**			**479-45-8**		
	Units	**µg/L**			**µg/L**		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/2/2004	SW-06-112004	0.62	U	0.085	0.62	U	0.141
3/15/2005 10:05	SW-006-032005	0.158	U	0.079	0.158	U	0.079
6/11/2005 15:05	SW-006-062005	0.188	U	0.094	0.188	U	0.094
9/17/2005 12:00	SW-006-092005	0.158	U	0.079	0.158	U	0.079
11/30/2005 12:05	SW-006-122005	0.17	J	0.079	0.158	U	0.079
3/27/2006 14:15	SW-006-032006	0.158	U	0.079	0.158	U	0.079
9/25/2006 9:30	SW-006-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 9:55	SW-006-122006	0.158	U	0.079	0.158	U	0.079
2/27/2007 15:00	SW-006-032007	0.158	U	0.079	0.158	U	0.079
5/29/2007 13:10	SW-006-052007	0.25	U	0.067	0.25	UJ	0.025
9/4/2007 10:40	SW-006-092007	0.25	U	0.067	0.25	U	0.025
12/4/2007 11:15	SW-006-122007	0.25	U	0.018	0.25	U	0.04
3/4/2008 8:45	SW-006-032008	0.46	J	0.018	0.25	U	0.04
6/18/2008 13:10	SW-006-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 10:40	SW-006-092008	0.25	U	0.05	0.25	U	0.056
11/12/2008 13:30	SW-006-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 13:25	SW-006-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 11:30	SW-006-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 13:05	SW-006-092009	0.25	U	0.05	0.25	U	0.056
11/12/2009 10:20	SW-006-122009	0.25	U	0.037	0.25	U	0.047
1/28/2010 10:35	SW-006-012010	--			--		
5/6/2010 10:45	SW-006-042010	--			--		

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected; '--: no data available

Table C-6 Summary of Explosives in Surface Water for Johnson Creek SW-15

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
5/29/2007 13:40	SW-015-052007	0.25	U	0.021	0.25	U	0.021	0.069	J	0.021	0.25	U	0.028
9/4/2007 11:10	SW-015-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/4/2007 11:00	SW-015-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/4/2008 11:15	SW-015-032008	0.25	U	0.011	0.33	J	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 13:30	SW-015-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 14:30	SW-015-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 15:20	SW-015-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 12:25	SW-015-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 13:30	SW-015-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-6 Summary of Explosives in Surface Water for Johnson Creek SW-15 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
5/29/2007 13:40	SW-015-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/4/2007 11:10	SW-015-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/4/2007 11:00	SW-015-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/4/2008 11:15	SW-015-032008	0.25	U	0.017	0.12	J	0.018	0.51	J	0.017	0.25	U	0.017
6/18/2008 13:30	SW-015-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 14:30	SW-015-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 15:20	SW-015-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 12:25	SW-015-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 13:30	SW-015-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.034	J	0.03

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-6 Summary of Explosives in Surface Water for Johnson Creek SW-15 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
9/4/2007 11:10	SW-015-092007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
12/4/2007 11:00	SW-015-122007	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
3/4/2008 11:15	SW-015-032008	1.1	J	0.022	0.079	J	0.026	1.8		0.017	0.25	U	0.04
6/18/2008 13:30	SW-015-062008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
8/27/2008 14:30	SW-015-092008	0.25	U	0.032	0.25	U	0.053	0.093	J	0.056	0.25	U	0.035
2/26/2009 15:20	SW-015-032009	0.25	U	0.032	0.25	U	0.053	0.089	J	0.056	0.25	U	0.035
5/18/2009 12:25	SW-015-062009	0.25	U	0.032	0.25	U	0.053	0.081	J	0.056	0.25	U	0.035
8/4/2009 13:30	SW-015-092009	0.059	J	0.032	0.25	U	0.053	1.3		0.056	0.25	U	0.035

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-6 Summary of Explosives in Surface Water for Johnson Creek SW-15 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	0.25	U	0.067	0.25	UJ	0.025
9/4/2007 11:10	SW-015-092007	0.25	U	0.067	0.25	U	0.025
12/4/2007 11:00	SW-015-122007	0.25	U	0.018	0.25	U	0.04
3/4/2008 11:15	SW-015-032008	0.25	UJ	0.018	0.25	U	0.04
6/18/2008 13:30	SW-015-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 14:30	SW-015-092008	0.25	U	0.05	0.25	U	0.056
2/26/2009 15:20	SW-015-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 12:25	SW-015-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 13:30	SW-015-092009	0.25	U	0.05	0.25	U	0.056

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-7 Summary of Explosives in Surface Water for Johnson Creek SW-08

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-08-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175
3/15/2005 13:00	SW-008-032005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/11/2005 17:00	SW-008-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:00	SW-008-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/29/2005 12:00	SW-008-122005	0.214	U	0.107	0.214	U	0.107	0.214	U	0.107	0.214	U	0.107
3/28/2006 10:20	SW-008-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 14:15	SW-008-062006	0.158	U	0.079	0.13	J	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 10:45	SW-008-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 10:35	SW-008-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 11:25	SW-008-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 15:26	SW-008-052007	0.25	U	0.021	0.25	U	0.021	0.05	J	0.021	0.25	U	0.028
9/4/2007 13:20	SW-008-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/4/2007 11:45	SW-008-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/4/2008 9:10	SW-008-032008	0.25	U	0.011	0.17	J	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 14:30	SW-008-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 11:00	SW-008-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 13:10	SW-008-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 12:35	SW-008-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 12:10	SW-008-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 14:00	SW-008-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 9:55	SW-008-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 10:10	SW-008-012010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023
5/10/2010 11:10	SW-008-042010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-7 Summary of Explosives in Surface Water for Johnson Creek SW-08 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-08-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096
3/15/2005 13:00	SW-008-032005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/11/2005 17:00	SW-008-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:00	SW-008-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/29/2005 12:00	SW-008-122005	0.214	U	0.107	0.214	U	0.107	0.214	U	0.107	0.214	U	0.107
3/28/2006 10:20	SW-008-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 14:15	SW-008-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 10:45	SW-008-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 10:35	SW-008-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 11:25	SW-008-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 15:26	SW-008-052007	0.25	U	0.034	0.25	U	0.023	0.15	J	0.041	0.25	U	0.063
9/4/2007 13:20	SW-008-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/4/2007 11:45	SW-008-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/4/2008 9:10	SW-008-032008	0.099	J	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
6/18/2008 14:30	SW-008-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 11:00	SW-008-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 13:10	SW-008-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 12:35	SW-008-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 12:10	SW-008-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 14:00	SW-008-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.08	J	0.03
11/12/2009 9:55	SW-008-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 10:10	SW-008-012010				0.2	U	0.015						
5/10/2010 11:10	SW-008-042010				0.2	U	0.015						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-7 Summary of Explosives in Surface Water for Johnson Creek SW-08 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	0.62	U	0.144	0.62	U	0.147	1.8		0.069	0.62	U	0.085
3/15/2005 13:00	SW-008-032005	0.158	U	0.079	0.158	U	0.079	1.96		0.079	0.158	U	0.079
6/11/2005 17:00	SW-008-062005	0.158	U	0.079	0.158	U	0.079	1.37		0.079	0.158	U	0.079
9/17/2005 13:00	SW-008-092005	0.158	U	0.079	0.158	U	0.079	1.83		0.079	0.158	U	0.079
11/29/2005 12:00	SW-008-122005	0.214	U	0.107	0.214	U	0.107	2.04		0.107	0.214	U	0.107
3/28/2006 10:20	SW-008-032006	0.158	U	0.079	0.158	U	0.079	1.94		0.079	0.158	U	0.079
6/19/2006 14:15	SW-008-062006	0.158	U	0.079	0.158	U	0.079	1.63	J	0.079	0.158	U	0.079
9/25/2006 10:45	SW-008-092006	0.15	U	0.075	0.15	U	0.075	6.78		0.375	0.15	U	0.075
12/7/2006 10:35	SW-008-122006	0.158	U	0.079	0.158	U	0.079	2.4		0.079	0.158	U	0.079
2/28/2007 11:25	SW-008-032007	0.158	U	0.079	0.158	U	0.079	0.592		0.079	0.158	U	0.079
5/29/2007 15:26	SW-008-052007	0.058	J	0.022	0.25	U	0.032	0.87		0.053	0.25	U	0.021
9/4/2007 13:20	SW-008-092007	0.25	U	0.022	0.25	U	0.032	0.8		0.053	0.25	U	0.021
12/4/2007 11:45	SW-008-122007	0.077	J	0.022	0.25	U	0.026	1.2		0.017	0.25	U	0.04
3/4/2008 9:10	SW-008-032008	1.4	J	0.022	0.25	U	0.026	5.5	J	0.017	0.25	U	0.04
6/18/2008 14:30	SW-008-062008	0.25	U	0.022	0.25	U	0.026	0.42		0.017	0.25	U	0.04
8/27/2008 11:00	SW-008-092008	0.092	J	0.032	0.25	U	0.053	1.6		0.056	0.25	U	0.035
11/12/2008 13:10	SW-008-122008	0.25	U	0.032	0.25	U	0.053	0.16	J	0.056	0.25	U	0.035
2/26/2009 12:35	SW-008-032009	0.074	J	0.032	0.25	U	0.053	1.2		0.056	0.25	U	0.035
5/18/2009 12:10	SW-008-062009	0.16	J	0.032	0.25	U	0.053	1.5		0.056	0.25	U	0.035
8/4/2009 14:00	SW-008-092009	0.089	J	0.032	0.25	U	0.053	1.8		0.056	0.25	U	0.035
11/12/2009 9:55	SW-008-122009	0.065	J	0.05	0.25	U	0.05	1.6		0.038	0.25	U	0.038
1/28/2010 10:10	SW-008-012010	0.077	J	0.032				1.2		0.037			
5/10/2010 11:10	SW-008-042010	0.035	J	0.032				0.9		0.037			

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-7 Summary of Explosives in Surface Water for Johnson Creek SW-08 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	0.62	U	0.085	0.62	U	0.141
3/15/2005 13:00	SW-008-032005	0.206		0.079	0.158	U	0.079
6/11/2005 17:00	SW-008-062005	0.17		0.079	0.158	U	0.079
9/17/2005 13:00	SW-008-092005	0.582	J	0.079	0.158	U	0.079
11/29/2005 12:00	SW-008-122005	0.38	J	0.107	0.214	U	0.107
3/28/2006 10:20	SW-008-032006	0.289		0.079	0.158	U	0.079
6/19/2006 14:15	SW-008-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 10:45	SW-008-092006	0.962		0.075	0.15	U	0.075
12/7/2006 10:35	SW-008-122006	0.483		0.079	0.158	U	0.079
2/28/2007 11:25	SW-008-032007	0.158	U	0.079	0.158	U	0.079
5/29/2007 15:26	SW-008-052007	0.075	J	0.067	0.25	UJ	0.025
9/4/2007 13:20	SW-008-092007	0.07	J	0.067	0.25	U	0.025
12/4/2007 11:45	SW-008-122007	0.13	J	0.018	0.25	U	0.04
3/4/2008 9:10	SW-008-032008	0.41	J	0.018	0.25	U	0.04
6/18/2008 14:30	SW-008-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 11:00	SW-008-092008	0.17	J	0.05	0.25	U	0.056
11/12/2008 13:10	SW-008-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 12:35	SW-008-032009	0.11	J	0.05	0.25	U	0.056
5/18/2009 12:10	SW-008-062009	0.14	J	0.05	0.25	U	0.056
8/4/2009 14:00	SW-008-092009	0.16	J	0.05	0.25	U	0.056
11/12/2009 9:55	SW-008-122009	0.15	J	0.037	0.25	U	0.047
1/28/2010 10:10	SW-008-012010						
5/10/2010 11:10	SW-008-042010						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-8 Summary of Explosives in Surface Water for Johnson Creek SW-16

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
9/4/2007 13:45	SW-016-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/4/2007 10:00	SW-016-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/4/2008 11:45	SW-016-032008	0.25	U	0.011	0.18	J	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 15:00	SW-016-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 14:15	SW-016-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 14:55	SW-016-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 13:20	SW-016-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 13:50	SW-016-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-8 Summary of Explosives in Surface Water for Johnson Creek SW-16 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/4/2007 13:45	SW-016-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/4/2007 10:00	SW-016-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/4/2008 11:45	SW-016-032008	0.097	J	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
6/18/2008 15:00	SW-016-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 14:15	SW-016-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 14:55	SW-016-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 13:20	SW-016-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 13:50	SW-016-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-8 Summary of Explosives in Surface Water for Johnson Creek SW-16 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	0.056	J	0.022	0.25	U	0.032	0.86		0.053	0.25	U	0.021
9/4/2007 13:45	SW-016-092007	0.25	U	0.022	0.25	U	0.032	0.8		0.053	0.25	U	0.021
12/4/2007 10:00	SW-016-122007	0.082	J	0.022	0.25	U	0.026	1.2		0.017	0.25	U	0.04
3/4/2008 11:45	SW-016-032008	1.5	J	0.022	0.25	U	0.026	5	J	0.017	0.25	U	0.04
6/18/2008 15:00	SW-016-062008	0.25	U	0.022	0.25	U	0.026	0.43		0.017	0.25	U	0.04
8/27/2008 14:15	SW-016-092008	0.069	J	0.032	0.25	U	0.053	1.5		0.056	0.25	U	0.035
2/26/2009 14:55	SW-016-032009	0.065	J	0.032	0.25	U	0.053	1.3		0.056	0.25	U	0.035
5/18/2009 13:20	SW-016-062009	0.099	J	0.032	0.25	U	0.053	1.4		0.056	0.25	U	0.035
8/4/2009 13:50	SW-016-092009	0.063	J	0.032	0.25	U	0.053	1.8		0.056	0.25	U	0.035

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-8 Summary of Explosives in Surface Water for Johnson Creek SW-16 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	0.075	J	0.067	0.25	UJ	0.025
9/4/2007 13:45	SW-016-092007	0.087	J	0.067	0.25	U	0.025
12/4/2007 10:00	SW-016-122007	0.12	J	0.018	0.25	U	0.04
3/4/2008 11:45	SW-016-032008	0.36	J	0.018	0.25	U	0.04
6/18/2008 15:00	SW-016-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 14:15	SW-016-092008	0.14	J	0.05	0.25	U	0.056
2/26/2009 14:55	SW-016-032009	0.12	J	0.05	0.25	U	0.056
5/18/2009 13:20	SW-016-062009	0.14	J	0.05	0.25	U	0.056
8/4/2009 13:50	SW-016-092009	0.17	J	0.05	0.25	U	0.056

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-9 Summary of Explosives in Surface Water for Johnson Creek SW-10

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-010-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175
3/15/2005 12:00	SW-010-032005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/11/2005 16:00	SW-010-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 14:05	SW-010-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/29/2005 12:05	SW-010-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:15	SW-010-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 12:15	SW-010-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 13:45	SW-010-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 11:15	SW-010-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 9:14	SW-010-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 16:15	SW-010-052007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
9/5/2007 10:30	SW-010-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/4/2007 9:35	SW-010-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/4/2008 10:15	SW-010-032008	0.25	U	0.011	0.18	J	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 11:00	SW-010-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 14:00	SW-010-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 12:30	SW-010-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 11:25	SW-010-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 13:50	SW-010-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 11:15	SW-010-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 9:45	SW-010-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 10:20	SW-010-012010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023
5/6/2010 10:55	SW-010-042010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-9 Summary of Explosives in Surface Water for Johnson Creek SW-10 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096
3/15/2005 12:00	SW-010-032005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/11/2005 16:00	SW-010-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 14:05	SW-010-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/29/2005 12:05	SW-010-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:15	SW-010-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 12:15	SW-010-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 13:45	SW-010-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 11:15	SW-010-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 9:14	SW-010-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 16:15	SW-010-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/5/2007 10:30	SW-010-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/4/2007 9:35	SW-010-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/4/2008 10:15	SW-010-032008	0.1	J	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
6/18/2008 11:00	SW-010-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 14:00	SW-010-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 12:30	SW-010-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 11:25	SW-010-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 13:50	SW-010-062009	0.13	J	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 11:15	SW-010-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 9:45	SW-010-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 10:20	SW-010-012010				0.2	U	0.015						
5/6/2010 10:55	SW-010-042010				0.2	U	0.015						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-9 Summary of Explosives in Surface Water for Johnson Creek SW-10 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	0.62	U	0.144	0.62	U	0.147	1.1		0.069	0.62	U	0.085
3/15/2005 12:00	SW-010-032005	0.158	U	0.079	0.158	U	0.079	1.41		0.079	0.158	U	0.079
6/11/2005 16:00	SW-010-062005	0.158	U	0.079	0.158	U	0.079	0.85		0.079	0.158	U	0.079
9/17/2005 14:05	SW-010-092005	0.158	U	0.079	0.158	U	0.079	1.18		0.079	0.158	U	0.079
11/29/2005 12:05	SW-010-122005	0.158	U	0.079	0.158	U	0.079	1.09		0.079	0.158	U	0.079
3/27/2006 11:15	SW-010-032006	0.158	U	0.079	0.158	U	0.079	0.593		0.079	0.158	U	0.079
6/19/2006 12:15	SW-010-062006	0.158	U	0.079	0.158	U	0.079	0.965		0.079	0.158	U	0.079
9/25/2006 13:45	SW-010-092006	0.15	U	0.075	0.15	U	0.075	1.63		0.075	0.15	U	0.075
12/7/2006 11:15	SW-010-122006	0.158	U	0.079	0.158	U	0.079	2.24		0.079	0.158	U	0.079
2/28/2007 9:14	SW-010-032007	0.158	U	0.079	0.158	U	0.079	0.428		0.079	0.158	U	0.079
5/29/2007 16:15	SW-010-052007	0.056	J	0.022	0.25	U	0.032	0.88		0.053	0.25	U	0.021
9/5/2007 10:30	SW-010-092007	0.25	U	0.022	0.25	U	0.032	0.83		0.053	0.25	U	0.021
12/4/2007 9:35	SW-010-122007	0.11	J	0.022	0.25	U	0.026	1.2		0.017	0.25	U	0.04
3/4/2008 10:15	SW-010-032008	1.4	J	0.022	0.25	U	0.026	5.9		0.017	0.25	U	0.04
6/18/2008 11:00	SW-010-062008	0.25	U	0.022	0.25	U	0.026	0.39		0.017	0.25	U	0.04
8/27/2008 14:00	SW-010-092008	0.074	J	0.032	0.25	U	0.053	1.5		0.056	0.25	U	0.035
11/12/2008 12:30	SW-010-122008	0.25	U	0.032	0.25	U	0.053	0.47		0.056	0.25	U	0.035
2/26/2009 11:25	SW-010-032009	0.064	J	0.032	0.25	U	0.053	1.3		0.056	0.25	U	0.035
5/18/2009 13:50	SW-010-062009	0.25	U	0.032	0.25	U	0.053	1.3		0.056	0.25	U	0.035
8/4/2009 11:15	SW-010-092009	0.034	J	0.032	0.25	U	0.053	1.3		0.056	0.25	U	0.035
11/12/2009 9:45	SW-010-122009	0.25	U	0.05	0.25	U	0.05	1.2		0.038	0.25	U	0.038
1/28/2010 10:20	SW-010-012010	0.073	J	0.032				1.2		0.037			
5/6/2010 10:55	SW-010-042010	0.076	J	0.032				1.3		0.037			

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-9 Summary of Explosives in Surface Water for Johnson Creek SW-10 (continued)

		Octahydro-1,3,5,7-Tetranitro-					
	Compound	**1,3,5,7-Tetrazocine (HMX)**			**Tetryl**		
	CAS #	**2691-41-0**			**479-45-8**		
	Units	**µg/L**			**µg/L**		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-010-112004	0.62	U	0.085	0.62	U	0.141
3/15/2005 12:00	SW-010-032005	0.133	J	0.079	0.158	U	0.079
6/11/2005 16:00	SW-010-062005	0.11	J	0.079	0.158	U	0.079
9/17/2005 14:05	SW-010-092005	0.158	U	0.079	0.158	U	0.079
11/29/2005 12:05	SW-010-122005	0.19	J	0.079	0.158	U	0.079
3/27/2006 11:15	SW-010-032006	0.158	U	0.079	0.158	U	0.079
6/19/2006 12:15	SW-010-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 13:45	SW-010-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 11:15	SW-010-122006	0.518	J	0.079	0.158	U	0.079
2/28/2007 9:14	SW-010-032007	0.158	U	0.079	0.158	U	0.079
5/29/2007 16:15	SW-010-052007	0.081	J	0.067	0.25	UJ	0.025
9/5/2007 10:30	SW-010-092007	0.08	J	0.067	0.25	U	0.025
12/4/2007 9:35	SW-010-122007	0.13	J	0.018	0.25	U	0.04
3/4/2008 10:15	SW-010-032008	0.39	J	0.018	0.25	U	0.04
6/18/2008 11:00	SW-010-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 14:00	SW-010-092008	0.16	J	0.05	0.25	U	0.056
11/12/2008 12:30	SW-010-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 11:25	SW-010-032009	0.11	J	0.05	0.25	U	0.056
5/18/2009 13:50	SW-010-062009	0.14	J	0.05	0.25	U	0.056
8/4/2009 11:15	SW-010-092009	0.14	J	0.05	0.25	U	0.056
11/12/2009 9:45	SW-010-122009	0.11	J	0.037	0.25	U	0.047
1/28/2010 10:20	SW-010-012010						
5/6/2010 10:55	SW-010-042010						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-10 Summary of Explosives in Surface Water for Clear Creek SW-07

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-10 Summary of Explosives in Surface Water for Clear Creek SW-07 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-10 Summary of Explosives in Surface Water for Clear Creek SW-07 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	0.62	U	0.144	0.62	U	0.147	0.62	U	0.069	0.62	U	0.085

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-10 Summary of Explosives in Surface Water for Clear Creek SW-07 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	0.62	U	0.085	0.62	UR	0.141

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-11 Summary of Explosives in Surface Water for Clear Creek SW-09

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175
3/19/2005 13:00	SW-009-032005	0.429	U	0.143	0.429	U	0.143	0.429	U	0.143	0.429	U	0.143
6/12/2005 15:05	SW-009-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:05	SW-009-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 13:05	SW-009-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 15:15	SW-009-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/20/2006 7:30	SW-009-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 10:55	SW-009-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 10:55	SW-009-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 11:05	SW-009-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 15:00	SW-009-052007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
9/4/2007 12:50	SW-009-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/3/2007 11:40	SW-009-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/3/2008 12:30	SW-009-032008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 12:30	SW-009-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 11:25	SW-009-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 14:05	SW-009-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 12:15	SW-009-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 15:40	SW-009-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 12:40	SW-009-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 10:05	SW-009-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 10:00	SW-009-012010	0.02	J	0.014				0.2	U	0.058	0.2	U	0.023
5/6/2010 10:35	SW-009-042010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detecte

Table C-11 Summary of Explosives in Surface Water for Clear Creek SW-09 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
11/30/2004	SW-09-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096
3/19/2005 13:00	SW-009-032005	0.429	U	0.143	0.429	U	0.143	0.429	U	0.143	0.429	U	0.143
6/12/2005 15:05	SW-009-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:05	SW-009-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 13:05	SW-009-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 15:15	SW-009-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/20/2006 7:30	SW-009-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 10:55	SW-009-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 10:55	SW-009-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 11:05	SW-009-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 15:00	SW-009-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/4/2007 12:50	SW-009-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/3/2007 11:40	SW-009-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/3/2008 12:30	SW-009-032008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
6/18/2008 12:30	SW-009-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 11:25	SW-009-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 14:05	SW-009-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 12:15	SW-009-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 15:40	SW-009-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 12:40	SW-009-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 10:05	SW-009-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 10:00	SW-009-012010				0.2	U	0.015						
5/6/2010 10:35	SW-009-042010				0.2	U	0.015						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detecte

Table C-11 Summary of Explosives in Surface Water for Clear Creek SW-09 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	0.62	U	0.144	0.62	U	0.147	0.62	U	0.069	0.62	U	0.085
3/19/2005 13:00	SW-009-032005	0.429	U	0.143	0.429	U	0.143	0.429	U	0.143	0.429	U	0.143
6/12/2005 15:05	SW-009-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:05	SW-009-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 13:05	SW-009-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 15:15	SW-009-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/20/2006 7:30	SW-009-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 10:55	SW-009-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 10:55	SW-009-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 11:05	SW-009-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 15:00	SW-009-052007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
9/4/2007 12:50	SW-009-092007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
12/3/2007 11:40	SW-009-122007	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
3/3/2008 12:30	SW-009-032008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
6/18/2008 12:30	SW-009-062008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
8/27/2008 11:25	SW-009-092008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2008 14:05	SW-009-122008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
2/26/2009 12:15	SW-009-032009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
5/18/2009 15:40	SW-009-062009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
8/4/2009 12:40	SW-009-092009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2009 10:05	SW-009-122009	0.25	U	0.05	0.25	U	0.05	0.25	U	0.038	0.25	U	0.038
1/28/2010 10:00	SW-009-012010	0.2	U	0.032				0.2	U	0.037			
5/6/2010 10:35	SW-009-042010	0.2	U	0.032				0.2	U	0.037			

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detecte

Table C-11 Summary of Explosives in Surface Water for Clear Creek SW-09 (continued)

		Octahydro-1,3,5,7-Tetranitro-			Tetryl		
	Compound	1,3,5,7-Tetrazocine (HMX)					
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	0.62	U	0.085	0.62	UR	0.141
3/19/2005 13:00	SW-009-032005	0.429	U	0.143	0.429	U	0.143
6/12/2005 15:05	SW-009-062005	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:05	SW-009-092005	0.158	U	0.079	0.158	U	0.079
11/30/2005 13:05	SW-009-122005	0.158	U	0.079	0.158	U	0.079
3/27/2006 15:15	SW-009-032006	0.158	U	0.079	0.158	U	0.079
6/20/2006 7:30	SW-009-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 10:55	SW-009-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 10:55	SW-009-122006	0.158	U	0.079	0.158	U	0.079
2/28/2007 11:05	SW-009-032007	0.158	U	0.079	0.158	U	0.079
5/29/2007 15:00	SW-009-052007	0.25	U	0.067	0.25	UJ	0.025
9/4/2007 12:50	SW-009-092007	0.25	U	0.067	0.25	U	0.025
12/3/2007 11:40	SW-009-122007	0.25	U	0.018	0.25	U	0.04
3/3/2008 12:30	SW-009-032008	0.25	J	0.018	0.25	U	0.04
6/18/2008 12:30	SW-009-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 11:25	SW-009-092008	0.25	U	0.05	0.25	U	0.056
11/12/2008 14:05	SW-009-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 12:15	SW-009-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 15:40	SW-009-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 12:40	SW-009-092009	0.25	U	0.05	0.25	U	0.056
11/12/2009 10:05	SW-009-122009	0.25	U	0.037	0.25	U	0.047
1/28/2010 10:00	SW-009-012010						
5/6/2010 10:35	SW-009-042010						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-12 Summary of Explosives in Surface Water for Clear Creek SW-11

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-011-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175
3/15/2005 12:00	SW-011-032005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/12/2005 14:00	SW-011-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:00	SW-011-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 9:05	SW-011-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:00	SW-011-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 13:15	SW-011-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 14:25	SW-011-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 12:00	SW-011-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 10:00	SW-011-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/30/2007 9:00	SW-011-052007	0.25	U	0.021	0.25	U	0.021	0.045	J	0.021	0.25	U	0.028
9/5/2007 9:10	SW-011-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/3/2007 10:45	SW-011-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/3/2008 11:30	SW-011-032008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
6/17/2008 13:00	SW-011-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 13:00	SW-011-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 12:15	SW-011-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 11:00	SW-011-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 14:30	SW-011-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 10:50	SW-011-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 9:30	SW-011-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 9:45	SW-011-012010	0.019	J	0.014				0.2	U	0.058	0.2	U	0.023
5/6/2010 10:20	SW-011-042010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-12 Summary of Explosives in Surface Water for Clear Creek SW-11 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-011-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096
3/15/2005 12:00	SW-011-032005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/12/2005 14:00	SW-011-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:00	SW-011-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 9:05	SW-011-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:00	SW-011-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 13:15	SW-011-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 14:25	SW-011-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 12:00	SW-011-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 10:00	SW-011-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/30/2007 9:00	SW-011-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/5/2007 9:10	SW-011-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/3/2007 10:45	SW-011-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/3/2008 11:30	SW-011-032008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
6/17/2008 13:00	SW-011-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 13:00	SW-011-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 12:15	SW-011-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 11:00	SW-011-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 14:30	SW-011-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 10:50	SW-011-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 9:30	SW-011-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 9:45	SW-011-012010				0.2	U	0.015						
5/6/2010 10:20	SW-011-042010				0.2	U	0.015						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-12 Summary of Explosives in Surface Water for Clear Creek SW-11 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	0.62	U	0.144	0.62	U	0.147	0.62	U	0.069	0.62	U	0.085
3/15/2005 12:00	SW-011-032005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/12/2005 14:00	SW-011-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:00	SW-011-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 9:05	SW-011-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:00	SW-011-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 13:15	SW-011-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 14:25	SW-011-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 12:00	SW-011-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 10:00	SW-011-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/30/2007 9:00	SW-011-052007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
9/5/2007 9:10	SW-011-092007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
12/3/2007 10:45	SW-011-122007	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
3/3/2008 11:30	SW-011-032008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
6/17/2008 13:00	SW-011-062008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
8/27/2008 13:00	SW-011-092008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2008 12:15	SW-011-122008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
2/26/2009 11:00	SW-011-032009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
5/18/2009 14:30	SW-011-062009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
8/4/2009 10:50	SW-011-092009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2009 9:30	SW-011-122009	0.25	U	0.05	0.25	U	0.05	0.25	U	0.038	0.25	U	0.038
1/28/2010 9:45	SW-011-012010	0.2	U	0.032				0.2	U	0.037			
5/6/2010 10:20	SW-011-042010	0.2	U	0.032				0.2	U	0.037			

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-12 Summary of Explosives in Surface Water for Clear Creek SW-11 (continued)

		Octahydro-1,3,5,7-Tetranitro-					
	Compound	**1,3,5,7-Tetrazocine (HMX)**			**Tetryl**		
	CAS #	**2691-41-0**			**479-45-8**		
	Units	**µg/L**			**µg/L**		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-011-112004	0.62	U	0.085	0.62	U	0.141
3/15/2005 12:00	SW-011-032005	0.158	U	0.079	0.158	U	0.079
6/12/2005 14:00	SW-011-062005	0.158	U	0.079	0.158	U	0.079
9/17/2005 13:00	SW-011-092005	0.158	U	0.079	0.158	U	0.079
11/30/2005 9:05	SW-011-122005	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:00	SW-011-032006	0.158	U	0.079	0.158	U	0.079
6/19/2006 13:15	SW-011-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 14:25	SW-011-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 12:00	SW-011-122006	0.158	U	0.079	0.158	U	0.079
2/28/2007 10:00	SW-011-032007	0.158	U	0.079	0.158	U	0.079
5/30/2007 9:00	SW-011-052007	0.25	U	0.067	0.25	UJ	0.025
9/5/2007 9:10	SW-011-092007	0.25	U	0.067	0.25	U	0.025
12/3/2007 10:45	SW-011-122007	0.25	U	0.018	0.25	U	0.04
3/3/2008 11:30	SW-011-032008	0.25	UJ	0.018	0.25	U	0.04
6/17/2008 13:00	SW-011-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 13:00	SW-011-092008	0.25	U	0.05	0.25	U	0.056
11/12/2008 12:15	SW-011-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 11:00	SW-011-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 14:30	SW-011-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 10:50	SW-011-092009	0.25	U	0.05	0.25	U	0.056
11/12/2009 9:30	SW-011-122009	0.25	U	0.037	0.25	U	0.047
1/28/2010 9:45	SW-011-012010						
5/6/2010 10:20	SW-011-042010						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-13 Summary of Explosives in Surface Water for Clear Creek SW-12

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
11/29/2004	SW-012-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175
3/20/2005 10:00	SW-012-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/12/2005 14:01	SW-012-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/18/2005 12:00	SW-012-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 10:05	SW-012-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:45	SW-012-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 13:45	SW-012-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 11:15	SW-012-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 11:40	SW-012-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 9:45	SW-012-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/30/2007 8:20	SW-012-052007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
9/5/2007 8:40	SW-012-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/4/2007 8:40	SW-012-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/4/2008 8:00	SW-012-032008	0.25	U	0.011	0.025	J	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 10:10	SW-012-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 12:30	SW-012-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 11:55	SW-012-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 10:35	SW-012-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 14:20	SW-012-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 10:00	SW-012-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 9:20	SW-012-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 9:28	SW-012-012010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023
5/6/2010 10:10	SW-012-042010	0.023	J	0.014				0.2	U	0.058	0.2	U	0.023

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-13 Summary of Explosives in Surface Water for Clear Creek SW-12 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
11/29/2004	SW-012-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096
3/20/2005 10:00	SW-012-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/12/2005 14:01	SW-012-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/18/2005 12:00	SW-012-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 10:05	SW-012-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:45	SW-012-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 13:45	SW-012-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 11:15	SW-012-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 11:40	SW-012-122006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
2/28/2007 9:45	SW-012-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/30/2007 8:20	SW-012-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/5/2007 8:40	SW-012-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/4/2007 8:40	SW-012-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/4/2008 8:00	SW-012-032008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
6/18/2008 10:10	SW-012-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 12:30	SW-012-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 11:55	SW-012-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 10:35	SW-012-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 14:20	SW-012-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 10:00	SW-012-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 9:20	SW-012-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 9:28	SW-012-012010				0.2	U	0.015						
5/6/2010 10:10	SW-012-042010				0.2	U	0.015						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-13 Summary of Explosives in Surface Water for Clear Creek SW-12 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	0.62	U	0.144	0.62	U	0.147	0.62	U	0.069	0.62	U	0.085
3/20/2005 10:00	SW-012-032005	0.316	U	0.105	0.316	U	0.105	0.305	J	0.105	0.316	U	0.105
6/12/2005 14:01	SW-012-062005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/18/2005 12:00	SW-012-092005	0.158	U	0.079	0.158	U	0.079	0.388		0.079	0.158	U	0.079
11/30/2005 10:05	SW-012-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:45	SW-012-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 13:45	SW-012-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 11:15	SW-012-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 11:40	SW-012-122006	0.158	U	0.079	0.158	U	0.079	0.338		0.079	0.158	U	0.079
2/28/2007 9:45	SW-012-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/30/2007 8:20	SW-012-052007	0.25	U	0.022	0.25	U	0.032	0.18	J	0.053	0.25	U	0.021
9/5/2007 8:40	SW-012-092007	0.25	U	0.022	0.25	U	0.032	0.13	J	0.053	0.25	U	0.021
12/4/2007 8:40	SW-012-122007	0.25	U	0.022	0.25	U	0.026	0.11	J	0.017	0.25	U	0.04
3/4/2008 8:00	SW-012-032008	0.25	J	0.022	0.57	J	0.026	1.7		0.017	0.25	U	0.04
6/18/2008 10:10	SW-012-062008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
8/27/2008 12:30	SW-012-092008	0.25	U	0.032	0.25	U	0.053	0.4		0.056	0.25	U	0.035
11/12/2008 11:55	SW-012-122008	0.25	U	0.032	0.25	U	0.053	0.067	J	0.056	0.25	U	0.035
2/26/2009 10:35	SW-012-032009	0.25	U	0.032	0.25	U	0.053	0.24	J	0.056	0.25	U	0.035
5/18/2009 14:20	SW-012-062009	0.25	U	0.032	0.25	U	0.053	0.25		0.056	0.25	U	0.035
8/4/2009 10:00	SW-012-092009	0.25	U	0.032	0.25	U	0.053	0.49		0.056	0.25	U	0.035
11/12/2009 9:20	SW-012-122009	0.25	U	0.05	0.25	U	0.05	0.34		0.038	0.25	U	0.038
1/28/2010 9:28	SW-012-012010	0.2	U	0.032				0.58	J	0.037			
5/6/2010 10:10	SW-012-042010	0.2	U	0.032				0.28		0.037			

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-13 Summary of Explosives in Surface Water for Clear Creek SW-12 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	0.62	U	0.085	0.62	UR	0.141
3/20/2005 10:00	SW-012-032005	0.316	U	0.105	0.316	U	0.105
6/12/2005 14:01	SW-012-062005	0.158	U	0.079	0.158	U	0.079
9/18/2005 12:00	SW-012-092005	0.158	U	0.079	0.158	U	0.079
11/30/2005 10:05	SW-012-122005	0.158	U	0.079	0.158	U	0.079
3/27/2006 11:45	SW-012-032006	0.158	U	0.079	0.158	U	0.079
6/19/2006 13:45	SW-012-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 11:15	SW-012-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 11:40	SW-012-122006	0.158	U	0.079	0.158	U	0.079
2/28/2007 9:45	SW-012-032007	0.158	U	0.079	0.158	U	0.079
5/30/2007 8:20	SW-012-052007	0.25	U	0.067	0.25	UJ	0.025
9/5/2007 8:40	SW-012-092007	0.25	U	0.067	0.25	U	0.025
12/4/2007 8:40	SW-012-122007	0.25	U	0.018	0.25	U	0.04
3/4/2008 8:00	SW-012-032008	0.12	J	0.018	0.25	U	0.04
6/18/2008 10:10	SW-012-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 12:30	SW-012-092008	0.25	U	0.05	0.25	U	0.056
11/12/2008 11:55	SW-012-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 10:35	SW-012-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 14:20	SW-012-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 10:00	SW-012-092009	0.25	U	0.05	0.25	U	0.056
11/12/2009 9:20	SW-012-122009	0.25	U	0.037	0.25	U	0.047
1/28/2010 9:28	SW-012-012010						
5/6/2010 10:10	SW-012-042010						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-14 Summary of Explosives in Surface Water for Clear Creek SW-13

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
11/30/2004	SW-013-112004	0.62	U	0.033	0.62	U	0.062	0.62	U	0.054	0.62	U	0.175
2/28/2007 10:30	SW-013-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/30/2007 9:40	SW-013-052007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
9/5/2007 9:45	SW-013-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/3/2007 10:50	SW-013-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/3/2008 12:00	SW-013-032008	0.25	U	0.011	0.062	J	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 10:40	SW-013-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 13:30	SW-013-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 11:45	SW-013-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 10:15	SW-013-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 15:10	SW-013-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 10:15	SW-013-092009	0.25	U	0.026	0.25	U	0.016	0.093	J	0.025	0.25	U	0.048
11/12/2009 9:05	SW-013-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 9:20	SW-013-012010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023
5/6/2010 10:00	SW-013-042010	0.017	J	0.014				0.2	U	0.058	0.2	U	0.023

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-14 Summary of Explosives in Surface Water for Clear Creek SW-13 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
11/30/2004	SW-013-112004	0.62	U	0.37	0.62	U	0.146	0.62	U	0.122	0.62	U	0.096
2/28/2007 10:30	SW-013-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/30/2007 9:40	SW-013-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/5/2007 9:45	SW-013-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/3/2007 10:50	SW-013-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/3/2008 12:00	SW-013-032008	0.045	J	0.017	0.25	U	0.018	0.36	J	0.017	0.25	U	0.017
6/18/2008 10:40	SW-013-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 13:30	SW-013-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 11:45	SW-013-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 10:15	SW-013-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 15:10	SW-013-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 10:15	SW-013-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 9:05	SW-013-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 9:20	SW-013-012010				0.2	U	0.015						
5/6/2010 10:00	SW-013-042010				0.2	U	0.015						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-14 Summary of Explosives in Surface Water for Clear Creek SW-13 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	0.62	U	0.144	0.62	U	0.147	0.62	U	0.069	0.62	U	0.085
2/28/2007 10:30	SW-013-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/30/2007 9:40	SW-013-052007	0.25	U	0.022	0.25	U	0.032	0.19	J	0.053	0.25	U	0.021
9/5/2007 9:45	SW-013-092007	0.25	U	0.022	0.25	U	0.032	0.2	J	0.053	0.25	U	0.021
12/3/2007 10:50	SW-013-122007	0.25	U	0.022	0.25	U	0.026	0.14	J	0.017	0.25	U	0.04
3/3/2008 12:00	SW-013-032008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
6/18/2008 10:40	SW-013-062008	0.25	U	0.022	0.25	U	0.026	0.099	J	0.017	0.25	U	0.04
8/27/2008 13:30	SW-013-092008	0.25	U	0.032	0.25	U	0.053	0.36		0.056	0.25	U	0.035
11/12/2008 11:45	SW-013-122008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
2/26/2009 10:15	SW-013-032009	0.25	U	0.032	0.25	U	0.053	0.15	J	0.056	0.25	U	0.035
5/18/2009 15:10	SW-013-062009	0.25	U	0.032	0.25	U	0.053	0.15	J	0.056	0.25	U	0.035
8/4/2009 10:15	SW-013-092009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2009 9:05	SW-013-122009	0.25	U	0.05	0.25	U	0.05	0.36		0.038	0.25	U	0.038
1/28/2010 9:20	SW-013-012010	0.2	U	0.032				0.5	J	0.037			
5/6/2010 10:00	SW-013-042010	0.2	U	0.032				0.24		0.037			

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-14 Summary of Explosives in Surface Water for Clear Creek SW-13 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
11/30/2004	SW-013-112004	0.62	U	0.085	0.62	UR	0.141
2/28/2007 10:30	SW-013-032007	0.158	U	0.079	0.158	U	0.079
5/30/2007 9:40	SW-013-052007	0.25	U	0.067	0.25	UJ	0.025
9/5/2007 9:45	SW-013-092007	0.25	U	0.067	0.25	U	0.025
12/3/2007 10:50	SW-013-122007	0.25	U	0.018	0.25	U	0.04
3/3/2008 12:00	SW-013-032008	0.25	UJ	0.018	0.25	U	0.04
6/18/2008 10:40	SW-013-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 13:30	SW-013-092008	0.25	U	0.05	0.25	U	0.056
11/12/2008 11:45	SW-013-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 10:15	SW-013-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 15:10	SW-013-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 10:15	SW-013-092009	0.25	U	0.05	0.25	U	0.056
11/12/2009 9:05	SW-013-122009	0.25	U	0.037	0.25	U	0.047
1/28/2010 9:20	SW-013-012010						
5/6/2010 10:00	SW-013-042010						

mg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-15 Summary of Explosives in Surface Water for Silver Creek SCW-01

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/11/2005 13:00	SCW-001-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 16:00	SCW-001-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 13:00	SCW-001-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-15 Summary of Explosives in Surface Water for Silver Creek SCW-01 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/11/2005 13:00	SCW-001-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 16:00	SCW-001-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 13:00	SCW-001-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-15 Summary of Explosives in Surface Water for Silver Creek SCW-01 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	0.202	J	0.105	0.316	U	0.105	0.157	J	0.105	0.316	U	0.105
6/11/2005 13:00	SCW-001-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 16:00	SCW-001-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 13:00	SCW-001-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-15 Summary of Explosives in Surface Water for Silver Creek SCW-01 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	0.316	U	0.105	0.316	U	0.105
6/11/2005 13:00	SCW-001-062005	0.188	U	0.094	0.188	U	0.094
9/17/2005 16:00	SCW-001-092005	0.158	U	0.079	0.158	U	0.079
11/30/2005 13:00	SCW-001-122005	0.158	U	0.079	0.158	U	0.079

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-16 Summary of Explosives in Surface Water for Silver Creek SCW-03

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/11/2005 13:00	SCW-003-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 15:05	SCW-003-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 10:05	SCW-003-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 9:45	SCW-003-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 8:25	SCW-003-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:35	SCW-003-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:10	SCW-003-122006	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077
2/27/2007 9:17	SCW-003-032007	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-16 Summary of Explosives in Surface Water for Silver Creek SCW-03 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/11/2005 13:00	SCW-003-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 15:05	SCW-003-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 10:05	SCW-003-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 9:45	SCW-003-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 8:25	SCW-003-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:35	SCW-003-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:10	SCW-003-122006	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077
2/27/2007 9:17	SCW-003-032007	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-16 Summary of Explosives in Surface Water for Silver Creek SCW-03 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/11/2005 13:00	SCW-003-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 15:05	SCW-003-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 10:05	SCW-003-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 9:45	SCW-003-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 8:25	SCW-003-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:35	SCW-003-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:10	SCW-003-122006	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077
2/27/2007 9:17	SCW-003-032007	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-16 Summary of Explosives in Surface Water for Silver Creek SCW-03 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	0.316	U	0.105	0.316	U	0.105
6/11/2005 13:00	SCW-003-062005	0.188	U	0.094	0.188	U	0.094
9/17/2005 15:05	SCW-003-092005	0.158	U	0.079	0.158	U	0.079
11/30/2005 10:05	SCW-003-122005	0.158	U	0.079	0.158	U	0.079
3/27/2006 9:45	SCW-003-032006	0.158	U	0.079	0.158	U	0.079
6/19/2006 8:25	SCW-003-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:35	SCW-003-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:10	SCW-003-122006	0.155	U	0.077	0.155	U	0.077
2/27/2007 9:17	SCW-003-032007	0.156	U	0.078	0.156	U	0.078

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-17 Summary of Explosives in Surface Water for Silver Creek SCW-04

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 9:00	SCW-004-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:40	SCW-004-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:25	SCW-004-122006	0.153	U	0.077	0.153	U	0.077	0.153	U	0.077	0.153	U	0.077
2/27/2007 9:38	SCW-004-032007	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077
5/29/2007 11:00	SCW-004-052007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
9/4/2007 8:45	SCW-004-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/3/2007 8:50	SCW-004-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/3/2008 9:30	SCW-004-032008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 9:00	SCW-004-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 9:20	SCW-004-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 9:55	SCW-004-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 8:50	SCW-004-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 9:25	SCW-004-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 9:25	SCW-004-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 8:45	SCW-004-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 14:50	SCW-004-012010	0.026	J	0.014				0.2	U	0.058	0.2	U	0.023
5/6/2010 8:30	SCW-004-042010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-17 Summary of Explosives in Surface Water for Silver Creek SCW-04 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
3/27/2006 9:55	SCW-004-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 9:00	SCW-004-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:40	SCW-004-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:25	SCW-004-122006	0.153	U	0.077	0.153	U	0.077	0.153	U	0.077	0.153	U	0.077
2/27/2007 9:38	SCW-004-032007	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077
5/29/2007 11:00	SCW-004-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/4/2007 8:45	SCW-004-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/3/2007 8:50	SCW-004-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/3/2008 9:30	SCW-004-032008	0.25	U	0.017	0.25	U	0.018	0.96		0.017	0.25	U	0.017
6/18/2008 9:00	SCW-004-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 9:20	SCW-004-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 9:55	SCW-004-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 8:50	SCW-004-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 9:25	SCW-004-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 9:25	SCW-004-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 8:45	SCW-004-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 14:50	SCW-004-012010				0.2	U	0.015						
5/6/2010 8:30	SCW-004-042010				0.2	U	0.015						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-17 Summary of Explosives in Surface Water for Silver Creek SCW-04 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 9:00	SCW-004-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:40	SCW-004-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:25	SCW-004-122006	0.153	U	0.077	0.153	U	0.077	0.153	U	0.077	0.153	U	0.077
2/27/2007 9:38	SCW-004-032007	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077	0.155	U	0.077
5/29/2007 11:00	SCW-004-052007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
9/4/2007 8:45	SCW-004-092007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
12/3/2007 8:50	SCW-004-122007	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
3/3/2008 9:30	SCW-004-032008	1.7	J	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
6/18/2008 9:00	SCW-004-062008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
8/27/2008 9:20	SCW-004-092008	0.25	U	0.032	0.054	J	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2008 9:55	SCW-004-122008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.057	J	0.035
2/26/2009 8:50	SCW-004-032009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
5/18/2009 9:25	SCW-004-062009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
8/4/2009 9:25	SCW-004-092009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2009 8:45	SCW-004-122009	0.25	U	0.05	0.25	U	0.05	0.25	U	0.038	0.25	U	0.038
1/28/2010 14:50	SCW-004-012010	0.2	U	0.032				0.2	U	0.037			
5/6/2010 8:30	SCW-004-042010	0.2	U	0.032				0.2	U	0.037			

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-17 Summary of Explosives in Surface Water for Silver Creek SCW-04 (continued)

		Octahydro-1,3,5,7-Tetranitro-					
	Compound	**1,3,5,7-Tetrazocine (HMX)**			**Tetryl**		
	CAS #	**2691-41-0**			**479-45-8**		
	Units	**µg/L**			**µg/L**		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
3/27/2006 9:55	SCW-004-032006	0.158	U	0.079	0.158	U	0.079
6/19/2006 9:00	SCW-004-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:40	SCW-004-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:25	SCW-004-122006	0.153	U	0.077	0.153	U	0.077
2/27/2007 9:38	SCW-004-032007	0.155	U	0.077	0.155	U	0.077
5/29/2007 11:00	SCW-004-052007	0.25	U	0.067	0.25	UJ	0.025
9/4/2007 8:45	SCW-004-092007	0.25	U	0.067	0.25	U	0.025
12/3/2007 8:50	SCW-004-122007	0.25	U	0.018	0.25	U	0.04
3/3/2008 9:30	SCW-004-032008	0.25	UJ	0.018	0.25	U	0.04
6/18/2008 9:00	SCW-004-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 9:20	SCW-004-092008	0.25	U	0.05	0.25	U	0.056
11/12/2008 9:55	SCW-004-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 8:50	SCW-004-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 9:25	SCW-004-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 9:25	SCW-004-092009	0.25	U	0.05	0.25	U	0.056
11/12/2009 8:45	SCW-004-122009	0.25	U	0.037	0.25	U	0.047
1/28/2010 14:50	SCW-004-012010						
5/6/2010 8:30	SCW-004-042010						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-18 Summary of Explosives in Surface Water for Silver Creek SCW-05

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
3/27/2006 10:10	SCW-005-032006	0.158	Y	0.079	0.158	Y	0.079	0.158	Y	0.079	0.158	Y	0.079
6/19/2006 10:15	SCW-005-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:50	SCW-005-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:35	SCW-005-122006	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078
2/27/2007 9:55	SCW-005-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 11:15	SCW-005-052007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
9/4/2007 9:05	SCW-005-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/3/2007 9:10	SCW-005-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/3/2008 10:00	SCW-005-032008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 9:15	SCW-005-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 9:35	SCW-005-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 10:08	SCW-005-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 9:05	SCW-005-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 9:35	SCW-005-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 9:05	SCW-005-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 8:35	SCW-005-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 14:30	SCW-005-012010	0.024	J	0.014				0.2	U	0.058	0.2	U	0.023
5/6/2010 8:45	SCW-005-042010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-18 Summary of Explosives in Surface Water for Silver Creek SCW-05 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
3/27/2006 10:10	SCW-005-032006	0.158	Y	0.079	0.158	Y	0.079	0.158	Y	0.079	0.158	Y	0.079
6/19/2006 10:15	SCW-005-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:50	SCW-005-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:35	SCW-005-122006	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078
2/27/2007 9:55	SCW-005-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 11:15	SCW-005-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/4/2007 9:05	SCW-005-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/3/2007 9:10	SCW-005-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/3/2008 10:00	SCW-005-032008	0.25	U	0.017	0.25	U	0.018	0.97		0.017	0.25	U	0.017
6/18/2008 9:15	SCW-005-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 9:35	SCW-005-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 10:08	SCW-005-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 9:05	SCW-005-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 9:35	SCW-005-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 9:05	SCW-005-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 8:35	SCW-005-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 14:30	SCW-005-012010				0.2	U	0.015						
5/6/2010 8:45	SCW-005-042010				0.2	U	0.015						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-18 Summary of Explosives in Surface Water for Silver Creek SCW-05 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	0.158	Y	0.079	0.158	Y	0.079	0.158	Y	0.079	0.158	Y	0.079
6/19/2006 10:15	SCW-005-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:50	SCW-005-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:35	SCW-005-122006	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078	0.156	U	0.078
2/27/2007 9:55	SCW-005-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 11:15	SCW-005-052007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
9/4/2007 9:05	SCW-005-092007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
12/3/2007 9:10	SCW-005-122007	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
3/3/2008 10:00	SCW-005-032008	1.8	J	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
6/18/2008 9:15	SCW-005-062008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
8/27/2008 9:35	SCW-005-092008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2008 10:08	SCW-005-122008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.097	J	0.035
2/26/2009 9:05	SCW-005-032009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
5/18/2009 9:35	SCW-005-062009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
8/4/2009 9:05	SCW-005-092009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2009 8:35	SCW-005-122009	0.25	U	0.05	0.25	U	0.05	0.25	U	0.038	0.25	U	0.038
1/28/2010 14:30	SCW-005-012010	0.2	U	0.032				0.2	U	0.037			
5/6/2010 8:45	SCW-005-042010	0.2	U	0.032				0.2	U	0.037			

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-18 Summary of Explosives in Surface Water for Silver Creek SCW-05 (continued)

	Compound	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)			Tetryl		
	CAS #	2691-41-0			479-45-8		
	Units	µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
3/27/2006 10:10	SCW-005-032006	0.158	Y	0.079	0.158	Y	0.079
6/19/2006 10:15	SCW-005-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 15:50	SCW-005-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:35	SCW-005-122006	0.156	U	0.078	0.156	U	0.078
2/27/2007 9:55	SCW-005-032007	0.158	U	0.079	0.158	U	0.079
5/29/2007 11:15	SCW-005-052007	0.25	U	0.067	0.25	UJ	0.025
9/4/2007 9:05	SCW-005-092007	0.25	U	0.067	0.25	U	0.025
12/3/2007 9:10	SCW-005-122007	0.25	U	0.018	0.25	U	0.04
3/3/2008 10:00	SCW-005-032008	0.25	UJ	0.018	0.25	U	0.04
6/18/2008 9:15	SCW-005-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 9:35	SCW-005-092008	0.25	U	0.05	0.25	U	0.056
11/12/2008 10:08	SCW-005-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 9:05	SCW-005-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 9:35	SCW-005-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 9:05	SCW-005-092009	0.25	U	0.05	0.25	U	0.056
11/12/2009 8:35	SCW-005-122009	0.25	U	0.037	0.25	U	0.047
1/28/2010 14:30	SCW-005-012010						
5/6/2010 8:45	SCW-005-042010						

µg/L: microgram per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-19 Summary of Explosives in Surface Water for Silver Creek SCW-06

	Compound	1,3,5-Trinitrobenzene			1,3-Dinitrobenzene			2,4,6-Trinitrotoluene			2,4-Dinitrotoluene		
	CAS #	99-35-4			99-65-0			118-96-7			121-14-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
3/20/2005 12:05	SCW-006-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/11/2005 12:00	SCW-006-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 16:00	SCW-006-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 11:05	SCW-006-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 10:20	SCW-006-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 10:35	SCW-006-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 16:05	SCW-006-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:40	SCW-006-122006	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076
2/27/2007 10:05	SCW-006-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 11:25	SCW-006-052007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
9/4/2007 9:20	SCW-006-092007	0.25	U	0.021	0.25	U	0.021	0.25	U	0.021	0.25	U	0.028
12/3/2007 9:30	SCW-006-122007	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
3/3/2008 10:25	SCW-006-032008	0.25	U	0.011	0.37	J	0.04	0.25	U	0.012	0.25	U	0.0097
6/18/2008 9:30	SCW-006-062008	0.25	U	0.011	0.25	U	0.04	0.25	U	0.012	0.25	U	0.0097
8/27/2008 9:50	SCW-006-092008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2008 10:15	SCW-006-122008	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
2/26/2009 9:30	SCW-006-032009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
5/18/2009 9:45	SCW-006-062009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
8/4/2009 8:45	SCW-006-092009	0.25	U	0.026	0.25	U	0.016	0.25	U	0.025	0.25	U	0.048
11/12/2009 8:20	SCW-006-122009	0.25	U	0.055	0.25	U	0.012	0.25	U	0.053	0.25	U	0.028
1/28/2010 14:00	SCW-006-012010	0.031	J	0.014				0.2	U	0.058	0.2	U	0.023
5/6/2010 8:55	SCW-006-042010	0.2	U	0.014				0.2	U	0.058	0.2	U	0.023

µg/L: micrograms per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-19 Summary of Explosives in Surface Water for Silver Creek SCW-06 (continued)

	Compound	2,6-Dinitrotoluene			2-Amino-4,6-Dinitrotoluene			2-Nitrotoluene			3-Nitrotoluene		
	CAS #	606-20-2			35572-78-2			88-72-2			99-08-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/11/2005 12:00	SCW-006-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 16:00	SCW-006-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 11:05	SCW-006-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 10:20	SCW-006-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 10:35	SCW-006-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 16:05	SCW-006-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:40	SCW-006-122006	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076
2/27/2007 10:05	SCW-006-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 11:25	SCW-006-052007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
9/4/2007 9:20	SCW-006-092007	0.25	U	0.034	0.25	U	0.023	0.25	U	0.041	0.25	U	0.063
12/3/2007 9:30	SCW-006-122007	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
3/3/2008 10:25	SCW-006-032008	0.25	U	0.017	0.25	U	0.018	0.95	J	0.017	0.25	U	0.017
6/18/2008 9:30	SCW-006-062008	0.25	U	0.017	0.25	U	0.018	0.25	U	0.017	0.25	U	0.017
8/27/2008 9:50	SCW-006-092008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2008 10:15	SCW-006-122008	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
2/26/2009 9:30	SCW-006-032009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
5/18/2009 9:45	SCW-006-062009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
8/4/2009 8:45	SCW-006-092009	0.25	U	0.027	0.25	U	0.026	0.25	U	0.051	0.25	U	0.03
11/12/2009 8:20	SCW-006-122009	0.25	U	0.045	0.25	U	0.023	0.25	U	0.042	0.25	U	0.055
1/28/2010 14:00	SCW-006-012010				0.2	U	0.015						
5/6/2010 8:55	SCW-006-042010				0.2	U	0.015						

µg/L: micrograms per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-19 Summary of Explosives in Surface Water for Silver Creek SCW-06 (continued)

	Compound	4-Amino-2,6-Dinitrotoluene			4-Nitrotoluene			Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)			Nitrobenzene		
	CAS #	19406-51-0			99-99-0			121-82-4			98-95-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105	0.316	U	0.105
6/11/2005 12:00	SCW-006-062005	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094	0.188	U	0.094
9/17/2005 16:00	SCW-006-092005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
11/30/2005 11:05	SCW-006-122005	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
3/27/2006 10:20	SCW-006-032006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
6/19/2006 10:35	SCW-006-062006	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
9/25/2006 16:05	SCW-006-092006	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:40	SCW-006-122006	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076	0.152	U	0.076
2/27/2007 10:05	SCW-006-032007	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079	0.158	U	0.079
5/29/2007 11:25	SCW-006-052007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
9/4/2007 9:20	SCW-006-092007	0.25	U	0.022	0.25	U	0.032	0.25	U	0.053	0.25	U	0.021
12/3/2007 9:30	SCW-006-122007	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
3/3/2008 10:25	SCW-006-032008	1.7	J	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
6/18/2008 9:30	SCW-006-062008	0.25	U	0.022	0.25	U	0.026	0.25	U	0.017	0.25	U	0.04
8/27/2008 9:50	SCW-006-092008	0.25	U	0.032	0.057	J	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2008 10:15	SCW-006-122008	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
2/26/2009 9:30	SCW-006-032009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
5/18/2009 9:45	SCW-006-062009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
8/4/2009 8:45	SCW-006-092009	0.25	U	0.032	0.25	U	0.053	0.25	U	0.056	0.25	U	0.035
11/12/2009 8:20	SCW-006-122009	0.25	U	0.05	0.25	U	0.05	0.25	U	0.038	0.25	U	0.038
1/28/2010 14:00	SCW-006-012010	0.2	U	0.032				0.2	U	0.037			
5/6/2010 8:55	SCW-006-042010	0.2	U	0.032				0.2	U	0.037			

µg/L: micrograms per liter, ID: identification, J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-19 Summary of Explosives Surface Water data for Silver Creek SCW-06 (continued)

		Octahydro-1,3,5,7-Tetranitro-					
	Compound	**1,3,5,7-Tetrazocine (HMX)**			**Tetryl**		
	CAS #	**2691-41-0**			**479-45-8**		
	Units	**µg/L**			**µg/L**		
Sample Date	**Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
3/20/2005 12:05	SCW-006-032005	0.316	U	0.105	0.316	U	0.105
6/11/2005 12:00	SCW-006-062005	0.188	U	0.094	0.188	U	0.094
9/17/2005 16:00	SCW-006-092005	0.158	U	0.079	0.158	U	0.079
11/30/2005 11:05	SCW-006-122005	0.158	U	0.079	0.158	U	0.079
3/27/2006 10:20	SCW-006-032006	0.158	U	0.079	0.158	U	0.079
6/19/2006 10:35	SCW-006-062006	0.158	U	0.079	0.158	U	0.079
9/25/2006 16:05	SCW-006-092006	0.15	U	0.075	0.15	U	0.075
12/7/2006 8:40	SCW-006-122006	0.152	U	0.076	0.152	U	0.076
2/27/2007 10:05	SCW-006-032007	0.158	U	0.079	0.158	U	0.079
5/29/2007 11:25	SCW-006-052007	0.25	U	0.067	0.25	UJ	0.025
9/4/2007 9:20	SCW-006-092007	0.25	U	0.067	0.25	U	0.025
12/3/2007 9:30	SCW-006-122007	0.25	U	0.018	0.25	U	0.04
3/3/2008 10:25	SCW-006-032008	0.25	UJ	0.018	0.25	U	0.04
6/18/2008 9:30	SCW-006-062008	0.25	U	0.018	0.25	U	0.04
8/27/2008 9:50	SCW-006-092008	0.25	U	0.05	0.25	U	0.056
11/12/2008 10:15	SCW-006-122008	0.25	U	0.05	0.25	U	0.056
2/26/2009 9:30	SCW-006-032009	0.25	U	0.05	0.25	U	0.056
5/18/2009 9:45	SCW-006-062009	0.25	U	0.05	0.25	U	0.056
8/4/2009 8:45	SCW-006-092009	0.25	U	0.05	0.25	U	0.056
11/12/2009 8:20	SCW-006-122009	0.25	U	0.037	0.25	U	0.047
1/28/2010 14:00	SCW-006-012010						
5/6/2010 8:55	SCW-006-042010						

µg/L: micrograms per liter, ID: identification J: Estimated Value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data; U: Not detected

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	0.71	5	U	0.82	5	U	2.58			
3/19/2005 14:00	SW-001-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	UJ	0.13
6/12/2005 11:05	SW-001-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	U	0.13
9/17/2005 11:00	SW-001-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/30/2005 12:05	SW-001-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/27/2006 14:50	SW-001-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/20/2006 10:30	SW-001-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 8:20	SW-001-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 8:50	SW-001-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/27/2007 14:00	SW-001-032007	2	U	0.222	2	U	0.18	2	U	0.1			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	0.99	5	U	0.8	5	U	0.98	5	U	1
3/19/2005 14:00	SW-001-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/12/2005 11:05	SW-001-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/17/2005 11:00	SW-001-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/30/2005 12:05	SW-001-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/27/2006 14:50	SW-001-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/20/2006 10:30	SW-001-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 8:20	SW-001-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 8:50	SW-001-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/27/2007 14:00	SW-001-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	UJ	1.32				5	U	1.36	5	U	1.95
3/19/2005 14:00	SW-001-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/12/2005 11:05	SW-001-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/17/2005 11:00	SW-001-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/30/2005 12:05	SW-001-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/27/2006 14:50	SW-001-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/20/2006 10:30	SW-001-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 8:20	SW-001-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 8:50	SW-001-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/27/2007 14:00	SW-001-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004							5	U	0.93	5	U	1.29
3/19/2005 14:00	SW-001-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/12/2005 11:05	SW-001-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/17/2005 11:00	SW-001-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/30/2005 12:05	SW-001-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/27/2006 14:50	SW-001-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/20/2006 10:30	SW-001-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 8:20	SW-001-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 8:50	SW-001-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/27/2007 14:00	SW-001-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene			1,3-Dichloropropane		
	CAS #	78-87-5			108-67-8			541-73-1			142-28-9		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	0.97	5	U	1.47	5	U	0.39	5	U	1.2
3/19/2005 14:00	SW-001-032005	1	U	0.15	1	U	0.09	1	U	0.1	0.5	U	0.14
6/12/2005 11:05	SW-001-062005	1	U	0.15	1	UJ	0.09	1	UJ	0.1	0.5	UJ	0.14
9/17/2005 11:00	SW-001-092005	1	U	0.15	1	UJ	0.09	1	UJ	0.1	0.5	U	0.14
11/30/2005 12:05	SW-001-122005	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107
3/27/2006 14:50	SW-001-032006	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107
6/20/2006 10:30	SW-001-062006	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107
9/25/2006 8:20	SW-001-092006	2	U	0.119	2	U	0.113	2	U	0.189	2	UJ	0.107
12/7/2006 8:50	SW-001-122006	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107
2/27/2007 14:00	SW-001-032007	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)			2-Chlorotoluene		
	CAS #	106-46-7			594-20-7			78-93-3			95-49-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	0.86				10	UJ	2.21	5	U	1.05
3/19/2005 14:00	SW-001-032005	0.5	U	0.12				1	UJ	0.23	1	U	0.09
6/12/2005 11:05	SW-001-062005	0.5	UJ	0.12				1	UJ	0.23	1	UJ	0.09
9/17/2005 11:00	SW-001-092005	0.5	UJ	0.12				1	U	0.23	1	U	0.09
11/30/2005 12:05	SW-001-122005	2	U	0.15	2	U	0.108	2	U	0.481	2	U	0.106
3/27/2006 14:50	SW-001-032006	2	U	0.15	2	U	0.108	2	U	0.481	2	U	0.106
6/20/2006 10:30	SW-001-062006	2	U	0.15	2	U	0.108	2	U	0.481	2	U	0.106
9/25/2006 8:20	SW-001-092006	2	U	0.15	2	U	0.108	2	U	0.481	2	U	0.106
12/7/2006 8:50	SW-001-122006	2	U	0.15	2	U	0.108	4	U	0.481	2	U	0.106
2/27/2007 14:00	SW-001-032007	2	U	0.15	2	U	0.108	10	U	5	2	U	0.106

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)			Acetone		
	CAS #	591-78-6			106-43-4			108-10-1			67-64-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	10	UJ	0.83	5	U	0.95	10	UJ	1.01	3	J	2.35
3/19/2005 14:00	SW-001-032005	1	U	0.57	1	U	0.1	1	U	0.46	5	UJ	1.6
6/12/2005 11:05	SW-001-062005	1	U	0.57	1	UJ	0.1	1	U	0.46	5	UJ	1.6
9/17/2005 11:00	SW-001-092005	1	U	0.57	1	U	0.1	1	U	0.46	5	UJ	1.6
11/30/2005 12:05	SW-001-122005	2	U	0.163	2	U	0.1	2	UJ	0.128	2	U	0.612
3/27/2006 14:50	SW-001-032006	2	U	0.163	2	U	0.1	2	U	0.128	2	U	0.612
6/20/2006 10:30	SW-001-062006	2	U	0.163	2	U	0.1	2	U	0.128	2	U	0.612
9/25/2006 8:20	SW-001-092006	2	U	0.163	2	U	0.1	2	U	0.128	2	U	0.612
12/7/2006 8:50	SW-001-122006	4	U	0.163	2	U	0.1	4	U	0.128	4	U	0.612
2/27/2007 14:00	SW-001-032007	10	U	5	2	U	0.1	10	U	5	10	U	5

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	Benzene			Bromobenzene			Bromochloromethane			Bromodichloromethane		
	CAS #	71-43-2			108-86-1			74-97-5			75-27-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	0.99	5	U	1.24	5	U	0.72	5	U	0.72
3/19/2005 14:00	SW-001-032005	0.5	U	0.15	1	U	0.11	1	U	0.14	0.5	U	0.14
6/12/2005 11:05	SW-001-062005	0.5	U	0.15	1	UJ	0.11	1	U	0.14	0.5	U	0.14
9/17/2005 11:00	SW-001-092005	0.5	U	0.15	1	U	0.11	1	U	0.14	0.5	U	0.14
11/30/2005 12:05	SW-001-122005	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
3/27/2006 14:50	SW-001-032006	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
6/20/2006 10:30	SW-001-062006	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
9/25/2006 8:20	SW-001-092006	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
12/7/2006 8:50	SW-001-122006	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
2/27/2007 14:00	SW-001-032007	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	Bromoform			Bromomethane			Carbon Disulfide			Carbon Tetrachloride		
	CAS #	75-25-2			74-83-9			75-15-0			56-23-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	1.01	10	U	0.66	5	U	0.45	5	U	0.96
3/19/2005 14:00	SW-001-032005	1	U	0.09	1	U	0.18	1	U	0.11	1	U	0.16
6/12/2005 11:05	SW-001-062005	1	U	0.09	1	UJ	0.18	1	UJ	0.11	1	U	0.16
9/17/2005 11:00	SW-001-092005	1	U	0.09	1	U	0.18	1	U	0.11	1	U	0.16
11/30/2005 12:05	SW-001-122005	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
3/27/2006 14:50	SW-001-032006	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
6/20/2006 10:30	SW-001-062006	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
9/25/2006 8:20	SW-001-092006	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
12/7/2006 8:50	SW-001-122006	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
2/27/2007 14:00	SW-001-032007	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	Chlorobenzene			Chloroethane			Chloroform			Chloromethane		
	CAS #	108-90-7			75-00-3			67-66-3			74-87-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	0.64	10	U	1.42	5	U	0.95	10	U	0.47
3/19/2005 14:00	SW-001-032005	0.5	U	0.11	1	U	0.46	0.5	U	0.16	1	U	0.08
6/12/2005 11:05	SW-001-062005	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16	1	U	0.08
9/17/2005 11:00	SW-001-092005	0.5	U	0.11	1	U	0.46	0.5	U	0.16	1	U	0.08
11/30/2005 12:05	SW-001-122005	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173
3/27/2006 14:50	SW-001-032006	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173
6/20/2006 10:30	SW-001-062006	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173
9/25/2006 8:20	SW-001-092006	2	UJ	0.156	2	U	0.207	2	U	0.214	2	U	0.173
12/7/2006 8:50	SW-001-122006	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173
2/27/2007 14:00	SW-001-032007	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane			Dibromochloromethane		
	CAS #	156-59-2			10061-01-5			110-82-7			124-48-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	0.77	5	U	1.03				5	U	0.88
3/19/2005 14:00	SW-001-032005	1	U	0.09	0.5	U	0.12	1	U	0.15	0.5	U	0.13
6/12/2005 11:05	SW-001-062005	1	U	0.09	0.5	UJ	0.12	1	U	0.15	0.5	U	0.13
9/17/2005 11:00	SW-001-092005	1	U	0.09	0.5	U	0.12	1	U	0.15	0.5	U	0.13
11/30/2005 12:05	SW-001-122005	2	U	0.151	2	U	0.1				2	U	0.133
3/27/2006 14:50	SW-001-032006	2	U	0.151	2	U	0.1				2	U	0.133
6/20/2006 10:30	SW-001-062006	2	U	0.151	2	U	0.1				2	U	0.133
9/25/2006 8:20	SW-001-092006	2	U	0.151	2	U	0.1				2	UJ	0.133
12/7/2006 8:50	SW-001-122006	2	U	0.151	2	U	0.1				2	U	0.133
2/27/2007 14:00	SW-001-032007	2	U	0.151	2	U	0.1				2	U	0.133

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	Dibromomethane			Dichlorodifluoromethane			Ethylbenzene			Hexachlorobutadiene		
	CAS #	74-95-3			75-71-8			100-41-4			87-68-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	0.76	10	U	0.86	5	U	0.79	5	U	0.83
3/19/2005 14:00	SW-001-032005	1	U	0.09	1	U	0.12	1	U	0.11	1	U	0.15
6/12/2005 11:05	SW-001-062005	1	U	0.09	1	U	0.12	1	U	0.11	1	U	0.15
9/17/2005 11:00	SW-001-092005	1	U	0.09	1	UJ	0.12	1	U	0.11	1	U	0.15
11/30/2005 12:05	SW-001-122005	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
3/27/2006 14:50	SW-001-032006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
6/20/2006 10:30	SW-001-062006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
9/25/2006 8:20	SW-001-092006	2	U	0.1	2	U	0.5	2	U	0.1	2	UJ	0.192
12/7/2006 8:50	SW-001-122006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
2/27/2007 14:00	SW-001-032007	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene			Methylene Chloride		
	CAS #	108-20-3			98-82-8			136777-61-2			75-09-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004				5	U	0.83	5	U	2.05	5	U	4.95
3/19/2005 14:00	SW-001-032005				1	U	0.12	1	U	0.24	1	U	0.42
6/12/2005 11:05	SW-001-062005				1	UJ	0.12	1	U	0.24	1	U	0.42
9/17/2005 11:00	SW-001-092005				1	UJ	0.12	1	U	0.24	1	U	0.42
11/30/2005 12:05	SW-001-122005				2	U	0.1	2	U	0.216	2	U	0.398
3/27/2006 14:50	SW-001-032006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
6/20/2006 10:30	SW-001-062006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
9/25/2006 8:20	SW-001-092006	2	UJ	0.5	2	U	0.1	2	U	0.216	2	U	0.398
12/7/2006 8:50	SW-001-122006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
2/27/2007 14:00	SW-001-032007	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	Naphthalene			n-Butylbenzene			n-Propylbenzene			o-Xylene		
	CAS #	91-20-3			104-51-8			103-65-1			95-47-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	UJ	3.57	5	U	1.94	5	U	1.82	5	U	0.49
3/19/2005 14:00	SW-001-032005	1	U	0.1	1	U	0.12	1	U	0.1	1	U	0.13
6/12/2005 11:05	SW-001-062005	1	U	0.1	1	U	0.12	1	UJ	0.1	1	U	0.13
9/17/2005 11:00	SW-001-092005	1	U	0.1	1	U	0.12	1	U	0.1	1	U	0.13
11/30/2005 12:05	SW-001-122005	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
3/27/2006 14:50	SW-001-032006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
6/20/2006 10:30	SW-001-062006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
9/25/2006 8:20	SW-001-092006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
12/7/2006 8:50	SW-001-122006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
2/27/2007 14:00	SW-001-032007	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	p-Cymene (p-Isopropyltoluene)			sec-Butylbenzene			Styrene			tert-Butyl Methyl Ether (MTBE)		
	CAS #	99-87-6			135-98-8			100-42-5			1634-04-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	1.5	5	U	1.74	5	U	0.71	5	U	0.49
3/19/2005 14:00	SW-001-032005	1	U	0.13	1	U	0.13	1	U	0.11	1	U	0.22
6/12/2005 11:05	SW-001-062005	1	U	0.13	1	U	0.13	1	U	0.11	1	U	0.22
9/17/2005 11:00	SW-001-092005	1	U	0.13	1	UJ	0.13	1	U	0.11	1	U	0.22
11/30/2005 12:05	SW-001-122005	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
3/27/2006 14:50	SW-001-032006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
6/20/2006 10:30	SW-001-062006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
9/25/2006 8:20	SW-001-092006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
12/7/2006 8:50	SW-001-122006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
2/27/2007 14:00	SW-001-032007	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene			trans-1,2-Dichloroethene		
	CAS #	98-06-6			127-18-4			108-88-3			156-60-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	1.07	5	U	0.68	5	U	0.96	5	U	0.98
3/19/2005 14:00	SW-001-032005	1	U	0.15	1	U	0.12	1	U	0.11	1	U	0.1
6/12/2005 11:05	SW-001-062005	1	UJ	0.15	1	U	0.12	1	UJ	0.11	1	U	0.1
9/17/2005 11:00	SW-001-092005	1	UJ	0.15	1	U	0.12	1	U	0.11	1	U	0.1
11/30/2005 12:05	SW-001-122005	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
3/27/2006 14:50	SW-001-032006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
6/20/2006 10:30	SW-001-062006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
9/25/2006 8:20	SW-001-092006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
12/7/2006 8:50	SW-001-122006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
2/27/2007 14:00	SW-001-032007	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane			Vinyl Acetate		
	CAS #	10061-02-6			79-01-6			75-69-4			108-05-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	5	U	1.03	5	U	0.67						
3/19/2005 14:00	SW-001-032005	1	U	0.1	1	U	0.12	1	U	0.1			
6/12/2005 11:05	SW-001-062005	1	UJ	0.1	1	U	0.12	1	UJ	0.1			
9/17/2005 11:00	SW-001-092005	1	U	0.1	1	U	0.12	1	U	0.1			
11/30/2005 12:05	SW-001-122005	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.5
3/27/2006 14:50	SW-001-032006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
6/20/2006 10:30	SW-001-062006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
9/25/2006 8:20	SW-001-092006	2	U	0.1	2	U	0.151	2	UJ	0.111	2	U	0.15
12/7/2006 8:50	SW-001-122006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
2/27/2007 14:00	SW-001-032007	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-20 Summary of VOCs in Surface Water for Johnson Creek SW-01 (continued)

	Compound	Vinyl Chloride			Xylenes, Total		
	CAS #	75-01-4			1330-20-7		
	Units	µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-01-112004	10	U	0.35	5	U	3.05
3/19/2005 14:00	SW-001-032005	0.4	U	0.09			
6/12/2005 11:05	SW-001-062005	0.4	U	0.09			
9/17/2005 11:00	SW-001-092005	0.4	U	0.09			
11/30/2005 12:05	SW-001-122005	2	U	0.239			
3/27/2006 14:50	SW-001-032006	2	U	0.239			
6/20/2006 10:30	SW-001-062006	2	U	0.239			
9/25/2006 8:20	SW-001-092006	2	U	0.239			
12/7/2006 8:50	SW-001-122006	2	U	0.239			
2/27/2007 14:00	SW-001-032007	2	U	0.239			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloroethane		
	CAS #	630-20-6			71-55-6			79-34-5			79-00-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.71	5	U	0.82	5	U	2.58	5	U	0.99

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene			1,2,3-Trichlorobenzene		
	CAS #	75-34-3			75-35-4			563-58-6			87-61-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.8	5	U	0.98	5	U	1	5	UJ	1.32

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene			1,2,3-Trichlorobenzene		
	CAS #	75-34-3			75-35-4			563-58-6			87-61-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.8	5	U	0.98	5	U	1	5	UJ	1.32

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	120-82-1			95-63-6			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	1.36	5	U	1.95	5	U	0.93	5	U	1.29

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene			1,3-Dichloropropane		
	CAS #	78-87-5			108-67-8			541-73-1			142-28-9		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.97	5	U	1.47	5	U	0.39	5	U	1.2

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	1,4-Dichlorobenzene			2-Butanone (MEK)			2-Chlorotoluene			2-Hexanone		
	CAS #	106-46-7			78-93-3			95-49-8			591-78-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.86	10	UJ	2.21	5	U	1.05	10	UJ	0.83

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)			Acetone			Benzene		
	CAS #	106-43-4			108-10-1			67-64-1			71-43-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.95	10	UJ	1.01	10	UJ	2.35	5	U	0.99

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	Bromobenzene			Bromochloromethane			Bromodichloromethane			Bromoform		
	CAS #	108-86-1			74-97-5			75-27-4			75-25-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	1.24	5	U	0.72	5	U	0.72	5	U	1.01

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	Bromomethane			Carbon Disulfide			Carbon Tetrachloride			Chlorobenzene		
	CAS #	74-83-9			75-15-0			56-23-5			108-90-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	10	U	0.66	5	U	0.45	5	U	0.96	5	U	0.64

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	Chloroethane			Chloroform			Chloromethane			cis-1,2-Dichloroethene		
	CAS #	75-00-3			67-66-3			74-87-3			156-59-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	10	U	1.42	5	U	0.95	10	U	0.47	5	U	0.77

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	cis-1,3-Dichloropropene			Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane		
	CAS #	10061-01-5			124-48-1			74-95-3			75-71-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	1.03	5	U	0.88	5	U	0.76	10	U	0.86

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	Ethylbenzene			Hexachlorobutadiene			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	100-41-4			87-68-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.79	5	U	0.83	5	U	0.83	5	U	2.05

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	4.95	5	UJ	3.57	5	U	1.94	5	U	1.82

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	o-Xylene			p-Cymene (p-Isopropyltoluene)			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	tert-Butyl Methyl Ether (MTBE)			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	CAS #	1634-04-4			98-06-6			127-18-4			108-88-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Vinyl Chloride		
	CAS #	156-60-5			10061-02-6			79-01-6			75-01-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	0.98	5	U	1.03	5	U	0.67	10	U	0.35

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-21 Summary of VOCs in Surface Water for Johnson Creek SW-02 (continued)

	Compound	Xylenes, Total		
	CAS #	1330-20-7		
	Units	µg/L		
Sample Date	Field Sample ID	Result	Q	MDL
12/1/2004	SW-02-112004	5	U	3.05

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03

	Compound	1,1,1,2-Tetrachloroethane		1,1,1-Trichloroethane		1,1,2,2-Tetrachloroethane		1,1,2-Trichloroethane	
	CAS #	630-20-6		71-55-6		79-34-5		79-00-5	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Field Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-03-112004	5 U	0.71	5 U	0.82	5 U	2.58	5 U	0.99

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	1,1-Dichloroethane		1,1-Dichloroethene		1,1-Dichloropropene		1,2,3-Trichlorobenzene	
	CAS #	75-34-3		75-35-4		563-58-6		87-61-6	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Field Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-03-112004	5 U	0.8	5 U	0.98	5 U	1	5 UJ	1.32

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	1,2,4-Trichlorobenzene		1,2,4-Trimethylbenzene		1,2-Dichlorobenzene		1,2-Dichloroethane	
	CAS #	120-82-1		95-63-6		95-50-1		107-06-2	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Field Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-03-112004	5 U	1.36	5 U	1.95	5 U	0.93	5 U	1.29

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	1,2-Dichloropropane		1,3,5-Trimethylbenzene		1,3-Dichlorobenzene		1,3-Dichloropropane	
	CAS #	78-87-5		108-67-8		541-73-1		142-28-9	
	Units	µg/L		µg/L		µg/L		µg/L	
Sample Date	Field Sample ID	Result Q	MDL	Result Q	MDL	Result Q	MDL	Result Q	MDL
12/1/2004	SW-03-112004	5 U	0.97	5 U	1.47	5 U	0.39	5 U	1.2

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	1,4-Dichlorobenzene			2-Butanone (MEK)			2-Chlorotoluene			2-Hexanone		
	CAS #	106-46-7			78-93-3			95-49-8			591-78-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	0.86	10	UJ	2.21	5	U	1.05	10	UJ	0.83

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)			Acetone			Benzene		
	CAS #	106-43-4			108-10-1			67-64-1			71-43-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	0.95	10	UJ	1.01	5	J	2.35	5	U	0.99

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	Bromobenzene			Bromochloromethane			Bromodichloromethane			Bromoform		
	CAS #	108-86-1			74-97-5			75-27-4			75-25-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	1.24	5	U	0.72	5	U	0.72	5	U	1.01

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	Bromomethane			Carbon Disulfide			Carbon Tetrachloride			Chlorobenzene		
	CAS #	74-83-9			75-15-0			56-23-5			108-90-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	10	U	0.66	5	U	0.45	5	U	0.96	5	U	0.64

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	Chloroethane			Chloroform			Chloromethane			cis-1,2-Dichloroethene		
	CAS #	75-00-3			67-66-3			74-87-3			156-59-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	10	U	1.42	5	U	0.95	10	U	0.47	5	U	0.77

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	cis-1,3-Dichloropropene			Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane		
	CAS #	10061-01-5			124-48-1			74-95-3			75-71-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	1.03	5	U	0.88	5	U	0.76	10	U	0.86

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	Ethylbenzene			Hexachlorobutadiene			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	100-41-4			87-68-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	0.79	5	U	0.83	5	U	0.83	5	U	2.05

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	4.95	1	J	3.57	5	U	1.94	5	U	1.82

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	o-Xylene			p-Cymene (p-Isopropyltoluene)			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	ert-Butyl Methyl Ether (MTBE)			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	CAS #	1634-04-4			98-06-6			127-18-4			108-88-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Vinyl Chloride		
	CAS #	156-60-5			10061-02-6			79-01-6			75-01-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	0.98	5	U	1.03	5	U	0.67	10	U	0.35

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-22 Summary of VOCs in Surface Water for Johnson Creek SW-03 (continued)

	Compound	Xylenes, Total		
	CAS #	1330-20-7		
	Units	µg/L		
Sample Date	Field Sample ID	Result	Q	MDL
12/1/2004	SW-03-112004	5	U	3.05

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	0.71	5	U	0.82	5	U	2.58			
3/20/2005 9:00	SW-005-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	UJ	0.13
6/12/2005 15:00	SW-005-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	UJ	0.13
11/30/2005 12:00	SW-005-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/27/2006 14:30	SW-005-032006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 9:10	SW-005-092006	2	U	0.222	2	U	0.18	2	U	0.1			
2/27/2007 14:45	SW-005-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/29/2007 12:37	SW-005-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/4/2007 10:15	SW-005-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	U	0.059
12/3/2007 12:10	SW-005-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/3/2008 13:00	SW-005-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 12:45	SW-005-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 10:25	SW-005-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 13:45	SW-005-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 13:45	SW-005-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 10:50	SW-005-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 14:35	SW-005-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 10:45	SW-005-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	0.99	5	U	0.8	5	U	0.98	5	U	1
3/20/2005 9:00	SW-005-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/12/2005 15:00	SW-005-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
11/30/2005 12:00	SW-005-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/27/2006 14:30	SW-005-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 9:10	SW-005-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/27/2007 14:45	SW-005-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/29/2007 12:37	SW-005-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/4/2007 10:15	SW-005-092007	1	UJ	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/3/2007 12:10	SW-005-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/3/2008 13:00	SW-005-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 12:45	SW-005-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 10:25	SW-005-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 13:45	SW-005-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 13:45	SW-005-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 10:50	SW-005-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 14:35	SW-005-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 10:45	SW-005-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	UJ	1.32				5	U	1.36	5	U	1.95
3/20/2005 9:00	SW-005-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/12/2005 15:00	SW-005-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
11/30/2005 12:00	SW-005-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/27/2006 14:30	SW-005-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 9:10	SW-005-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/27/2007 14:45	SW-005-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/29/2007 12:37	SW-005-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/4/2007 10:15	SW-005-092007	1	U	0.064				1	U	0.042	1	U	0.096
12/3/2007 12:10	SW-005-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/3/2008 13:00	SW-005-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 12:45	SW-005-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 10:25	SW-005-092008	1	U	0.092				1	U	0.093			
11/12/2008 13:45	SW-005-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 13:45	SW-005-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 10:50	SW-005-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 14:35	SW-005-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 10:45	SW-005-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004							5	U	0.93	5	U	1.29
3/20/2005 9:00	SW-005-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/12/2005 15:00	SW-005-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/30/2005 12:00	SW-005-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/27/2006 14:30	SW-005-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
9/25/2006 9:10	SW-005-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
2/27/2007 14:45	SW-005-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/29/2007 12:37	SW-005-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/4/2007 10:15	SW-005-092007	1	UJ	0.13	1	U	0.077	1	U	0.062	1	U	0.063
12/3/2007 12:10	SW-005-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/3/2008 13:00	SW-005-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 12:45	SW-005-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 10:25	SW-005-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 13:45	SW-005-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 13:45	SW-005-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 10:50	SW-005-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 14:35	SW-005-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 10:45	SW-005-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004				5	U	0.97	5	U	1.47	5	U	0.39
3/20/2005 9:00	SW-005-032005				1	U	0.15	1	U	0.09	1	U	0.1
6/12/2005 15:00	SW-005-062005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
11/30/2005 12:00	SW-005-122005				2	U	0.119	2	U	0.113	2	U	0.189
3/27/2006 14:30	SW-005-032006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 9:10	SW-005-092006				2	U	0.119	2	U	0.113	2	U	0.189
2/27/2007 14:45	SW-005-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/29/2007 12:37	SW-005-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/4/2007 10:15	SW-005-092007	1	U	0.14	1	UJ	0.088	1	U	0.064	1	U	0.071
12/3/2007 12:10	SW-005-122007	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/3/2008 13:00	SW-005-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 12:45	SW-005-062008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 10:25	SW-005-092008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 13:45	SW-005-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 13:45	SW-005-032009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 10:50	SW-005-062009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 14:35	SW-005-092009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 10:45	SW-005-122009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 11:15	SW-005-012010				1	U	0.068						
5/6/2010 11:45	SW-005-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	1.2	5	U	0.86				10	UJ	2.21
3/20/2005 9:00	SW-005-032005	0.5	U	0.14	0.5	U	0.12				1	UJ	0.23
6/12/2005 15:00	SW-005-062005	0.5	UJ	0.14	0.5	UJ	0.12				1	UJ	0.23
11/30/2005 12:00	SW-005-122005	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
3/27/2006 14:30	SW-005-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 9:10	SW-005-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
2/27/2007 14:45	SW-005-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/29/2007 12:37	SW-005-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/4/2007 10:15	SW-005-092007	1	U	0.066	1	U	0.037				5	U	0.72
12/3/2007 12:10	SW-005-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/3/2008 13:00	SW-005-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 12:45	SW-005-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 10:25	SW-005-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 13:45	SW-005-122008	1	U	0.054	1	U	0.079				4.2	J	0.78
2/26/2009 13:45	SW-005-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 10:50	SW-005-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 14:35	SW-005-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 10:45	SW-005-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	1.05	10	UJ	0.83	5	U	0.95	10	UJ	1.01
3/20/2005 9:00	SW-005-032005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
6/12/2005 15:00	SW-005-062005	1	UJ	0.09	1	U	0.57	1	UJ	0.1	1	U	0.46
11/30/2005 12:00	SW-005-122005	2	U	0.106	2	U	0.163	2	U	0.1	2	UJ	0.128
3/27/2006 14:30	SW-005-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 9:10	SW-005-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
2/27/2007 14:45	SW-005-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/29/2007 12:37	SW-005-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/4/2007 10:15	SW-005-092007	1	U	0.062	5	U	0.5	1	U	0.11	5	UJ	0.56
12/3/2007 12:10	SW-005-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/3/2008 13:00	SW-005-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 12:45	SW-005-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 10:25	SW-005-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 13:45	SW-005-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 13:45	SW-005-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 10:50	SW-005-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 14:35	SW-005-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 10:45	SW-005-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	10	UJ	2.35	5	U	0.99	5	U	1.24	5	U	0.72
3/20/2005 9:00	SW-005-032005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
6/12/2005 15:00	SW-005-062005	5	UJ	1.6	0.5	U	0.15	1	UJ	0.11	1	U	0.14
11/30/2005 12:00	SW-005-122005	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
3/27/2006 14:30	SW-005-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 9:10	SW-005-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/27/2007 14:45	SW-005-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/29/2007 12:37	SW-005-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/4/2007 10:15	SW-005-092007	2.8	J	1.3	1	U	0.083	1	U	0.051	1	U	0.067
12/3/2007 12:10	SW-005-122007	2.6	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/3/2008 13:00	SW-005-032008	9.3		0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 12:45	SW-005-062008	2.1	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 10:25	SW-005-092008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 13:45	SW-005-122008	2.1	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 13:45	SW-005-032009	3.9	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 10:50	SW-005-062009	3.1	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 14:35	SW-005-092009	2.8	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 10:45	SW-005-122009	1.9	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	0.72	5	U	1.01	10	U	0.66	5	U	0.45
3/20/2005 9:00	SW-005-032005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
6/12/2005 15:00	SW-005-062005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	UJ	0.11
11/30/2005 12:00	SW-005-122005	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
3/27/2006 14:30	SW-005-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 9:10	SW-005-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/27/2007 14:45	SW-005-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/29/2007 12:37	SW-005-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/4/2007 10:15	SW-005-092007	1	U	0.088	1	U	0.057	1	U	0.068	1	U	0.067
12/3/2007 12:10	SW-005-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/3/2008 13:00	SW-005-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 12:45	SW-005-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 10:25	SW-005-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
11/12/2008 13:45	SW-005-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 13:45	SW-005-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 10:50	SW-005-062009	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
8/4/2009 14:35	SW-005-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 10:45	SW-005-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	0.96	5	U	0.64	10	U	1.42	5	U	0.95
3/20/2005 9:00	SW-005-032005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
6/12/2005 15:00	SW-005-062005	1	UJ	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
11/30/2005 12:00	SW-005-122005	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
3/27/2006 14:30	SW-005-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 9:10	SW-005-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
2/27/2007 14:45	SW-005-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/29/2007 12:37	SW-005-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/4/2007 10:15	SW-005-092007	1	U	0.063	1	U	0.059	1	U	0.13	1	U	0.052
12/3/2007 12:10	SW-005-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/3/2008 13:00	SW-005-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 12:45	SW-005-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 10:25	SW-005-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 13:45	SW-005-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 13:45	SW-005-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 10:50	SW-005-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 14:35	SW-005-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 10:45	SW-005-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane		
	CAS #	74-87-3			156-59-2			10061-01-5			110-82-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	10	U	0.47	5	U	0.77	5	U	1.03			
3/20/2005 9:00	SW-005-032005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
6/12/2005 15:00	SW-005-062005	1	U	0.08	1	U	0.09	0.5	UJ	0.12	1	UJ	0.15
11/30/2005 12:00	SW-005-122005	2	U	0.173	2	U	0.151	2	U	0.1			
3/27/2006 14:30	SW-005-032006	2	U	0.173	2	U	0.151	2	U	0.1			
9/25/2006 9:10	SW-005-092006	2	U	0.173	2	U	0.151	2	U	0.1			
2/27/2007 14:45	SW-005-032007	2	U	0.173	2	U	0.151	2	U	0.1			
5/29/2007 12:37	SW-005-052007	1	UJ	0.052	1	U	0.11	1	U	0.09			
9/4/2007 10:15	SW-005-092007	1	UJ	0.052	1	U	0.11	1	U	0.09			
12/3/2007 12:10	SW-005-122007	1	U	0.11	1	U	0.065	1	U	0.049			
3/3/2008 13:00	SW-005-032008	1	U	0.11	1	U	0.065	1	U	0.049			
6/18/2008 12:45	SW-005-062008	1	U	0.11	1	U	0.065	1	U	0.049			
8/27/2008 10:25	SW-005-092008	1	UJ	0.11	1	U	0.065	1	U	0.049			
11/12/2008 13:45	SW-005-122008	1	U	0.11	1	U	0.065	1	U	0.049			
2/26/2009 13:45	SW-005-032009	1	U	0.11	1	U	0.065	1	U	0.049			
5/18/2009 10:50	SW-005-062009	1	U	0.11	1	U	0.065	1	U	0.049			
8/4/2009 14:35	SW-005-092009	1	U	0.28	1	U	0.18	1	U	0.18			
11/12/2009 10:45	SW-005-122009	1	U	0.28	1	U	0.18	1	U	0.18			
1/28/2010 11:15	SW-005-012010				1	U	0.069						
5/6/2010 11:45	SW-005-042010				1	U	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane			Ethylbenzene		
	CAS #	124-48-1			74-95-3			75-71-8			100-41-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	0.88	5	U	0.76	10	U	0.86	5	U	0.79
3/20/2005 9:00	SW-005-032005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
6/12/2005 15:00	SW-005-062005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
11/30/2005 12:00	SW-005-122005	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
3/27/2006 14:30	SW-005-032006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
9/25/2006 9:10	SW-005-092006	2	UJ	0.133	2	U	0.1	2	U	0.5	2	U	0.1
2/27/2007 14:45	SW-005-032007	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
5/29/2007 12:37	SW-005-052007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
9/4/2007 10:15	SW-005-092007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
12/3/2007 12:10	SW-005-122007	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
3/3/2008 13:00	SW-005-032008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
6/18/2008 12:45	SW-005-062008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/27/2008 10:25	SW-005-092008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
11/12/2008 13:45	SW-005-122008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
2/26/2009 13:45	SW-005-032009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
5/18/2009 10:50	SW-005-062009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/4/2009 14:35	SW-005-092009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
11/12/2009 10:45	SW-005-122009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	Hexachlorobutadiene			ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	87-68-3			108-20-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	0.83				5	U	0.83	5	U	2.05
3/20/2005 9:00	SW-005-032005	1	U	0.15				1	U	0.12	1	U	0.24
6/12/2005 15:00	SW-005-062005	1	U	0.15				1	UJ	0.12	1	U	0.24
11/30/2005 12:00	SW-005-122005	2	U	0.192				2	U	0.1	2	U	0.216
3/27/2006 14:30	SW-005-032006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
9/25/2006 9:10	SW-005-092006	2	UJ	0.192	2	UJ	0.5	2	U	0.1	2	U	0.216
2/27/2007 14:45	SW-005-032007	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
5/29/2007 12:37	SW-005-052007	1	U	0.075				1	UJ	0.078	1	U	0.097
9/4/2007 10:15	SW-005-092007	1	U	0.075				1	U	0.078	1	U	0.097
12/3/2007 12:10	SW-005-122007	1	U	0.091				1	U	0.039	1	U	0.097
3/3/2008 13:00	SW-005-032008	1	U	0.091				1	U	0.039	1	U	0.097
6/18/2008 12:45	SW-005-062008	1	U	0.091				1	U	0.039	1	U	0.097
8/27/2008 10:25	SW-005-092008	1	U	0.091				1	U	0.039	1	U	0.097
11/12/2008 13:45	SW-005-122008	1	U	0.091				1	U	0.039	1	U	0.097
2/26/2009 13:45	SW-005-032009	1	U	0.091				1	U	0.039	1	U	0.097
5/18/2009 10:50	SW-005-062009	1	U	0.091				1	U	0.039	1	U	0.097
8/4/2009 14:35	SW-005-092009	1	U	0.21				1	U	0.22	1	U	0.4
11/12/2009 10:45	SW-005-122009	1	U	0.21				1	U	0.22	1	U	0.4
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	4.95	5	UJ	3.57	5	U	1.94	5	U	1.82
3/20/2005 9:00	SW-005-032005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
6/12/2005 15:00	SW-005-062005	1	U	0.42	1	U	0.1	1	U	0.12	1	UJ	0.1
11/30/2005 12:00	SW-005-122005	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
3/27/2006 14:30	SW-005-032006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
9/25/2006 9:10	SW-005-092006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
2/27/2007 14:45	SW-005-032007	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
5/29/2007 12:37	SW-005-052007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
9/4/2007 10:15	SW-005-092007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
12/3/2007 12:10	SW-005-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/3/2008 13:00	SW-005-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/18/2008 12:45	SW-005-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 10:25	SW-005-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
11/12/2008 13:45	SW-005-122008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 13:45	SW-005-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 10:50	SW-005-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 14:35	SW-005-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
11/12/2009 10:45	SW-005-122009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
1/28/2010 11:15	SW-005-012010	1	U	0.1									
5/6/2010 11:45	SW-005-042010	1	U	0.1									

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71
3/20/2005 9:00	SW-005-032005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
6/12/2005 15:00	SW-005-062005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
11/30/2005 12:00	SW-005-122005	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
3/27/2006 14:30	SW-005-032006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
9/25/2006 9:10	SW-005-092006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
2/27/2007 14:45	SW-005-032007	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
5/29/2007 12:37	SW-005-052007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
9/4/2007 10:15	SW-005-092007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
12/3/2007 12:10	SW-005-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/3/2008 13:00	SW-005-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/18/2008 12:45	SW-005-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 10:25	SW-005-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
11/12/2008 13:45	SW-005-122008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 13:45	SW-005-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 10:50	SW-005-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 14:35	SW-005-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
11/12/2009 10:45	SW-005-122009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	tert-Butyl Methyl Ether (MTBE)			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	CAS #	1634-04-4			98-06-6			127-18-4			108-88-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96
3/20/2005 9:00	SW-005-032005	1	U	0.22	1	U	0.15	1	U	0.12	1	U	0.11
6/12/2005 15:00	SW-005-062005	1	U	0.22	1	UJ	0.15	1	UJ	0.12	1	UJ	0.11
11/30/2005 12:00	SW-005-122005	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
3/27/2006 14:30	SW-005-032006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
9/25/2006 9:10	SW-005-092006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
2/27/2007 14:45	SW-005-032007	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
5/29/2007 12:37	SW-005-052007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
9/4/2007 10:15	SW-005-092007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
12/3/2007 12:10	SW-005-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/3/2008 13:00	SW-005-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/18/2008 12:45	SW-005-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 10:25	SW-005-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
11/12/2008 13:45	SW-005-122008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 13:45	SW-005-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 10:50	SW-005-062009	1	U	0.036	1	U	0.046	1	U	0.063	0.34	J	0.041
8/4/2009 14:35	SW-005-092009	1	U	0.21	1	U	0.23	0.4	J	0.34	1.1		0.19
11/12/2009 10:45	SW-005-122009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
1/28/2010 11:15	SW-005-012010												
5/6/2010 11:45	SW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004	5	U	0.98	5	U	1.03	5	U	0.67			
3/20/2005 9:00	SW-005-032005	1	U	0.1	1	U	0.1	1	U	0.12	1	U	0.1
6/12/2005 15:00	SW-005-062005	1	U	0.1	1	UJ	0.1	1	UJ	0.12	1	UJ	0.1
11/30/2005 12:00	SW-005-122005	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
3/27/2006 14:30	SW-005-032006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
9/25/2006 9:10	SW-005-092006	2	U	0.152	2	U	0.1	2	U	0.151	2	UJ	0.111
2/27/2007 14:45	SW-005-032007	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
5/29/2007 12:37	SW-005-052007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
9/4/2007 10:15	SW-005-092007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
12/3/2007 12:10	SW-005-122007	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
3/3/2008 13:00	SW-005-032008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
6/18/2008 12:45	SW-005-062008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/27/2008 10:25	SW-005-092008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
11/12/2008 13:45	SW-005-122008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
2/26/2009 13:45	SW-005-032009	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
5/18/2009 10:50	SW-005-062009	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/4/2009 14:35	SW-005-092009	1	U	0.14	1	U	0.2	1	U	0.17	1	U	0.36
11/12/2009 10:45	SW-005-122009	1	U	0.14	1	U	0.2	1	U	0.17	1	U	0.36
1/28/2010 11:15	SW-005-012010	1	U	0.095				1	U	0.11			
5/6/2010 11:45	SW-005-042010	1	U	0.095				1	U	0.11			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-23 Summary of VOCs in Surface Water for Johnson Creek SW-05 (continued)

	Compound	Vinyl Acetate			Vinyl Chloride			Xylenes, Total		
	CAS #	108-05-4			75-01-4			1330-20-7		
	Units	µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-05-112004				10	U	0.35	5	U	3.05
3/20/2005 9:00	SW-005-032005				0.4	U	0.09			
6/12/2005 15:00	SW-005-062005				0.4	U	0.09			
11/30/2005 12:00	SW-005-122005	2	U	0.5	2	U	0.239			
3/27/2006 14:30	SW-005-032006	2	U	0.15	2	U	0.239			
9/25/2006 9:10	SW-005-092006	2	U	0.15	2	U	0.239			
2/27/2007 14:45	SW-005-032007	2	U	0.15	2	U	0.239			
5/29/2007 12:37	SW-005-052007				1	UJ	0.092	1	U	0.097
9/4/2007 10:15	SW-005-092007				1	U	0.092	1	U	0.097
12/3/2007 12:10	SW-005-122007				1	U	0.062	1	U	0.097
3/3/2008 13:00	SW-005-032008				1	U	0.062	1	U	0.097
6/18/2008 12:45	SW-005-062008				1	U	0.062	1	U	0.097
8/27/2008 10:25	SW-005-092008				1	U	0.062	1	U	0.097
11/12/2008 13:45	SW-005-122008				1	U	0.062	1	U	0.097
2/26/2009 13:45	SW-005-032009				1	U	0.062	1	U	0.097
5/18/2009 10:50	SW-005-062009				1	U	0.062	1	U	0.097
8/4/2009 14:35	SW-005-092009				1	U	0.34	1	U	0.4
11/12/2009 10:45	SW-005-122009				1	U	0.34	1	U	0.4
1/28/2010 11:15	SW-005-012010				1	U	0.079			
5/6/2010 11:45	SW-005-042010				1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	0.71	5	U	0.82	5	U	2.58			
3/15/2005 10:05	SW-006-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	U	0.13
6/11/2005 15:05	SW-006-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	U	0.13
9/17/2005 12:00	SW-006-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/30/2005 12:05	SW-006-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/27/2006 14:15	SW-006-032006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 9:30	SW-006-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 9:55	SW-006-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/27/2007 15:00	SW-006-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/29/2007 13:10	SW-006-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/4/2007 10:40	SW-006-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	U	0.059
12/4/2007 11:15	SW-006-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/4/2008 8:45	SW-006-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 13:10	SW-006-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 10:40	SW-006-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 13:30	SW-006-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 13:25	SW-006-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 11:30	SW-006-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 13:05	SW-006-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 10:20	SW-006-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	0.99	5	U	0.8	5	U	0.98	5	U	1
3/15/2005 10:05	SW-006-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/11/2005 15:05	SW-006-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/17/2005 12:00	SW-006-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/30/2005 12:05	SW-006-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/27/2006 14:15	SW-006-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 9:30	SW-006-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 9:55	SW-006-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/27/2007 15:00	SW-006-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/29/2007 13:10	SW-006-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/4/2007 10:40	SW-006-092007	1	UJ	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/4/2007 11:15	SW-006-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/4/2008 8:45	SW-006-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 13:10	SW-006-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 10:40	SW-006-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 13:30	SW-006-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 13:25	SW-006-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 11:30	SW-006-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 13:05	SW-006-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 10:20	SW-006-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	UJ	1.32				5	U	1.36	5	U	1.95
3/15/2005 10:05	SW-006-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/11/2005 15:05	SW-006-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/17/2005 12:00	SW-006-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/30/2005 12:05	SW-006-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/27/2006 14:15	SW-006-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 9:30	SW-006-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 9:55	SW-006-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/27/2007 15:00	SW-006-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/29/2007 13:10	SW-006-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/4/2007 10:40	SW-006-092007	1	U	0.064				1	U	0.042	1	U	0.096
12/4/2007 11:15	SW-006-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/4/2008 8:45	SW-006-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 13:10	SW-006-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 10:40	SW-006-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 13:30	SW-006-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 13:25	SW-006-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 11:30	SW-006-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 13:05	SW-006-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 10:20	SW-006-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004							5	U	0.93	5	U	1.29
3/15/2005 10:05	SW-006-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/11/2005 15:05	SW-006-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/17/2005 12:00	SW-006-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/30/2005 12:05	SW-006-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/27/2006 14:15	SW-006-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
9/25/2006 9:30	SW-006-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 9:55	SW-006-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/27/2007 15:00	SW-006-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/29/2007 13:10	SW-006-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/4/2007 10:40	SW-006-092007	1	UJ	0.13	1	U	0.077	1	U	0.062	1	U	0.063
12/4/2007 11:15	SW-006-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/4/2008 8:45	SW-006-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 13:10	SW-006-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 10:40	SW-006-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 13:30	SW-006-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 13:25	SW-006-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 11:30	SW-006-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 13:05	SW-006-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 10:20	SW-006-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004				5	U	0.97	5	U	1.47	5	U	0.39
3/15/2005 10:05	SW-006-032005				1	U	0.15	1	U	0.09	1	U	0.1
6/11/2005 15:05	SW-006-062005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
9/17/2005 12:00	SW-006-092005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
11/30/2005 12:05	SW-006-122005				2	U	0.119	2	U	0.113	2	U	0.189
3/27/2006 14:15	SW-006-032006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 9:30	SW-006-092006				2	U	0.119	2	U	0.113	2	U	0.189
12/7/2006 9:55	SW-006-122006				2	U	0.119	2	U	0.113	2	U	0.189
2/27/2007 15:00	SW-006-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/29/2007 13:10	SW-006-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/4/2007 10:40	SW-006-092007	1	U	0.14	1	UJ	0.088	1	U	0.064	1	U	0.071
12/4/2007 11:15	SW-006-122007	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/4/2008 8:45	SW-006-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 13:10	SW-006-062008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 10:40	SW-006-092008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 13:30	SW-006-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 13:25	SW-006-032009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 11:30	SW-006-062009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 13:05	SW-006-092009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 10:20	SW-006-122009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 10:35	SW-006-012010				1	U	0.068						
5/6/2010 10:45	SW-006-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	1.2	5	U	0.86				10	UJ	2.21
3/15/2005 10:05	SW-006-032005	0.5	U	0.14	0.5	U	0.12				1	U	0.23
6/11/2005 15:05	SW-006-062005	0.5	UJ	0.14	0.5	UJ	0.12				1	UJ	0.23
9/17/2005 12:00	SW-006-092005	0.5	U	0.14	0.5	UJ	0.12				1	U	0.23
11/30/2005 12:05	SW-006-122005	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
3/27/2006 14:15	SW-006-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 9:30	SW-006-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
12/7/2006 9:55	SW-006-122006	2	U	0.107	2	U	0.15	2	U	0.108	4	U	0.481
2/27/2007 15:00	SW-006-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/29/2007 13:10	SW-006-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/4/2007 10:40	SW-006-092007	1	U	0.066	1	U	0.037				5	U	0.72
12/4/2007 11:15	SW-006-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/4/2008 8:45	SW-006-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 13:10	SW-006-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 10:40	SW-006-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 13:30	SW-006-122008	1	U	0.054	1	U	0.079				4.4	J	0.78
2/26/2009 13:25	SW-006-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 11:30	SW-006-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 13:05	SW-006-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 10:20	SW-006-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	1.05	10	UJ	0.83	5	U	0.95	10	UJ	1.01
3/15/2005 10:05	SW-006-032005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
6/11/2005 15:05	SW-006-062005	1	UJ	0.09	1	U	0.57	1	UJ	0.1	1	U	0.46
9/17/2005 12:00	SW-006-092005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
11/30/2005 12:05	SW-006-122005	2	U	0.106	2	U	0.163	2	U	0.1	2	UJ	0.128
3/27/2006 14:15	SW-006-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 9:30	SW-006-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
12/7/2006 9:55	SW-006-122006	2	U	0.106	4	U	0.163	2	U	0.1	4	U	0.128
2/27/2007 15:00	SW-006-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/29/2007 13:10	SW-006-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/4/2007 10:40	SW-006-092007	1	U	0.062	5	U	0.5	1	U	0.11	5	UJ	0.56
12/4/2007 11:15	SW-006-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/4/2008 8:45	SW-006-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 13:10	SW-006-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 10:40	SW-006-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 13:30	SW-006-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 13:25	SW-006-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 11:30	SW-006-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 13:05	SW-006-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 10:20	SW-006-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	10	UJ	2.35	5	U	0.99	5	U	1.24	5	U	0.72
3/15/2005 10:05	SW-006-032005	5	U	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
6/11/2005 15:05	SW-006-062005	5	UJ	1.6	0.5	U	0.15	1	UJ	0.11	1	U	0.14
9/17/2005 12:00	SW-006-092005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
11/30/2005 12:05	SW-006-122005	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
3/27/2006 14:15	SW-006-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 9:30	SW-006-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
12/7/2006 9:55	SW-006-122006	4	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/27/2007 15:00	SW-006-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/29/2007 13:10	SW-006-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/4/2007 10:40	SW-006-092007	3.2	J	1.3	1	U	0.083	1	U	0.051	1	U	0.067
12/4/2007 11:15	SW-006-122007	2.9	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/4/2008 8:45	SW-006-032008	7.4		0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 13:10	SW-006-062008	5	UJ	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 10:40	SW-006-092008	2.3	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 13:30	SW-006-122008	2.5	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 13:25	SW-006-032009	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 11:30	SW-006-062009	2.2	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 13:05	SW-006-092009	2.5	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 10:20	SW-006-122009	3.3	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	0.72	5	U	1.01	10	U	0.66	5	U	0.45
3/15/2005 10:05	SW-006-032005	0.5	U	0.14	1	U	0.09	1	UJ	0.18	1	U	0.11
6/11/2005 15:05	SW-006-062005	0.5	U	0.14	1	U	0.09	1	UJ	0.18	1	UJ	0.11
9/17/2005 12:00	SW-006-092005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
11/30/2005 12:05	SW-006-122005	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
3/27/2006 14:15	SW-006-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 9:30	SW-006-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
12/7/2006 9:55	SW-006-122006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/27/2007 15:00	SW-006-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/29/2007 13:10	SW-006-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/4/2007 10:40	SW-006-092007	1	U	0.088	1	U	0.057	1	U	0.068	1	U	0.067
12/4/2007 11:15	SW-006-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/4/2008 8:45	SW-006-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 13:10	SW-006-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 10:40	SW-006-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
11/12/2008 13:30	SW-006-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 13:25	SW-006-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 11:30	SW-006-062009	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
8/4/2009 13:05	SW-006-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 10:20	SW-006-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	0.96	5	U	0.64	10	U	1.42	5	U	0.95
3/15/2005 10:05	SW-006-032005	1	U	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
6/11/2005 15:05	SW-006-062005	1	U	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
9/17/2005 12:00	SW-006-092005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
11/30/2005 12:05	SW-006-122005	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
3/27/2006 14:15	SW-006-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 9:30	SW-006-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
12/7/2006 9:55	SW-006-122006	2	U	0.137	2	U	0.156	2	U	0.207	0.48	J	0.214
2/27/2007 15:00	SW-006-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/29/2007 13:10	SW-006-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/4/2007 10:40	SW-006-092007	1	U	0.063	1	U	0.059	1	U	0.13	1	U	0.052
12/4/2007 11:15	SW-006-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/4/2008 8:45	SW-006-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 13:10	SW-006-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 10:40	SW-006-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 13:30	SW-006-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 13:25	SW-006-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 11:30	SW-006-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 13:05	SW-006-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 10:20	SW-006-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane		
	CAS #	74-87-3			156-59-2			10061-01-5			110-82-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	10	U	0.47	5	U	0.77	5	U	1.03			
3/15/2005 10:05	SW-006-032005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
6/11/2005 15:05	SW-006-062005	1	U	0.08	1	U	0.09	0.5	UJ	0.12	1	U	0.15
9/17/2005 12:00	SW-006-092005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
11/30/2005 12:05	SW-006-122005	2	U	0.173	2	U	0.151	2	U	0.1			
3/27/2006 14:15	SW-006-032006	2	U	0.173	2	U	0.151	2	U	0.1			
9/25/2006 9:30	SW-006-092006	2	U	0.173	2	U	0.151	2	U	0.1			
12/7/2006 9:55	SW-006-122006	2	U	0.173	2	U	0.151	2	U	0.1			
2/27/2007 15:00	SW-006-032007	2	U	0.173	2	U	0.151	2	U	0.1			
5/29/2007 13:10	SW-006-052007	1	UJ	0.052	1	U	0.11	1	U	0.09			
9/4/2007 10:40	SW-006-092007	1	UJ	0.052	1	U	0.11	1	U	0.09			
12/4/2007 11:15	SW-006-122007	1	U	0.11	1	U	0.065	1	U	0.049			
3/4/2008 8:45	SW-006-032008	1	U	0.11	1	U	0.065	1	U	0.049			
6/18/2008 13:10	SW-006-062008	1	U	0.11	1	U	0.065	1	U	0.049			
8/27/2008 10:40	SW-006-092008	1	UJ	0.11	1	U	0.065	1	U	0.049			
11/12/2008 13:30	SW-006-122008	1	U	0.11	1	U	0.065	1	U	0.049			
2/26/2009 13:25	SW-006-032009	1	U	0.11	1	U	0.065	1	U	0.049			
5/18/2009 11:30	SW-006-062009	1	U	0.11	1	U	0.065	1	U	0.049			
8/4/2009 13:05	SW-006-092009	1	U	0.28	1	U	0.18	1	U	0.18			
11/12/2009 10:20	SW-006-122009	1	U	0.28	1	U	0.18	1	U	0.18			
1/28/2010 10:35	SW-006-012010				1	U	0.069						
5/6/2010 10:45	SW-006-042010				1	U	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane			Ethylbenzene		
	CAS #	124-48-1			74-95-3			75-71-8			100-41-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	0.88	5	U	0.76	10	U	0.86	5	U	0.79
3/15/2005 10:05	SW-006-032005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
6/11/2005 15:05	SW-006-062005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
9/17/2005 12:00	SW-006-092005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
11/30/2005 12:05	SW-006-122005	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
3/27/2006 14:15	SW-006-032006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
9/25/2006 9:30	SW-006-092006	2	UJ	0.133	2	U	0.1	2	U	0.5	2	U	0.1
12/7/2006 9:55	SW-006-122006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
2/27/2007 15:00	SW-006-032007	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
5/29/2007 13:10	SW-006-052007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
9/4/2007 10:40	SW-006-092007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
12/4/2007 11:15	SW-006-122007	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
3/4/2008 8:45	SW-006-032008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
6/18/2008 13:10	SW-006-062008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/27/2008 10:40	SW-006-092008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
11/12/2008 13:30	SW-006-122008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
2/26/2009 13:25	SW-006-032009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
5/18/2009 11:30	SW-006-062009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/4/2009 13:05	SW-006-092009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
11/12/2009 10:20	SW-006-122009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	Hexachlorobutadiene			ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	87-68-3			108-20-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	0.83				5	U	0.83	5	U	2.05
3/15/2005 10:05	SW-006-032005	1	U	0.15				1	U	0.12	1	U	0.24
6/11/2005 15:05	SW-006-062005	1	U	0.15				1	UJ	0.12	1	U	0.24
9/17/2005 12:00	SW-006-092005	1	U	0.15				1	UJ	0.12	1	U	0.24
11/30/2005 12:05	SW-006-122005	2	U	0.192				2	U	0.1	2	U	0.216
3/27/2006 14:15	SW-006-032006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
9/25/2006 9:30	SW-006-092006	2	UJ	0.192	2	UJ	0.5	2	U	0.1	2	U	0.216
12/7/2006 9:55	SW-006-122006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
2/27/2007 15:00	SW-006-032007	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
5/29/2007 13:10	SW-006-052007	1	U	0.075				1	UJ	0.078	1	U	0.097
9/4/2007 10:40	SW-006-092007	1	U	0.075				1	U	0.078	1	U	0.097
12/4/2007 11:15	SW-006-122007	1	U	0.091				1	U	0.039	1	U	0.097
3/4/2008 8:45	SW-006-032008	1	U	0.091				1	U	0.039	1	U	0.097
6/18/2008 13:10	SW-006-062008	1	U	0.091				1	U	0.039	1	U	0.097
8/27/2008 10:40	SW-006-092008	1	U	0.091				1	U	0.039	1	U	0.097
11/12/2008 13:30	SW-006-122008	1	U	0.091				1	U	0.039	1	U	0.097
2/26/2009 13:25	SW-006-032009	1	U	0.091				1	U	0.039	1	U	0.097
5/18/2009 11:30	SW-006-062009	1	U	0.091				1	U	0.039	1	U	0.097
8/4/2009 13:05	SW-006-092009	1	U	0.21				1	U	0.22	1	U	0.4
11/12/2009 10:20	SW-006-122009	1	U	0.21				1	U	0.22	1	U	0.4
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	4.95	5	UJ	3.57	5	U	1.94	5	U	1.82
3/15/2005 10:05	SW-006-032005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
6/11/2005 15:05	SW-006-062005	1	U	0.42	1	U	0.1	1	U	0.12	1	UJ	0.1
9/17/2005 12:00	SW-006-092005	2.6		0.42	1	U	0.1	1	U	0.12	1	U	0.1
11/30/2005 12:05	SW-006-122005	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
3/27/2006 14:15	SW-006-032006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
9/25/2006 9:30	SW-006-092006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
12/7/2006 9:55	SW-006-122006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
2/27/2007 15:00	SW-006-032007	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
5/29/2007 13:10	SW-006-052007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
9/4/2007 10:40	SW-006-092007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
12/4/2007 11:15	SW-006-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/4/2008 8:45	SW-006-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/18/2008 13:10	SW-006-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 10:40	SW-006-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
11/12/2008 13:30	SW-006-122008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 13:25	SW-006-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 11:30	SW-006-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 13:05	SW-006-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
11/12/2009 10:20	SW-006-122009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
1/28/2010 10:35	SW-006-012010	1	U	0.1									
5/6/2010 10:45	SW-006-042010	1	U	0.1									

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	o-Xylene			p-Cymene (p-Isopropyltoluene)			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71
3/15/2005 10:05	SW-006-032005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
6/11/2005 15:05	SW-006-062005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
9/17/2005 12:00	SW-006-092005	1	U	0.13	1	U	0.13	1	UJ	0.13	1	U	0.11
11/30/2005 12:05	SW-006-122005	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
3/27/2006 14:15	SW-006-032006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
9/25/2006 9:30	SW-006-092006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
12/7/2006 9:55	SW-006-122006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
2/27/2007 15:00	SW-006-032007	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
5/29/2007 13:10	SW-006-052007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
9/4/2007 10:40	SW-006-092007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
12/4/2007 11:15	SW-006-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/4/2008 8:45	SW-006-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/18/2008 13:10	SW-006-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 10:40	SW-006-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
11/12/2008 13:30	SW-006-122008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 13:25	SW-006-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 11:30	SW-006-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 13:05	SW-006-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
11/12/2009 10:20	SW-006-122009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

		tert-Butyl Methyl Ether			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	Compound	**(MTBE)**											
	CAS #	**1634-04-4**			**98-06-6**			**127-18-4**			**108-88-3**		
	Units	**µg/L**			**µg/L**			**µg/L**			**µg/L**		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/2/2004	SW-06-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96
3/15/2005 10:05	SW-006-032005	1	U	0.22	1	U	0.15	1	U	0.12	1	U	0.11
6/11/2005 15:05	SW-006-062005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	UJ	0.11
9/17/2005 12:00	SW-006-092005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	U	0.11
11/30/2005 12:05	SW-006-122005	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
3/27/2006 14:15	SW-006-032006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
9/25/2006 9:30	SW-006-092006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
12/7/2006 9:55	SW-006-122006	2	U	0.1	2	U	0.17	2	U	0.115	0.3	J	0.105
2/27/2007 15:00	SW-006-032007	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
5/29/2007 13:10	SW-006-052007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
9/4/2007 10:40	SW-006-092007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
12/4/2007 11:15	SW-006-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/4/2008 8:45	SW-006-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/18/2008 13:10	SW-006-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 10:40	SW-006-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
11/12/2008 13:30	SW-006-122008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 13:25	SW-006-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 11:30	SW-006-062009	1	U	0.036	1	U	0.046	1	U	0.063	0.26	J	0.041
8/4/2009 13:05	SW-006-092009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
11/12/2009 10:20	SW-006-122009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
1/28/2010 10:35	SW-006-012010												
5/6/2010 10:45	SW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004	5	U	0.98	5	U	1.03	5	U	0.67			
3/15/2005 10:05	SW-006-032005	1	U	0.1	1	U	0.1	1.3		0.12	1	U	0.1
6/11/2005 15:05	SW-006-062005	1	U	0.1	1	UJ	0.1	1	U	0.12	1	UJ	0.1
9/17/2005 12:00	SW-006-092005	1	U	0.1	1	U	0.1	1	U	0.12	1	U	0.1
11/30/2005 12:05	SW-006-122005	2	U	0.152	2	U	0.1	2.01		0.151	2	U	0.111
3/27/2006 14:15	SW-006-032006	2	U	0.152	2	U	0.1	1.02	J	0.151	2	U	0.111
9/25/2006 9:30	SW-006-092006	2	U	0.152	2	U	0.1	1.4	J	0.151	2	UJ	0.111
12/7/2006 9:55	SW-006-122006	2	U	0.152	2	U	0.1	3.19		0.151	2	U	0.111
2/27/2007 15:00	SW-006-032007	2	U	0.152	2	U	0.1	0.95	J	0.151	2	U	0.111
5/29/2007 13:10	SW-006-052007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
9/4/2007 10:40	SW-006-092007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
12/4/2007 11:15	SW-006-122007	1	U	0.059	1	U	0.053	0.24	J	0.058	1	U	0.067
3/4/2008 8:45	SW-006-032008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
6/18/2008 13:10	SW-006-062008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/27/2008 10:40	SW-006-092008	1	U	0.059	1	U	0.053	0.73	J	0.058	1	U	0.067
11/12/2008 13:30	SW-006-122008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
2/26/2009 13:25	SW-006-032009	1	U	0.059	1	U	0.053	0.4	J	0.058	1	U	0.067
5/18/2009 11:30	SW-006-062009	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/4/2009 13:05	SW-006-092009	1	U	0.14	1	U	0.2	1	U	0.17	1	U	0.36
11/12/2009 10:20	SW-006-122009	1	U	0.14	1	U	0.2	0.56	J	0.17	1	U	0.36
1/28/2010 10:35	SW-006-012010	1	U	0.095				0.28	J	0.11			
5/6/2010 10:45	SW-006-042010	1	U	0.095				0.27	J	0.11			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-24 Summary of VOCs in Surface Water for Johnson Creek SW-06 (continued)

	Compound	Vinyl Acetate			Vinyl Chloride			Xylenes, Total		
	CAS #	108-05-4			75-01-4			1330-20-7		
	Units	µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/2/2004	SW-06-112004				10	U	0.35	5	U	3.05
3/15/2005 10:05	SW-006-032005				0.4	U	0.09			
6/11/2005 15:05	SW-006-062005				0.4	U	0.09			
9/17/2005 12:00	SW-006-092005				0.4	U	0.09			
11/30/2005 12:05	SW-006-122005	2	U	0.5	2	U	0.239			
3/27/2006 14:15	SW-006-032006	2	U	0.15	2	U	0.239			
9/25/2006 9:30	SW-006-092006	2	U	0.15	2	U	0.239			
12/7/2006 9:55	SW-006-122006	2	U	0.15	2	U	0.239			
2/27/2007 15:00	SW-006-032007	2	U	0.15	2	U	0.239			
5/29/2007 13:10	SW-006-052007				1	UJ	0.092	1	U	0.097
9/4/2007 10:40	SW-006-092007				1	U	0.092	1	U	0.097
12/4/2007 11:15	SW-006-122007				1	U	0.062	1	U	0.097
3/4/2008 8:45	SW-006-032008				1	U	0.062	1	U	0.097
6/18/2008 13:10	SW-006-062008				1	U	0.062	1	U	0.097
8/27/2008 10:40	SW-006-092008				1	U	0.062	1	U	0.097
11/12/2008 13:30	SW-006-122008				1	U	0.062	1	U	0.097
2/26/2009 13:25	SW-006-032009				1	U	0.062	1	U	0.097
5/18/2009 11:30	SW-006-062009				1	U	0.062	1	U	0.097
8/4/2009 13:05	SW-006-092009				1	U	0.34	1	U	0.4
11/12/2009 10:20	SW-006-122009				1	U	0.34	1	U	0.4
1/28/2010 10:35	SW-006-012010				1	U	0.079			
5/6/2010 10:45	SW-006-042010				1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.09	1	UJ	0.06	1	UJ	0.12	1	UJ	0.059
9/4/2007 11:10	SW-015-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	UJ	0.059
12/4/2007 11:00	SW-015-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/4/2008 11:15	SW-015-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 13:30	SW-015-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 14:30	SW-015-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 15:20	SW-015-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 12:25	SW-015-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 13:30	SW-015-092009	1	U	0.23	1	U	0.2	1	U	0.22			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.054	1	UJ	0.065	1	UJ	0.094	1	UJ	0.096
9/4/2007 11:10	SW-015-092007	1	U	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/4/2007 11:00	SW-015-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/4/2008 11:15	SW-015-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 13:30	SW-015-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 14:30	SW-015-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 15:20	SW-015-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 12:25	SW-015-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 13:30	SW-015-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene			1,2-Dibromo-3-chloropropane		
	CAS #	87-61-6			120-82-1			95-63-6			96-12-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.064	1	UJ	0.042	1	UJ	0.096	1	UJ	0.13
9/4/2007 11:10	SW-015-092007	1	U	0.064	1	U	0.042	1	U	0.096	1	UJ	0.13
12/4/2007 11:00	SW-015-122007	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
3/4/2008 11:15	SW-015-032008	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
6/18/2008 13:30	SW-015-062008	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
8/27/2008 14:30	SW-015-092008	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
2/26/2009 15:20	SW-015-032009	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
5/18/2009 12:25	SW-015-062009	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
8/4/2009 13:30	SW-015-092009	1	U	0.14	1	U	0.15	1	U	0.21	1	U	0.33

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane			1,2-Dichloroethene		
	CAS #	106-93-4			95-50-1			107-06-2			540-59-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.077	1	UJ	0.062	1	UJ	0.063	1	UJ	0.14
9/4/2007 11:10	SW-015-092007	1	U	0.077	1	U	0.062	1	U	0.063	1	U	0.14
12/4/2007 11:00	SW-015-122007	1	U	0.066	1	U	0.07	1	U	0.1	1	U	0.11
3/4/2008 11:15	SW-015-032008	1	U	0.066	1	U	0.07	1	U	0.1	1	U	0.11
6/18/2008 13:30	SW-015-062008	1	U	0.066	1	U	0.07	1	U	0.1	1	U	0.11
8/27/2008 14:30	SW-015-092008	1	U	0.066	1	U	0.07	1	U	0.1	1	U	0.11
2/26/2009 15:20	SW-015-032009	1	U	0.066	1	U	0.07	1	U	0.1	1	U	0.11
5/18/2009 12:25	SW-015-062009	1	U	0.066	1	U	0.07	1	U	0.1	1	U	0.11
8/4/2009 13:30	SW-015-092009	1	U	0.21	1	U	0.23	1	U	0.18	1	U	0.31

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene			1,3-Dichloropropane		
	CAS #	78-87-5			108-67-8			541-73-1			142-28-9		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.088	1	UJ	0.064	1	UJ	0.071	1	UJ	0.066
9/4/2007 11:10	SW-015-092007	1	UJ	0.088	1	U	0.064	1	U	0.071	1	U	0.066
12/4/2007 11:00	SW-015-122007	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
3/4/2008 11:15	SW-015-032008	1	UJ	0.1	1	U	0.059	1	U	0.054	1	U	0.054
6/18/2008 13:30	SW-015-062008	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
8/27/2008 14:30	SW-015-092008	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
2/26/2009 15:20	SW-015-032009	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
5/18/2009 12:25	SW-015-062009	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
8/4/2009 13:30	SW-015-092009	1	U	0.21	1	U	0.22	1	U	0.19	1	U	0.2

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	1,4-Dichlorobenzene			2-Butanone (MEK)			2-Chlorotoluene			2-Hexanone		
	CAS #	106-46-7			78-93-3			95-49-8			591-78-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.037	5	UJ	0.72	1	UJ	0.062	5	UJ	0.5
9/4/2007 11:10	SW-015-092007	1	U	0.037	5	U	0.72	1	U	0.062	5	U	0.5
12/4/2007 11:00	SW-015-122007	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
3/4/2008 11:15	SW-015-032008	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
6/18/2008 13:30	SW-015-062008	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
8/27/2008 14:30	SW-015-092008	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
2/26/2009 15:20	SW-015-032009	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
5/18/2009 12:25	SW-015-062009	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
8/4/2009 13:30	SW-015-092009	1	U	0.17	5	U	1	1	U	0.23	5	U	0.82

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	4-Chlorotoluene			4-Methyl-2-pentanone			Acetone			Benzene		
	CAS #	106-43-4			108-10-1			67-64-1			71-43-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.11	5	UJ	0.56	5	UJ	1.3	1	UJ	0.083
9/4/2007 11:10	SW-015-092007	1	U	0.11	5	UJ	0.56	2.5	J	1.3	1	U	0.083
12/4/2007 11:00	SW-015-122007	1	U	0.079	5	U	0.29	5	U	0.77	1	U	0.059
3/4/2008 11:15	SW-015-032008	1	U	0.079	5	U	0.29	7.1		0.77	1	U	0.059
6/18/2008 13:30	SW-015-062008	1	U	0.079	5	U	0.29	5	UJ	0.77	1	U	0.059
8/27/2008 14:30	SW-015-092008	1	U	0.079	5	U	0.29	2.8	J	0.77	1	U	0.059
2/26/2009 15:20	SW-015-032009	1	U	0.079	5	U	0.29	2.4	J	0.77	1	U	0.059
5/18/2009 12:25	SW-015-062009	1	U	0.079	5	U	0.29	2.7	J	0.77	1	U	0.059
8/4/2009 13:30	SW-015-092009	1	U	0.25	5	U	0.74	2	J	1.7	1	U	0.19

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	Bromobenzene			Bromochloromethane			Bromodichloromethane			Bromoform		
	CAS #	108-86-1			74-97-5			75-27-4			75-25-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.051	1	UJ	0.067	1	UJ	0.088	1	UJ	0.057
9/4/2007 11:10	SW-015-092007	1	U	0.051	1	U	0.067	1	U	0.088	1	U	0.057
12/4/2007 11:00	SW-015-122007	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
3/4/2008 11:15	SW-015-032008	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
6/18/2008 13:30	SW-015-062008	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
8/27/2008 14:30	SW-015-092008	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
2/26/2009 15:20	SW-015-032009	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
5/18/2009 12:25	SW-015-062009	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
8/4/2009 13:30	SW-015-092009	1	U	0.2	1	U	0.37	1	U	0.2	1	U	0.17

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	Bromomethane			Carbon Disulfide			Carbon Tetrachloride			Chlorobenzene		
	CAS #	74-83-9			75-15-0			56-23-5			108-90-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.068	1	UJ	0.067	1	UJ	0.063	1	UJ	0.059
9/4/2007 11:10	SW-015-092007	1	U	0.068	1	U	0.067	1	U	0.063	1	U	0.059
12/4/2007 11:00	SW-015-122007	1	U	0.29	1	U	0.045	1	U	0.031	1	U	0.047
3/4/2008 11:15	SW-015-032008	1	UJ	0.29	1	U	0.045	1	U	0.031	1	U	0.047
6/18/2008 13:30	SW-015-062008	1	U	0.29	1	U	0.045	1	U	0.031	1	U	0.047
8/27/2008 14:30	SW-015-092008	1	U	0.29	1	U	0.045	1	U	0.031	1	U	0.047
2/26/2009 15:20	SW-015-032009	1	U	0.29	1	U	0.045	1	U	0.031	1	U	0.047
5/18/2009 12:25	SW-015-062009	1	U	0.29	1	UJ	0.045	1	U	0.031	1	U	0.047
8/4/2009 13:30	SW-015-092009	1	U	0.29	1	U	0.13	1	U	0.2	1	U	0.18

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	Chloroethane			Chloroform			Chloromethane			cis-1,2-Dichloroethene		
	CAS #	75-00-3			67-66-3			74-87-3			156-59-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.13	1	UJ	0.052	1	UJ	0.052	1	UJ	0.11
9/4/2007 11:10	SW-015-092007	1	U	0.13	1	U	0.052	1	UJ	0.052	1	U	0.11
12/4/2007 11:00	SW-015-122007	1	U	0.15	1	U	0.041	1	U	0.11	1	U	0.065
3/4/2008 11:15	SW-015-032008	1	UJ	0.15	1	U	0.041	1	U	0.11	1	U	0.065
6/18/2008 13:30	SW-015-062008	1	U	0.15	1	U	0.041	1	U	0.11	1	U	0.065
8/27/2008 14:30	SW-015-092008	1	U	0.15	1	U	0.041	1	UJ	0.11	1	U	0.065
2/26/2009 15:20	SW-015-032009	1	U	0.15	1	U	0.041	1	U	0.11	1	U	0.065
5/18/2009 12:25	SW-015-062009	1	U	0.15	1	U	0.041	1	U	0.11	1	U	0.065
8/4/2009 13:30	SW-015-092009	1	U	0.39	1	U	0.2	1	U	0.28	1	U	0.18

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	cis-1,3-Dichloropropene			Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane		
	CAS #	10061-01-5			124-48-1			74-95-3			75-71-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.09	1	UJ	0.077	1	UJ	0.14	1	UJ	0.05
9/4/2007 11:10	SW-015-092007	1	U	0.09	1	U	0.077	1	U	0.14	1	U	0.05
12/4/2007 11:00	SW-015-122007	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
3/4/2008 11:15	SW-015-032008	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
6/18/2008 13:30	SW-015-062008	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
8/27/2008 14:30	SW-015-092008	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
2/26/2009 15:20	SW-015-032009	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
5/18/2009 12:25	SW-015-062009	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
8/4/2009 13:30	SW-015-092009	1	U	0.18	1	U	0.27	1	U	0.21	1	U	0.38

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	Ethylbenzene			Hexachlorobutadiene			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	100-41-4			87-68-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.076	1	UJ	0.075	1	UJ	0.078	1	UJ	0.097
9/4/2007 11:10	SW-015-092007	1	U	0.076	1	U	0.075	1	U	0.078	1	U	0.097
12/4/2007 11:00	SW-015-122007	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
3/4/2008 11:15	SW-015-032008	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
6/18/2008 13:30	SW-015-062008	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
8/27/2008 14:30	SW-015-092008	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
2/26/2009 15:20	SW-015-032009	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
5/18/2009 12:25	SW-015-062009	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
8/4/2009 13:30	SW-015-092009	1	U	0.18	1	U	0.21	1	U	0.22	1	U	0.4

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.069	1	UJ	0.059	1	UJ	0.068	1	UJ	0.056
9/4/2007 11:10	SW-015-092007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
12/4/2007 11:00	SW-015-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/4/2008 11:15	SW-015-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/18/2008 13:30	SW-015-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 14:30	SW-015-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 15:20	SW-015-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 12:25	SW-015-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 13:30	SW-015-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.069	1	UJ	0.047	1	UJ	0.036	1	UJ	0.11
9/4/2007 11:10	SW-015-092007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
12/4/2007 11:00	SW-015-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/4/2008 11:15	SW-015-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/18/2008 13:30	SW-015-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 14:30	SW-015-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 15:20	SW-015-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 12:25	SW-015-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 13:30	SW-015-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	tert-Butyl Methyl Ether (MTBE)			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	CAS #	1634-04-4			98-06-6			127-18-4			108-88-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.052	1	UJ	0.056	1	UJ	0.056	1	UJ	0.059
9/4/2007 11:10	SW-015-092007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
12/4/2007 11:00	SW-015-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/4/2008 11:15	SW-015-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/18/2008 13:30	SW-015-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 14:30	SW-015-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 15:20	SW-015-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 12:25	SW-015-062009	1	U	0.036	1	U	0.046	1	U	0.063	0.42	J	0.041
8/4/2009 13:30	SW-015-092009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.1	1	UJ	0.1	1	UJ	0.089	1	UJ	0.038
9/4/2007 11:10	SW-015-092007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
12/4/2007 11:00	SW-015-122007	1	U	0.059	1	U	0.053	0.25	J	0.058	1	U	0.067
3/4/2008 11:15	SW-015-032008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
6/18/2008 13:30	SW-015-062008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/27/2008 14:30	SW-015-092008	1	U	0.059	1	U	0.053	0.62	J	0.058	1	U	0.067
2/26/2009 15:20	SW-015-032009	1	U	0.059	1	U	0.053	0.3	J	0.058	1	U	0.067
5/18/2009 12:25	SW-015-062009	1	U	0.059	1	U	0.053	0.56	J	0.058	1	U	0.067
8/4/2009 13:30	SW-015-092009	1	U	0.14	1	U	0.2	4.5		0.17	1	U	0.36

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-25 Summary of VOCs in Surface Water for Johnson Creek SW-15 (continued)

	Compound	Vinyl Chloride			Xylenes, Total		
	CAS #	75-01-4			1330-20-7		
	Units	µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL
5/29/2007 13:40	SW-015-052007	1	UJ	0.092	1	UJ	0.097
9/4/2007 11:10	SW-015-092007	1	U	0.092	1	U	0.097
12/4/2007 11:00	SW-015-122007	1	U	0.062	1	U	0.097
3/4/2008 11:15	SW-015-032008	1	U	0.062	1	U	0.097
6/18/2008 13:30	SW-015-062008	1	U	0.062	1	U	0.097
8/27/2008 14:30	SW-015-092008	1	U	0.062	1	U	0.097
2/26/2009 15:20	SW-015-032009	1	U	0.062	1	U	0.097
5/18/2009 12:25	SW-015-062009	1	U	0.062	1	U	0.097
8/4/2009 13:30	SW-015-092009	1	U	0.34	1	U	0.4

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	0.71	5	U	0.82	5	U	2.58			
3/15/2005 13:00	SW-008-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	U	0.13
6/11/2005 17:00	SW-008-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	UJ	0.13
9/17/2005 13:00	SW-008-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/29/2005 12:00	SW-008-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/28/2006 10:20	SW-008-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/19/2006 14:15	SW-008-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 10:45	SW-008-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 10:35	SW-008-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/28/2007 11:25	SW-008-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/29/2007 15:26	SW-008-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/4/2007 13:20	SW-008-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	U	0.059
12/4/2007 11:45	SW-008-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/4/2008 9:10	SW-008-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 14:30	SW-008-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 11:00	SW-008-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 13:10	SW-008-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 12:35	SW-008-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 12:10	SW-008-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 14:00	SW-008-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 9:55	SW-008-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	0.99	5	U	0.8	5	U	0.98	5	U	1
3/15/2005 13:00	SW-008-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/11/2005 17:00	SW-008-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/17/2005 13:00	SW-008-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/29/2005 12:00	SW-008-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/28/2006 10:20	SW-008-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/19/2006 14:15	SW-008-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 10:45	SW-008-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 10:35	SW-008-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/28/2007 11:25	SW-008-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/29/2007 15:26	SW-008-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/4/2007 13:20	SW-008-092007	1	UJ	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/4/2007 11:45	SW-008-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/4/2008 9:10	SW-008-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 14:30	SW-008-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 11:00	SW-008-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 13:10	SW-008-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 12:35	SW-008-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 12:10	SW-008-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 14:00	SW-008-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 9:55	SW-008-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	UJ	1.32				5	U	1.36	5	U	1.95
3/15/2005 13:00	SW-008-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/11/2005 17:00	SW-008-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/17/2005 13:00	SW-008-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/29/2005 12:00	SW-008-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/28/2006 10:20	SW-008-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/19/2006 14:15	SW-008-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 10:45	SW-008-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 10:35	SW-008-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/28/2007 11:25	SW-008-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/29/2007 15:26	SW-008-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/4/2007 13:20	SW-008-092007	1	U	0.064				1	U	0.042	1	U	0.096
12/4/2007 11:45	SW-008-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/4/2008 9:10	SW-008-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 14:30	SW-008-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 11:00	SW-008-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 13:10	SW-008-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 12:35	SW-008-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 12:10	SW-008-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 14:00	SW-008-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 9:55	SW-008-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004							5	U	0.93	5	U	1.29
3/15/2005 13:00	SW-008-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/11/2005 17:00	SW-008-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/17/2005 13:00	SW-008-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/29/2005 12:00	SW-008-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/28/2006 10:20	SW-008-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/19/2006 14:15	SW-008-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 10:45	SW-008-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 10:35	SW-008-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/28/2007 11:25	SW-008-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/29/2007 15:26	SW-008-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/4/2007 13:20	SW-008-092007	1	UJ	0.13	1	U	0.077	1	U	0.062	1	U	0.063
12/4/2007 11:45	SW-008-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/4/2008 9:10	SW-008-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 14:30	SW-008-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 11:00	SW-008-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 13:10	SW-008-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 12:35	SW-008-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 12:10	SW-008-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 14:00	SW-008-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 9:55	SW-008-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004				5	U	0.97	5	U	1.47	5	U	0.39
3/15/2005 13:00	SW-008-032005				1	U	0.15	1	U	0.09	1	U	0.1
6/11/2005 17:00	SW-008-062005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
9/17/2005 13:00	SW-008-092005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
11/29/2005 12:00	SW-008-122005				2	U	0.119	2	U	0.113	2	U	0.189
3/28/2006 10:20	SW-008-032006				2	U	0.119	2	U	0.113	2	U	0.189
6/19/2006 14:15	SW-008-062006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 10:45	SW-008-092006				2	U	0.119	2	U	0.113	2	U	0.189
12/7/2006 10:35	SW-008-122006				2	U	0.119	2	U	0.113	2	U	0.189
2/28/2007 11:25	SW-008-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/29/2007 15:26	SW-008-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/4/2007 13:20	SW-008-092007	0.59	J	0.14	1	UJ	0.088	1	U	0.064	1	U	0.071
12/4/2007 11:45	SW-008-122007	0.44	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/4/2008 9:10	SW-008-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 14:30	SW-008-062008	0.24	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 11:00	SW-008-092008	1.2		0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 13:10	SW-008-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 12:35	SW-008-032009	0.39	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 12:10	SW-008-062009	0.48	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 14:00	SW-008-092009	2.3		0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 9:55	SW-008-122009	0.74	J	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 10:10	SW-008-012010				1	U	0.068						
5/6/2010 12:15	SW-008-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	1.2	5	U	0.86				10	UJ	2.21
3/15/2005 13:00	SW-008-032005	0.5	U	0.14	0.5	U	0.12				1	U	0.23
6/11/2005 17:00	SW-008-062005	0.5	UJ	0.14	0.5	UJ	0.12				1	UJ	0.23
9/17/2005 13:00	SW-008-092005	0.5	U	0.14	0.5	UJ	0.12				1	U	0.23
11/29/2005 12:00	SW-008-122005	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
3/28/2006 10:20	SW-008-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
6/19/2006 14:15	SW-008-062006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 10:45	SW-008-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
12/7/2006 10:35	SW-008-122006	2	U	0.107	2	U	0.15	2	U	0.108	4	U	0.481
2/28/2007 11:25	SW-008-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/29/2007 15:26	SW-008-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/4/2007 13:20	SW-008-092007	1	U	0.066	1	U	0.037				5	U	0.72
12/4/2007 11:45	SW-008-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/4/2008 9:10	SW-008-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 14:30	SW-008-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 11:00	SW-008-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 13:10	SW-008-122008	1	U	0.054	1	U	0.079				4.4	J	0.78
2/26/2009 12:35	SW-008-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 12:10	SW-008-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 14:00	SW-008-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 9:55	SW-008-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	1.05	10	UJ	0.83	5	U	0.95	10	UJ	1.01
3/15/2005 13:00	SW-008-032005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
6/11/2005 17:00	SW-008-062005	1	UJ	0.09	1	U	0.57	1	UJ	0.1	1	U	0.46
9/17/2005 13:00	SW-008-092005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
11/29/2005 12:00	SW-008-122005	2	U	0.106	2	U	0.163	2	U	0.1	2	UJ	0.128
3/28/2006 10:20	SW-008-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
6/19/2006 14:15	SW-008-062006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 10:45	SW-008-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
12/7/2006 10:35	SW-008-122006	2	U	0.106	4	U	0.163	2	U	0.1	4	U	0.128
2/28/2007 11:25	SW-008-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/29/2007 15:26	SW-008-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/4/2007 13:20	SW-008-092007	1	U	0.062	5	U	0.5	1	U	0.11	5	UJ	0.56
12/4/2007 11:45	SW-008-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/4/2008 9:10	SW-008-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 14:30	SW-008-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 11:00	SW-008-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 13:10	SW-008-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 12:35	SW-008-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 12:10	SW-008-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 14:00	SW-008-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 9:55	SW-008-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	10	UJ	2.35	5	U	0.99	5	U	1.24	5	U	0.72
3/15/2005 13:00	SW-008-032005	5	U	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
6/11/2005 17:00	SW-008-062005	5	UJ	1.6	0.5	U	0.15	1	UJ	0.11	1	U	0.14
9/17/2005 13:00	SW-008-092005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
11/29/2005 12:00	SW-008-122005	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
3/28/2006 10:20	SW-008-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
6/19/2006 14:15	SW-008-062006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 10:45	SW-008-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
12/7/2006 10:35	SW-008-122006	4	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/28/2007 11:25	SW-008-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/29/2007 15:26	SW-008-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/4/2007 13:20	SW-008-092007	4.4	J	1.3	1	U	0.083	1	U	0.051	1	U	0.067
12/4/2007 11:45	SW-008-122007	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/4/2008 9:10	SW-008-032008	6		0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 14:30	SW-008-062008	5	UJ	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 11:00	SW-008-092008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 13:10	SW-008-122008	4.3	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 12:35	SW-008-032009	1.4	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 12:10	SW-008-062009	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 14:00	SW-008-092009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 9:55	SW-008-122009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	0.72	5	U	1.01	10	U	0.66	5	U	0.45
3/15/2005 13:00	SW-008-032005	0.5	U	0.14	1	U	0.09	1	UJ	0.18	1	U	0.11
6/11/2005 17:00	SW-008-062005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	UJ	0.11
9/17/2005 13:00	SW-008-092005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
11/29/2005 12:00	SW-008-122005	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
3/28/2006 10:20	SW-008-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
6/19/2006 14:15	SW-008-062006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 10:45	SW-008-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
12/7/2006 10:35	SW-008-122006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/28/2007 11:25	SW-008-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/29/2007 15:26	SW-008-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/4/2007 13:20	SW-008-092007	1	U	0.088	1	U	0.057	1	U	0.068	1	U	0.067
12/4/2007 11:45	SW-008-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/4/2008 9:10	SW-008-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 14:30	SW-008-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 11:00	SW-008-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	UJ	0.045
11/12/2008 13:10	SW-008-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 12:35	SW-008-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 12:10	SW-008-062009	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
8/4/2009 14:00	SW-008-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 9:55	SW-008-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	0.96	5	U	0.64	10	U	1.42	5	U	0.95
3/15/2005 13:00	SW-008-032005	1	U	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
6/11/2005 17:00	SW-008-062005	1	UJ	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
9/17/2005 13:00	SW-008-092005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
11/29/2005 12:00	SW-008-122005	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
3/28/2006 10:20	SW-008-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
6/19/2006 14:15	SW-008-062006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 10:45	SW-008-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
12/7/2006 10:35	SW-008-122006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
2/28/2007 11:25	SW-008-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/29/2007 15:26	SW-008-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/4/2007 13:20	SW-008-092007	1	U	0.063	1	U	0.059	1	U	0.13	1	U	0.052
12/4/2007 11:45	SW-008-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/4/2008 9:10	SW-008-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 14:30	SW-008-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 11:00	SW-008-092008	1	U	0.031	1	U	0.047	1	U	0.15	0.2	J	0.041
11/12/2008 13:10	SW-008-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 12:35	SW-008-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 12:10	SW-008-062009	1	U	0.031	1	U	0.047	1	U	0.15	0.22	J	0.041
8/4/2009 14:00	SW-008-092009	1	U	0.2	1	U	0.18	1	U	0.39	0.26	J	0.2
11/12/2009 9:55	SW-008-122009	1	U	0.2	1	U	0.18	1	U	0.39	0.25	J	0.2
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane		
	CAS #	74-87-3			156-59-2			10061-01-5			110-82-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-08-112004	10	U	0.47	5	U	0.77	5	U	1.03			
3/15/2005 13:00	SW-008-032005	1	U	0.08	0.53	J	0.09	0.5	U	0.12	1	U	0.15
6/11/2005 17:00	SW-008-062005	1	U	0.08	1.2		0.09	0.5	UJ	0.12	1	UJ	0.15
9/17/2005 13:00	SW-008-092005	1	U	0.08	1.8		0.09	0.5	U	0.12	1	U	0.15
11/29/2005 12:00	SW-008-122005	2	U	0.173	1.3	J	0.151	2	U	0.1			
3/28/2006 10:20	SW-008-032006	2	U	0.173	0.63	J	0.151	2	U	0.1			
6/19/2006 14:15	SW-008-062006	2	U	0.173	4.27		0.151	2	U	0.1			
9/25/2006 10:45	SW-008-092006	2	U	0.173	2	U	0.151	2	U	0.1			
12/7/2006 10:35	SW-008-122006	2	U	0.173	0.41	J	0.151	2	U	0.1			
2/28/2007 11:25	SW-008-032007	2	U	0.173	0.45	J	0.151	2	U	0.1			
5/29/2007 15:26	SW-008-052007	1	UJ	0.052	1	U	0.11	1	U	0.09			
9/4/2007 13:20	SW-008-092007	1	UJ	0.052	0.59	J	0.11	1	U	0.09			
12/4/2007 11:45	SW-008-122007	1	U	0.11	0.44	J	0.065	1	U	0.049			
3/4/2008 9:10	SW-008-032008	1	U	0.11	1	U	0.065	1	U	0.049			
6/18/2008 14:30	SW-008-062008	1	U	0.11	0.24	J	0.065	1	U	0.049			
8/27/2008 11:00	SW-008-092008	1	UJ	0.11	1.2		0.065	1	U	0.049			
11/12/2008 13:10	SW-008-122008	1	U	0.11	1	U	0.065	1	U	0.049			
2/26/2009 12:35	SW-008-032009	1	U	0.11	0.39	J	0.065	1	U	0.049			
5/18/2009 12:10	SW-008-062009	1	U	0.11	0.47	J	0.065	1	U	0.049			
8/4/2009 14:00	SW-008-092009	1	U	0.28	2.3		0.18	1	U	0.18			
11/12/2009 9:55	SW-008-122009	1	U	0.28	0.74	J	0.18	1	U	0.18			
1/28/2010 10:10	SW-008-012010				0.36	J	0.069						
5/6/2010 12:15	SW-008-042010				0.44	J	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane			Ethylbenzene		
	CAS #	124-48-1			74-95-3			75-71-8			100-41-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	0.88	5	U	0.76	10	U	0.86	5	U	0.79
3/15/2005 13:00	SW-008-032005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
6/11/2005 17:00	SW-008-062005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
9/17/2005 13:00	SW-008-092005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
11/29/2005 12:00	SW-008-122005	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
3/28/2006 10:20	SW-008-032006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
6/19/2006 14:15	SW-008-062006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
9/25/2006 10:45	SW-008-092006	2	UJ	0.133	2	U	0.1	2	U	0.5	2	U	0.1
12/7/2006 10:35	SW-008-122006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
2/28/2007 11:25	SW-008-032007	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
5/29/2007 15:26	SW-008-052007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
9/4/2007 13:20	SW-008-092007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
12/4/2007 11:45	SW-008-122007	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
3/4/2008 9:10	SW-008-032008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
6/18/2008 14:30	SW-008-062008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/27/2008 11:00	SW-008-092008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
11/12/2008 13:10	SW-008-122008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
2/26/2009 12:35	SW-008-032009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
5/18/2009 12:10	SW-008-062009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/4/2009 14:00	SW-008-092009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
11/12/2009 9:55	SW-008-122009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	Hexachlorobutadiene			ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	87-68-3			108-20-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	0.83				5	U	0.83	5	U	2.05
3/15/2005 13:00	SW-008-032005	1	U	0.15				1	U	0.12	1	U	0.24
6/11/2005 17:00	SW-008-062005	1	U	0.15				1	UJ	0.12	1	U	0.24
9/17/2005 13:00	SW-008-092005	1	U	0.15				1	UJ	0.12	1	U	0.24
11/29/2005 12:00	SW-008-122005	2	U	0.192				2	U	0.1	2	U	0.216
3/28/2006 10:20	SW-008-032006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
6/19/2006 14:15	SW-008-062006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
9/25/2006 10:45	SW-008-092006	2	UJ	0.192	2	UJ	0.5	2	U	0.1	2	U	0.216
12/7/2006 10:35	SW-008-122006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
2/28/2007 11:25	SW-008-032007	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
5/29/2007 15:26	SW-008-052007	1	U	0.075				1	UJ	0.078	1	U	0.097
9/4/2007 13:20	SW-008-092007	1	U	0.075				1	U	0.078	1	U	0.097
12/4/2007 11:45	SW-008-122007	1	U	0.091				1	U	0.039	1	U	0.097
3/4/2008 9:10	SW-008-032008	1	U	0.091				1	U	0.039	1	U	0.097
6/18/2008 14:30	SW-008-062008	1	U	0.091				1	U	0.039	1	U	0.097
8/27/2008 11:00	SW-008-092008	1	U	0.091				1	UJ	0.039	1	U	0.097
11/12/2008 13:10	SW-008-122008	1	U	0.091				1	U	0.039	1	U	0.097
2/26/2009 12:35	SW-008-032009	1	U	0.091				1	U	0.039	1	U	0.097
5/18/2009 12:10	SW-008-062009	1	U	0.091				1	U	0.039	1	U	0.097
8/4/2009 14:00	SW-008-092009	1	U	0.21				1	U	0.22	1	U	0.4
11/12/2009 9:55	SW-008-122009	1	U	0.21				1	U	0.22	1	U	0.4
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	4.95	5	UJ	3.57	5	U	1.94	5	U	1.82
3/15/2005 13:00	SW-008-032005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
6/11/2005 17:00	SW-008-062005	1	U	0.42	1	U	0.1	1	U	0.12	1	UJ	0.1
9/17/2005 13:00	SW-008-092005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
11/29/2005 12:00	SW-008-122005	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
3/28/2006 10:20	SW-008-032006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
6/19/2006 14:15	SW-008-062006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
9/25/2006 10:45	SW-008-092006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
12/7/2006 10:35	SW-008-122006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
2/28/2007 11:25	SW-008-032007	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
5/29/2007 15:26	SW-008-052007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
9/4/2007 13:20	SW-008-092007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
12/4/2007 11:45	SW-008-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/4/2008 9:10	SW-008-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/18/2008 14:30	SW-008-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 11:00	SW-008-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
11/12/2008 13:10	SW-008-122008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 12:35	SW-008-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 12:10	SW-008-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 14:00	SW-008-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
11/12/2009 9:55	SW-008-122009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
1/28/2010 10:10	SW-008-012010	1	U	0.1									
5/6/2010 12:15	SW-008-042010	1	U	0.1									

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-08-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71
3/15/2005 13:00	SW-008-032005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
6/11/2005 17:00	SW-008-062005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
9/17/2005 13:00	SW-008-092005	1	U	0.13	1	U	0.13	1	UJ	0.13	1	U	0.11
11/29/2005 12:00	SW-008-122005	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
3/28/2006 10:20	SW-008-032006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
6/19/2006 14:15	SW-008-062006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
9/25/2006 10:45	SW-008-092006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
12/7/2006 10:35	SW-008-122006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
2/28/2007 11:25	SW-008-032007	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
5/29/2007 15:26	SW-008-052007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
9/4/2007 13:20	SW-008-092007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
12/4/2007 11:45	SW-008-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/4/2008 9:10	SW-008-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/18/2008 14:30	SW-008-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 11:00	SW-008-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
11/12/2008 13:10	SW-008-122008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 12:35	SW-008-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 12:10	SW-008-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 14:00	SW-008-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
11/12/2009 9:55	SW-008-122009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

		tert-Butyl Methyl Ether			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	Compound	**(MTBE)**											
	CAS #	**1634-04-4**			**98-06-6**			**127-18-4**			**108-88-3**		
	Units	**µg/L**			**µg/L**			**µg/L**			**µg/L**		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-08-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96
3/15/2005 13:00	SW-008-032005	1	U	0.22	1	U	0.15	1	U	0.12	1	U	0.11
6/11/2005 17:00	SW-008-062005	1	U	0.22	1	UJ	0.15	1	UJ	0.12	1	UJ	0.11
9/17/2005 13:00	SW-008-092005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	U	0.11
11/29/2005 12:00	SW-008-122005	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
3/28/2006 10:20	SW-008-032006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
6/19/2006 14:15	SW-008-062006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
9/25/2006 10:45	SW-008-092006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
12/7/2006 10:35	SW-008-122006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
2/28/2007 11:25	SW-008-032007	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
5/29/2007 15:26	SW-008-052007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
9/4/2007 13:20	SW-008-092007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
12/4/2007 11:45	SW-008-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/4/2008 9:10	SW-008-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/18/2008 14:30	SW-008-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 11:00	SW-008-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
11/12/2008 13:10	SW-008-122008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 12:35	SW-008-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 12:10	SW-008-062009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/4/2009 14:00	SW-008-092009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
11/12/2009 9:55	SW-008-122009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
1/28/2010 10:10	SW-008-012010												
5/6/2010 12:15	SW-008-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004	5	U	0.98	5	U	1.03	41		0.67			
3/15/2005 13:00	SW-008-032005	1	U	0.1	1	U	0.1	34		0.12	1	U	0.1
6/11/2005 17:00	SW-008-062005	1	U	0.1	1	UJ	0.1	31	J	0.12	1	UJ	0.1
9/17/2005 13:00	SW-008-092005	1	U	0.1	1	U	0.1	35		0.58	1	U	0.1
11/29/2005 12:00	SW-008-122005	2	U	0.152	2	U	0.1	56.1		0.151	2	U	0.111
3/28/2006 10:20	SW-008-032006	2	U	0.152	2	U	0.1	37.9		0.151	2	U	0.111
6/19/2006 14:15	SW-008-062006	2	U	0.152	2	U	0.1	40.2		0.151	2	U	0.111
9/25/2006 10:45	SW-008-092006	2	U	0.152	2	U	0.1	12.3		0.151	2	UJ	0.111
12/7/2006 10:35	SW-008-122006	2	U	0.152	2	U	0.1	27		0.151	2	U	0.111
2/28/2007 11:25	SW-008-032007	2	U	0.152	2	U	0.1	32.9		0.151	2	U	0.111
5/29/2007 15:26	SW-008-052007	1	U	0.1	1	U	0.1	15		0.089	1	U	0.038
9/4/2007 13:20	SW-008-092007	1	U	0.1	1	U	0.1	9.6		0.089	1	U	0.038
12/4/2007 11:45	SW-008-122007	1	U	0.059	1	U	0.053	25		0.058	1	U	0.067
3/4/2008 9:10	SW-008-032008	1	U	0.059	1	U	0.053	7.6		0.058	1	U	0.067
6/18/2008 14:30	SW-008-062008	1	U	0.059	1	U	0.053	4.3		0.058	1	U	0.067
8/27/2008 11:00	SW-008-092008	1	U	0.059	1	U	0.053	31		0.058	1	U	0.067
11/12/2008 13:10	SW-008-122008	1	U	0.059	1	U	0.053	0.47	J	0.058	1	U	0.067
2/26/2009 12:35	SW-008-032009	1	U	0.059	1	U	0.053	24		0.058	1	U	0.067
5/18/2009 12:10	SW-008-062009	1	U	0.059	1	U	0.053	16		0.058	1	U	0.067
8/4/2009 14:00	SW-008-092009	1	U	0.14	1	U	0.2	28		0.17	1	U	0.36
11/12/2009 9:55	SW-008-122009	1	U	0.14	1	U	0.2	39		0.17	1	U	0.36
1/28/2010 10:10	SW-008-012010	1	U	0.095				20		0.11			
5/6/2010 12:15	SW-008-042010	1	U	0.095				18		0.11			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-26 Summary of VOCs in Surface Water for Johnson Creek SW-08 (continued)

	Compound	Vinyl Acetate			Vinyl Chloride			Xylenes, Total		
	CAS #	108-05-4			75-01-4			1330-20-7		
	Units	µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-08-112004				10	U	0.35	5	U	3.05
3/15/2005 13:00	SW-008-032005				0.4	U	0.09			
6/11/2005 17:00	SW-008-062005				0.4	U	0.09			
9/17/2005 13:00	SW-008-092005				0.4	U	0.09			
11/29/2005 12:00	SW-008-122005	2	U	0.5	2	U	0.239			
3/28/2006 10:20	SW-008-032006	2	U	0.15	2	U	0.239			
6/19/2006 14:15	SW-008-062006	2	U	0.15	2	U	0.239			
9/25/2006 10:45	SW-008-092006	2	U	0.15	2	U	0.239			
12/7/2006 10:35	SW-008-122006	2	U	0.15	2	U	0.239			
2/28/2007 11:25	SW-008-032007	2	U	0.15	2	U	0.239			
5/29/2007 15:26	SW-008-052007				1	UJ	0.092	1	U	0.097
9/4/2007 13:20	SW-008-092007				1	U	0.092	1	U	0.097
12/4/2007 11:45	SW-008-122007				1	U	0.062	1	U	0.097
3/4/2008 9:10	SW-008-032008				1	U	0.062	1	U	0.097
6/18/2008 14:30	SW-008-062008				1	U	0.062	1	U	0.097
8/27/2008 11:00	SW-008-092008				1	U	0.062	1	U	0.097
11/12/2008 13:10	SW-008-122008				1	U	0.062	1	U	0.097
2/26/2009 12:35	SW-008-032009				1	U	0.062	1	U	0.097
5/18/2009 12:10	SW-008-062009				1	U	0.062	1	U	0.097
8/4/2009 14:00	SW-008-092009				1	U	0.34	1	U	0.4
11/12/2009 9:55	SW-008-122009				1	U	0.34	1	U	0.4
1/28/2010 10:10	SW-008-012010				1	U	0.079			
5/6/2010 12:15	SW-008-042010				1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/4/2007 13:45	SW-016-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	UJ	0.059
12/4/2007 10:00	SW-016-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/4/2008 11:45	SW-016-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 15:00	SW-016-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 14:15	SW-016-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 14:55	SW-016-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 13:20	SW-016-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 13:50	SW-016-092009	1	U	0.23	1	U	0.2	1	U	0.22			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/4/2007 13:45	SW-016-092007	1	U	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/4/2007 10:00	SW-016-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/4/2008 11:45	SW-016-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 15:00	SW-016-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 14:15	SW-016-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 14:55	SW-016-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 13:20	SW-016-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 13:50	SW-016-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene			1,2-Dibromo-3-chloropropane		
	CAS #	87-61-6			120-82-1			95-63-6			96-12-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.064	1	U	0.042	1	U	0.096	1	U	0.13
9/4/2007 13:45	SW-016-092007	1	U	0.064	1	U	0.042	1	U	0.096	1	UJ	0.13
12/4/2007 10:00	SW-016-122007	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
3/4/2008 11:45	SW-016-032008	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
6/18/2008 15:00	SW-016-062008	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
8/27/2008 14:15	SW-016-092008	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
2/26/2009 14:55	SW-016-032009	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
5/18/2009 13:20	SW-016-062009	1	U	0.092	1	U	0.093	1	U	0.036	1	U	0.14
8/4/2009 13:50	SW-016-092009	1	U	0.14	1	U	0.15	1	U	0.21	1	U	0.33

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane			1,2-Dichloroethene		
	CAS #	106-93-4			95-50-1			107-06-2			540-59-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.077	1	U	0.062	1	UJ	0.063	1	U	0.14
9/4/2007 13:45	SW-016-092007	1	U	0.077	1	U	0.062	1	U	0.063	0.48	J	0.14
12/4/2007 10:00	SW-016-122007	1	U	0.066	1	U	0.07	1	U	0.1	0.38	J	0.11
3/4/2008 11:45	SW-016-032008	1	U	0.066	1	U	0.07	1	U	0.1	1	U	0.11
6/18/2008 15:00	SW-016-062008	1	U	0.066	1	U	0.07	1	U	0.1	0.26	J	0.11
8/27/2008 14:15	SW-016-092008	1	U	0.066	1	U	0.07	1	U	0.1	0.68	J	0.11
2/26/2009 14:55	SW-016-032009	1	U	0.066	1	U	0.07	1	U	0.1	0.31	J	0.11
5/18/2009 13:20	SW-016-062009	1	U	0.066	1	U	0.07	1	U	0.1	0.41	J	0.11
8/4/2009 13:50	SW-016-092009	1	U	0.21	1	U	0.23	1	U	0.18	2		0.31

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene			1,3-Dichloropropane		
	CAS #	78-87-5			108-67-8			541-73-1			142-28-9		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.088	1	U	0.064	1	U	0.071	1	U	0.066
9/4/2007 13:45	SW-016-092007	1	UJ	0.088	1	U	0.064	1	U	0.071	1	U	0.066
12/4/2007 10:00	SW-016-122007	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
3/4/2008 11:45	SW-016-032008	1	UJ	0.1	1	U	0.059	1	U	0.054	1	U	0.054
6/18/2008 15:00	SW-016-062008	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
8/27/2008 14:15	SW-016-092008	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
2/26/2009 14:55	SW-016-032009	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
5/18/2009 13:20	SW-016-062009	1	U	0.1	1	U	0.059	1	U	0.054	1	U	0.054
8/4/2009 13:50	SW-016-092009	1	U	0.21	1	U	0.22	1	U	0.19	1	U	0.2

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	1,4-Dichlorobenzene			2-Butanone (MEK)			2-Chlorotoluene			2-Hexanone		
	CAS #	106-46-7			78-93-3			95-49-8			591-78-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.037	5	U	0.72	1	U	0.062	5	U	0.5
9/4/2007 13:45	SW-016-092007	1	U	0.037	5	U	0.72	1	U	0.062	5	U	0.5
12/4/2007 10:00	SW-016-122007	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
3/4/2008 11:45	SW-016-032008	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
6/18/2008 15:00	SW-016-062008	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
8/27/2008 14:15	SW-016-092008	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
2/26/2009 14:55	SW-016-032009	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
5/18/2009 13:20	SW-016-062009	1	U	0.079	5	U	0.78	1	U	0.051	5	U	0.29
8/4/2009 13:50	SW-016-092009	1	U	0.17	5	U	1	1	U	0.23	5	U	0.82

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)			Acetone			Benzene		
	CAS #	106-43-4			108-10-1			67-64-1			71-43-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.11	5	U	0.56	5	U	1.3	1	U	0.083
9/4/2007 13:45	SW-016-092007	1	U	0.11	5	UJ	0.56	3.5	J	1.3	1	U	0.083
12/4/2007 10:00	SW-016-122007	1	U	0.079	5	U	0.29	5	U	0.77	1	U	0.059
3/4/2008 11:45	SW-016-032008	1	U	0.079	5	U	0.29	7.2		0.77	1	U	0.059
6/18/2008 15:00	SW-016-062008	1	U	0.079	5	U	0.29	5	UJ	0.77	1	U	0.059
8/27/2008 14:15	SW-016-092008	1	U	0.079	5	U	0.29	2.9	J	0.77	1	U	0.059
2/26/2009 14:55	SW-016-032009	1	U	0.079	5	U	0.29	1.5	J	0.77	1	U	0.059
5/18/2009 13:20	SW-016-062009	1	U	0.079	5	U	0.29	2.9	J	0.77	1	U	0.059
8/4/2009 13:50	SW-016-092009	1	U	0.25	5	U	0.74	5	U	1.7	1	U	0.19

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	Bromobenzene			Bromochloromethane			Bromodichloromethane			Bromoform		
	CAS #	108-86-1			74-97-5			75-27-4			75-25-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.051	1	U	0.067	1	U	0.088	1	U	0.057
9/4/2007 13:45	SW-016-092007	1	U	0.051	1	U	0.067	1	U	0.088	1	U	0.057
12/4/2007 10:00	SW-016-122007	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
3/4/2008 11:45	SW-016-032008	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
6/18/2008 15:00	SW-016-062008	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
8/27/2008 14:15	SW-016-092008	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
2/26/2009 14:55	SW-016-032009	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
5/18/2009 13:20	SW-016-062009	1	U	0.07	1	U	0.064	1	U	0.031	1	U	0.1
8/4/2009 13:50	SW-016-092009	1	U	0.2	1	U	0.37	1	U	0.2	1	U	0.17

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	Bromomethane			Carbon Disulfide			Carbon Tetrachloride			Chlorobenzene		
	CAS #	74-83-9			75-15-0			56-23-5			108-90-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	UJ	0.068	1	U	0.067	1	U	0.063	1	U	0.059
9/4/2007 13:45	SW-016-092007	1	U	0.068	1	U	0.067	1	U	0.063	1	U	0.059
12/4/2007 10:00	SW-016-122007	1	U	0.29	1	U	0.045	1	U	0.031	1	U	0.047
3/4/2008 11:45	SW-016-032008	1	UJ	0.29	1	U	0.045	1	U	0.031	1	U	0.047
6/18/2008 15:00	SW-016-062008	1	U	0.29	1	U	0.045	1	U	0.031	1	U	0.047
8/27/2008 14:15	SW-016-092008	1	U	0.29	1	U	0.045	1	U	0.031	1	U	0.047
2/26/2009 14:55	SW-016-032009	1	U	0.29	1	U	0.045	1	U	0.031	1	U	0.047
5/18/2009 13:20	SW-016-062009	1	U	0.29	1	UJ	0.045	1	U	0.031	1	U	0.047
8/4/2009 13:50	SW-016-092009	1	U	0.29	1	U	0.13	1	U	0.2	1	U	0.18

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	Chloroethane			Chloroform			Chloromethane			cis-1,2-Dichloroethene		
	CAS #	75-00-3			67-66-3			74-87-3			156-59-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	UJ	0.13	1	U	0.052	1	UJ	0.052	1	U	0.11
9/4/2007 13:45	SW-016-092007	1	U	0.13	1	U	0.052	1	UJ	0.052	0.48	J	0.11
12/4/2007 10:00	SW-016-122007	1	U	0.15	1	U	0.041	1	U	0.11	0.38	J	0.065
3/4/2008 11:45	SW-016-032008	1	UJ	0.15	1	U	0.041	1	U	0.11	1	U	0.065
6/18/2008 15:00	SW-016-062008	1	U	0.15	1	U	0.041	1	U	0.11	0.26	J	0.065
8/27/2008 14:15	SW-016-092008	1	U	0.15	1	U	0.041	1	UJ	0.11	0.68	J	0.065
2/26/2009 14:55	SW-016-032009	1	U	0.15	1	U	0.041	1	U	0.11	0.31	J	0.065
5/18/2009 13:20	SW-016-062009	1	U	0.15	1	U	0.041	1	U	0.11	0.41	J	0.065
8/4/2009 13:50	SW-016-092009	1	U	0.39	0.22	J	0.2	1	U	0.28	2		0.18

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	cis-1,3-Dichloropropene			Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane		
	CAS #	10061-01-5			124-48-1			74-95-3			75-71-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.09	1	U	0.077	1	U	0.14	1	U	0.05
9/4/2007 13:45	SW-016-092007	1	U	0.09	1	U	0.077	1	U	0.14	1	U	0.05
12/4/2007 10:00	SW-016-122007	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
3/4/2008 11:45	SW-016-032008	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
6/18/2008 15:00	SW-016-062008	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
8/27/2008 14:15	SW-016-092008	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
2/26/2009 14:55	SW-016-032009	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
5/18/2009 13:20	SW-016-062009	1	U	0.049	1	U	0.035	1	U	0.026	1	U	0.058
8/4/2009 13:50	SW-016-092009	1	U	0.18	1	U	0.27	1	U	0.21	1	U	0.38

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	Ethylbenzene			Hexachlorobutadiene			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	100-41-4			87-68-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.076	1	U	0.075	1	UJ	0.078	1	U	0.097
9/4/2007 13:45	SW-016-092007	1	U	0.076	1	U	0.075	1	U	0.078	1	U	0.097
12/4/2007 10:00	SW-016-122007	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
3/4/2008 11:45	SW-016-032008	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
6/18/2008 15:00	SW-016-062008	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
8/27/2008 14:15	SW-016-092008	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
2/26/2009 14:55	SW-016-032009	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
5/18/2009 13:20	SW-016-062009	1	U	0.038	1	U	0.091	1	U	0.039	1	U	0.097
8/4/2009 13:50	SW-016-092009	1	U	0.18	1	U	0.21	1	U	0.22	1	U	0.4

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
9/4/2007 13:45	SW-016-092007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
12/4/2007 10:00	SW-016-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/4/2008 11:45	SW-016-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/18/2008 15:00	SW-016-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 14:15	SW-016-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 14:55	SW-016-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 13:20	SW-016-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 13:50	SW-016-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
9/4/2007 13:45	SW-016-092007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
12/4/2007 10:00	SW-016-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/4/2008 11:45	SW-016-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/18/2008 15:00	SW-016-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 14:15	SW-016-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 14:55	SW-016-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 13:20	SW-016-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 13:50	SW-016-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	tert-Butyl Methyl Ether (MTBE)			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	CAS #	1634-04-4			98-06-6			127-18-4			108-88-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
9/4/2007 13:45	SW-016-092007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
12/4/2007 10:00	SW-016-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/4/2008 11:45	SW-016-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/18/2008 15:00	SW-016-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 14:15	SW-016-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 14:55	SW-016-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 13:20	SW-016-062009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/4/2009 13:50	SW-016-092009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	U	0.1	1	U	0.1	11		0.089	1	U	0.038
9/4/2007 13:45	SW-016-092007	1	U	0.1	1	U	0.1	7.3		0.089	1	U	0.038
12/4/2007 10:00	SW-016-122007	1	U	0.059	1	U	0.053	20		0.058	1	U	0.067
3/4/2008 11:45	SW-016-032008	1	U	0.059	1	U	0.053	6.3		0.058	1	U	0.067
6/18/2008 15:00	SW-016-062008	1	U	0.059	1	U	0.053	5		0.058	1	U	0.067
8/27/2008 14:15	SW-016-092008	1	U	0.059	1	U	0.053	20		0.058	1	U	0.067
2/26/2009 14:55	SW-016-032009	1	U	0.059	1	U	0.053	18		0.058	1	U	0.067
5/18/2009 13:20	SW-016-062009	1	U	0.059	1	U	0.053	12		0.058	1	U	0.067
8/4/2009 13:50	SW-016-092009	1	U	0.14	1	U	0.2	24		0.17	1	U	0.36

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-27 Summary of VOCs in Surface Water for Johnson Creek SW-16 (continued)

	Compound	Vinyl Chloride			Xylenes, Total		
	CAS #	75-01-4			1330-20-7		
	Units	µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL
5/29/2007 16:45	SW-016-052007	1	UJ	0.092	1	U	0.097
9/4/2007 13:45	SW-016-092007	1	U	0.092	1	U	0.097
12/4/2007 10:00	SW-016-122007	1	U	0.062	1	U	0.097
3/4/2008 11:45	SW-016-032008	1	U	0.062	1	U	0.097
6/18/2008 15:00	SW-016-062008	1	U	0.062	1	U	0.097
8/27/2008 14:15	SW-016-092008	1	U	0.062	1	U	0.097
2/26/2009 14:55	SW-016-032009	1	U	0.062	1	U	0.097
5/18/2009 13:20	SW-016-062009	1	U	0.062	1	U	0.097
8/4/2009 13:50	SW-016-092009	1	U	0.34	1	U	0.4

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	0.71	5	U	0.82	5	U	2.58			
3/15/2005 12:00	SW-010-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	U	0.13
6/11/2005 16:00	SW-010-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	U	0.13
9/17/2005 14:05	SW-010-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/29/2005 12:05	SW-010-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/27/2006 11:15	SW-010-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/19/2006 12:15	SW-010-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 13:45	SW-010-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 11:15	SW-010-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/28/2007 9:14	SW-010-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/29/2007 16:15	SW-010-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/5/2007 10:30	SW-010-092007	1	UJ	0.09	1	UJ	0.06	1	UJ	0.12	1	UJ	0.059
12/4/2007 9:35	SW-010-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/4/2008 10:15	SW-010-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 11:00	SW-010-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 14:00	SW-010-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 12:30	SW-010-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 11:25	SW-010-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 13:50	SW-010-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 11:15	SW-010-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 9:45	SW-010-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	0.99	5	U	0.8	5	U	0.98	5	U	1
3/15/2005 12:00	SW-010-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/11/2005 16:00	SW-010-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/17/2005 14:05	SW-010-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/29/2005 12:05	SW-010-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/27/2006 11:15	SW-010-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/19/2006 12:15	SW-010-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 13:45	SW-010-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 11:15	SW-010-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/28/2007 9:14	SW-010-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/29/2007 16:15	SW-010-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/5/2007 10:30	SW-010-092007	1	UJ	0.054	1	UJ	0.065	1	UJ	0.094	1	UJ	0.096
12/4/2007 9:35	SW-010-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/4/2008 10:15	SW-010-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 11:00	SW-010-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 14:00	SW-010-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 12:30	SW-010-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 11:25	SW-010-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 13:50	SW-010-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 11:15	SW-010-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 9:45	SW-010-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	UJ	1.32				5	U	1.36	5	U	1.95
3/15/2005 12:00	SW-010-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/11/2005 16:00	SW-010-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/17/2005 14:05	SW-010-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/29/2005 12:05	SW-010-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/27/2006 11:15	SW-010-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/19/2006 12:15	SW-010-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 13:45	SW-010-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 11:15	SW-010-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/28/2007 9:14	SW-010-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/29/2007 16:15	SW-010-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/5/2007 10:30	SW-010-092007	1	UJ	0.064				1	UJ	0.042	1	UJ	0.096
12/4/2007 9:35	SW-010-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/4/2008 10:15	SW-010-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 11:00	SW-010-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 14:00	SW-010-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 12:30	SW-010-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 11:25	SW-010-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 13:50	SW-010-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 11:15	SW-010-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 9:45	SW-010-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004							5	U	0.93	5	U	1.29
3/15/2005 12:00	SW-010-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/11/2005 16:00	SW-010-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/17/2005 14:05	SW-010-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/29/2005 12:05	SW-010-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/27/2006 11:15	SW-010-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/19/2006 12:15	SW-010-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 13:45	SW-010-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 11:15	SW-010-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/28/2007 9:14	SW-010-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/29/2007 16:15	SW-010-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/5/2007 10:30	SW-010-092007	1	UJ	0.13	1	UJ	0.077	1	UJ	0.062	1	UJ	0.063
12/4/2007 9:35	SW-010-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/4/2008 10:15	SW-010-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 11:00	SW-010-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 14:00	SW-010-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 12:30	SW-010-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 11:25	SW-010-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 13:50	SW-010-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 11:15	SW-010-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 9:45	SW-010-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-010-112004				5	U	0.97	5	U	1.47	5	U	0.39
3/15/2005 12:00	SW-010-032005				1	U	0.15	1	U	0.09	1	U	0.1
6/11/2005 16:00	SW-010-062005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
9/17/2005 14:05	SW-010-092005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
11/29/2005 12:05	SW-010-122005				2	U	0.119	2	U	0.113	2	U	0.189
3/27/2006 11:15	SW-010-032006				2	U	0.119	2	U	0.113	2	U	0.189
6/19/2006 12:15	SW-010-062006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 13:45	SW-010-092006				2	U	0.119	2	U	0.113	2	U	0.189
12/7/2006 11:15	SW-010-122006				2	U	0.119	2	U	0.113	2	U	0.189
2/28/2007 9:14	SW-010-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/29/2007 16:15	SW-010-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/5/2007 10:30	SW-010-092007	0.37	J	0.14	1	UJ	0.088	1	UJ	0.064	1	UJ	0.071
12/4/2007 9:35	SW-010-122007	0.39	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/4/2008 10:15	SW-010-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 11:00	SW-010-062008	0.27	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 14:00	SW-010-092008	0.5	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 12:30	SW-010-122008	0.24	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 11:25	SW-010-032009	0.36	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 13:50	SW-010-062009	0.39	J	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 11:15	SW-010-092009	0.8	J	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 9:45	SW-010-122009	0.33	J	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 10:20	SW-010-012010				1	U	0.068						
5/6/2010 10:55	SW-010-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	1.2	5	U	0.86				10	UJ	2.21
3/15/2005 12:00	SW-010-032005	0.5	U	0.14	0.5	U	0.12				1	U	0.23
6/11/2005 16:00	SW-010-062005	0.5	UJ	0.14	0.5	UJ	0.12				1	UJ	0.23
9/17/2005 14:05	SW-010-092005	0.5	U	0.14	0.5	UJ	0.12				1	U	0.23
11/29/2005 12:05	SW-010-122005	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
3/27/2006 11:15	SW-010-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
6/19/2006 12:15	SW-010-062006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 13:45	SW-010-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
12/7/2006 11:15	SW-010-122006	2	U	0.107	2	U	0.15	2	U	0.108	4	U	0.481
2/28/2007 9:14	SW-010-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/29/2007 16:15	SW-010-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/5/2007 10:30	SW-010-092007	1	UJ	0.066	1	UJ	0.037				5	UJ	0.72
12/4/2007 9:35	SW-010-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/4/2008 10:15	SW-010-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 11:00	SW-010-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 14:00	SW-010-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 12:30	SW-010-122008	1	U	0.054	1	U	0.079				5.4		0.78
2/26/2009 11:25	SW-010-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 13:50	SW-010-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 11:15	SW-010-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 9:45	SW-010-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	1.05	10	UJ	0.83	5	U	0.95	10	UJ	1.01
3/15/2005 12:00	SW-010-032005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
6/11/2005 16:00	SW-010-062005	1	UJ	0.09	1	U	0.57	1	UJ	0.1	1	U	0.46
9/17/2005 14:05	SW-010-092005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
11/29/2005 12:05	SW-010-122005	2	U	0.106	2	U	0.163	2	U	0.1	2	UJ	0.128
3/27/2006 11:15	SW-010-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
6/19/2006 12:15	SW-010-062006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 13:45	SW-010-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
12/7/2006 11:15	SW-010-122006	2	U	0.106	4	U	0.163	2	U	0.1	4	U	0.128
2/28/2007 9:14	SW-010-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/29/2007 16:15	SW-010-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/5/2007 10:30	SW-010-092007	1	UJ	0.062	5	UJ	0.5	1	UJ	0.11	5	UJ	0.56
12/4/2007 9:35	SW-010-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/4/2008 10:15	SW-010-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 11:00	SW-010-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 14:00	SW-010-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 12:30	SW-010-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 11:25	SW-010-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 13:50	SW-010-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 11:15	SW-010-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 9:45	SW-010-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	10	UJ	2.35	5	U	0.99	5	U	1.24	5	U	0.72
3/15/2005 12:00	SW-010-032005	5	U	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
6/11/2005 16:00	SW-010-062005	5	UJ	1.6	0.5	U	0.15	1	UJ	0.11	1	U	0.14
9/17/2005 14:05	SW-010-092005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
11/29/2005 12:05	SW-010-122005	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
3/27/2006 11:15	SW-010-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
6/19/2006 12:15	SW-010-062006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 13:45	SW-010-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
12/7/2006 11:15	SW-010-122006	4	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/28/2007 9:14	SW-010-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/29/2007 16:15	SW-010-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/5/2007 10:30	SW-010-092007	2.1	J	1.3	1	UJ	0.083	1	UJ	0.051	1	UJ	0.067
12/4/2007 9:35	SW-010-122007	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/4/2008 10:15	SW-010-032008	5.8		0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 11:00	SW-010-062008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 14:00	SW-010-092008	2.8	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 12:30	SW-010-122008	2.4	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 11:25	SW-010-032009	3	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 13:50	SW-010-062009	2.2	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 11:15	SW-010-092009	1.7	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 9:45	SW-010-122009	1.8	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	0.72	5	U	1.01	10	U	0.66	5	U	0.45
3/15/2005 12:00	SW-010-032005	0.5	U	0.14	1	U	0.09	1	UJ	0.18	1	U	0.11
6/11/2005 16:00	SW-010-062005	0.5	U	0.14	1	U	0.09	1	UJ	0.18	1	UJ	0.11
9/17/2005 14:05	SW-010-092005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
11/29/2005 12:05	SW-010-122005	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
3/27/2006 11:15	SW-010-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
6/19/2006 12:15	SW-010-062006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 13:45	SW-010-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
12/7/2006 11:15	SW-010-122006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/28/2007 9:14	SW-010-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/29/2007 16:15	SW-010-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/5/2007 10:30	SW-010-092007	1	UJ	0.088	1	UJ	0.057	1	UJ	0.068	1	UJ	0.067
12/4/2007 9:35	SW-010-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/4/2008 10:15	SW-010-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 11:00	SW-010-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 14:00	SW-010-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
11/12/2008 12:30	SW-010-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 11:25	SW-010-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 13:50	SW-010-062009	1	U	0.031	1	U	0.1	1	U	0.29	1	UJ	0.045
8/4/2009 11:15	SW-010-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 9:45	SW-010-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	0.96	5	U	0.64	10	U	1.42	5	U	0.95
3/15/2005 12:00	SW-010-032005	1	U	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
6/11/2005 16:00	SW-010-062005	1	U	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
9/17/2005 14:05	SW-010-092005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
11/29/2005 12:05	SW-010-122005	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
3/27/2006 11:15	SW-010-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
6/19/2006 12:15	SW-010-062006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 13:45	SW-010-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
12/7/2006 11:15	SW-010-122006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
2/28/2007 9:14	SW-010-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/29/2007 16:15	SW-010-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/5/2007 10:30	SW-010-092007	1	UJ	0.063	1	UJ	0.059	1	UJ	0.13	1	UJ	0.052
12/4/2007 9:35	SW-010-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/4/2008 10:15	SW-010-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 11:00	SW-010-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 14:00	SW-010-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 12:30	SW-010-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 11:25	SW-010-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 13:50	SW-010-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 11:15	SW-010-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 9:45	SW-010-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane		
	CAS #	74-87-3			156-59-2			10061-01-5			110-82-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	10	U	0.47	5	U	0.77	5	U	1.03			
3/15/2005 12:00	SW-010-032005	1	U	0.08	0.28	J	0.09	0.5	U	0.12	1	U	0.15
6/11/2005 16:00	SW-010-062005	1	U	0.08	0.69	J	0.09	0.5	UJ	0.12	1	U	0.15
9/17/2005 14:05	SW-010-092005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
11/29/2005 12:05	SW-010-122005	2	U	0.173	2	U	0.151	2	U	0.1			
3/27/2006 11:15	SW-010-032006	2	U	0.173	0.34	J	0.151	2	U	0.1			
6/19/2006 12:15	SW-010-062006	2	U	0.173	1.14	J	0.151	2	U	0.1			
9/25/2006 13:45	SW-010-092006	2	U	0.173	2	U	0.151	2	U	0.1			
12/7/2006 11:15	SW-010-122006	2	U	0.173	0.28	J	0.151	2	U	0.1			
2/28/2007 9:14	SW-010-032007	2	U	0.173	0.29	J	0.151	2	U	0.1			
5/29/2007 16:15	SW-010-052007	1	UJ	0.052	1	U	0.11	1	U	0.09			
9/5/2007 10:30	SW-010-092007	1	UJ	0.052	0.37	J	0.11	1	UJ	0.09			
12/4/2007 9:35	SW-010-122007	1	U	0.11	0.39	J	0.065	1	U	0.049			
3/4/2008 10:15	SW-010-032008	1	U	0.11	1	U	0.065	1	U	0.049			
6/18/2008 11:00	SW-010-062008	1	U	0.11	0.27	J	0.065	1	U	0.049			
8/27/2008 14:00	SW-010-092008	1	UJ	0.11	0.5	J	0.065	1	U	0.049			
11/12/2008 12:30	SW-010-122008	1	U	0.11	0.24	J	0.065	1	U	0.049			
2/26/2009 11:25	SW-010-032009	1	U	0.11	0.36	J	0.065	1	U	0.049			
5/18/2009 13:50	SW-010-062009	1	U	0.11	0.39	J	0.065	1	U	0.049			
8/4/2009 11:15	SW-010-092009	1	U	0.28	0.8	J	0.18	1	U	0.18			
11/12/2009 9:45	SW-010-122009	1	U	0.28	0.33	J	0.18	1	U	0.18			
1/28/2010 10:20	SW-010-012010				0.32	J	0.069						
5/6/2010 10:55	SW-010-042010				0.35	J	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane			Ethylbenzene		
	CAS #	124-48-1			74-95-3			75-71-8			100-41-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	0.88	5	U	0.76	10	U	0.86	5	U	0.79
3/15/2005 12:00	SW-010-032005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
6/11/2005 16:00	SW-010-062005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
9/17/2005 14:05	SW-010-092005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
11/29/2005 12:05	SW-010-122005	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
3/27/2006 11:15	SW-010-032006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
6/19/2006 12:15	SW-010-062006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
9/25/2006 13:45	SW-010-092006	2	UJ	0.133	2	U	0.1	2	U	0.5	2	U	0.1
12/7/2006 11:15	SW-010-122006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
2/28/2007 9:14	SW-010-032007	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
5/29/2007 16:15	SW-010-052007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
9/5/2007 10:30	SW-010-092007	1	UJ	0.077	1	UJ	0.14	1	UJ	0.05	1	UJ	0.076
12/4/2007 9:35	SW-010-122007	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
3/4/2008 10:15	SW-010-032008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
6/18/2008 11:00	SW-010-062008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/27/2008 14:00	SW-010-092008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
11/12/2008 12:30	SW-010-122008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
2/26/2009 11:25	SW-010-032009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
5/18/2009 13:50	SW-010-062009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/4/2009 11:15	SW-010-092009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
11/12/2009 9:45	SW-010-122009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	Hexachlorobutadiene			ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	87-68-3			108-20-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	0.83				5	U	0.83	5	U	2.05
3/15/2005 12:00	SW-010-032005	1	U	0.15				1	U	0.12	1	U	0.24
6/11/2005 16:00	SW-010-062005	1	U	0.15				1	UJ	0.12	1	U	0.24
9/17/2005 14:05	SW-010-092005	1	U	0.15				1	UJ	0.12	1	U	0.24
11/29/2005 12:05	SW-010-122005	2	U	0.192				2	U	0.1	2	U	0.216
3/27/2006 11:15	SW-010-032006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
6/19/2006 12:15	SW-010-062006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
9/25/2006 13:45	SW-010-092006	2	UJ	0.192	2	UJ	0.5	2	U	0.1	2	U	0.216
12/7/2006 11:15	SW-010-122006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
2/28/2007 9:14	SW-010-032007	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
5/29/2007 16:15	SW-010-052007	1	U	0.075				1	UJ	0.078	1	U	0.097
9/5/2007 10:30	SW-010-092007	1	UJ	0.075				1	UJ	0.078	1	UJ	0.097
12/4/2007 9:35	SW-010-122007	1	U	0.091				1	U	0.039	1	U	0.097
3/4/2008 10:15	SW-010-032008	1	U	0.091				1	U	0.039	1	U	0.097
6/18/2008 11:00	SW-010-062008	1	U	0.091				1	U	0.039	1	U	0.097
8/27/2008 14:00	SW-010-092008	1	U	0.091				1	U	0.039	1	U	0.097
11/12/2008 12:30	SW-010-122008	1	U	0.091				1	U	0.039	1	U	0.097
2/26/2009 11:25	SW-010-032009	1	U	0.091				1	U	0.039	1	U	0.097
5/18/2009 13:50	SW-010-062009	1	U	0.091				1	U	0.039	1	U	0.097
8/4/2009 11:15	SW-010-092009	1	U	0.21				1	U	0.22	1	U	0.4
11/12/2009 9:45	SW-010-122009	1	U	0.21				1	U	0.22	1	U	0.4
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	4.95	5	UJ	3.57	5	U	1.94	5	U	1.82
3/15/2005 12:00	SW-010-032005	1		0.42	1	U	0.1	1	U	0.12	1	U	0.1
6/11/2005 16:00	SW-010-062005	1	U	0.42	1	U	0.1	1	U	0.12	1	UJ	0.1
9/17/2005 14:05	SW-010-092005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
11/29/2005 12:05	SW-010-122005	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
3/27/2006 11:15	SW-010-032006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
6/19/2006 12:15	SW-010-062006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
9/25/2006 13:45	SW-010-092006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
12/7/2006 11:15	SW-010-122006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
2/28/2007 9:14	SW-010-032007	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
5/29/2007 16:15	SW-010-052007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
9/5/2007 10:30	SW-010-092007	1	UJ	0.069	1	UJ	0.059	1	UJ	0.068	1	UJ	0.056
12/4/2007 9:35	SW-010-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/4/2008 10:15	SW-010-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/18/2008 11:00	SW-010-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 14:00	SW-010-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
11/12/2008 12:30	SW-010-122008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 11:25	SW-010-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 13:50	SW-010-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 11:15	SW-010-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
11/12/2009 9:45	SW-010-122009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
1/28/2010 10:20	SW-010-012010	1	U	0.1									
5/6/2010 10:55	SW-010-042010	1	U	0.1									

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-010-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71
3/15/2005 12:00	SW-010-032005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
6/11/2005 16:00	SW-010-062005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
9/17/2005 14:05	SW-010-092005	1	U	0.13	1	U	0.13	1	UJ	0.13	1	U	0.11
11/29/2005 12:05	SW-010-122005	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
3/27/2006 11:15	SW-010-032006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
6/19/2006 12:15	SW-010-062006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
9/25/2006 13:45	SW-010-092006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
12/7/2006 11:15	SW-010-122006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
2/28/2007 9:14	SW-010-032007	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
5/29/2007 16:15	SW-010-052007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
9/5/2007 10:30	SW-010-092007	1	UJ	0.069	1	UJ	0.047	1	UJ	0.036	1	UJ	0.11
12/4/2007 9:35	SW-010-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/4/2008 10:15	SW-010-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/18/2008 11:00	SW-010-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 14:00	SW-010-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
11/12/2008 12:30	SW-010-122008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 11:25	SW-010-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 13:50	SW-010-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 11:15	SW-010-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
11/12/2009 9:45	SW-010-122009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

		tert-Butyl Methyl Ether			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	Compound	(MTBE)											
	CAS #	1634-04-4			98-06-6			127-18-4			108-88-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96
3/15/2005 12:00	SW-010-032005	1	U	0.22	1	U	0.15	1	U	0.12	1	U	0.11
6/11/2005 16:00	SW-010-062005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	UJ	0.11
9/17/2005 14:05	SW-010-092005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	U	0.11
11/29/2005 12:05	SW-010-122005	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
3/27/2006 11:15	SW-010-032006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
6/19/2006 12:15	SW-010-062006	2	U	0.1	2	U	0.17	2	U	0.115	0.28	J	0.105
9/25/2006 13:45	SW-010-092006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
12/7/2006 11:15	SW-010-122006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
2/28/2007 9:14	SW-010-032007	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
5/29/2007 16:15	SW-010-052007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
9/5/2007 10:30	SW-010-092007	1	UJ	0.052	1	UJ	0.056	1	UJ	0.056	1	UJ	0.059
12/4/2007 9:35	SW-010-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/4/2008 10:15	SW-010-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/18/2008 11:00	SW-010-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 14:00	SW-010-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
11/12/2008 12:30	SW-010-122008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 11:25	SW-010-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 13:50	SW-010-062009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/4/2009 11:15	SW-010-092009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
11/12/2009 9:45	SW-010-122009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
1/28/2010 10:20	SW-010-012010												
5/6/2010 10:55	SW-010-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28 Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004	5	U	0.98	5	U	1.03	5	U	0.67			
3/15/2005 12:00	SW-010-032005	1	U	0.1	1	U	0.1	13		0.12	1	U	0.1
6/11/2005 16:00	SW-010-062005	1	U	0.1	1	UJ	0.1	12		0.12	1	UJ	0.1
9/17/2005 14:05	SW-010-092005	1	U	0.1	1	U	0.1	7		0.12	1	U	0.1
11/29/2005 12:05	SW-010-122005	2	U	0.152	2	U	0.1	12		0.151	2	U	0.111
3/27/2006 11:15	SW-010-032006	2	U	0.152	2	U	0.1	8.83		0.151	2	U	0.111
6/19/2006 12:15	SW-010-062006	2	U	0.152	2	U	0.1	8.88		0.151	2	U	0.111
9/25/2006 13:45	SW-010-092006	2	U	0.152	2	U	0.1	23.8		0.151	2	UJ	0.111
12/7/2006 11:15	SW-010-122006	2	U	0.152	2	U	0.1	15.2		0.151	2	U	0.111
2/28/2007 9:14	SW-010-032007	2	U	0.152	2	U	0.1	14.2		0.151	2	U	0.111
5/29/2007 16:15	SW-010-052007	1	U	0.1	1	U	0.1	8.2		0.089	1	U	0.038
9/5/2007 10:30	SW-010-092007	1	UJ	0.1	1	UJ	0.1	6.7	J	0.089	1	UJ	0.038
12/4/2007 9:35	SW-010-122007	1	U	0.059	1	U	0.053	18		0.058	1	U	0.067
3/4/2008 10:15	SW-010-032008	1	U	0.059	1	U	0.053	6.2		0.058	1	U	0.067
6/18/2008 11:00	SW-010-062008	1	U	0.059	1	U	0.053	5		0.058	1	U	0.067
8/27/2008 14:00	SW-010-092008	1	U	0.059	1	U	0.053	14		0.058	1	U	0.067
11/12/2008 12:30	SW-010-122008	1	U	0.059	1	U	0.053	8.9		0.058	1	U	0.067
2/26/2009 11:25	SW-010-032009	1	U	0.059	1	U	0.053	20		0.058	1	U	0.067
5/18/2009 13:50	SW-010-062009	1	U	0.059	1	U	0.053	11		0.058	1	U	0.067
8/4/2009 11:15	SW-010-092009	1	U	0.14	1	U	0.2	16		0.17	1	U	0.36
11/12/2009 9:45	SW-010-122009	1	U	0.14	1	U	0.2	16		0.17	1	U	0.36
1/28/2010 10:20	SW-010-012010	1	U	0.095				15		0.11			
5/6/2010 10:55	SW-010-042010	1	U	0.095				13		0.11			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-28. Summary of VOCs in Surface Water for Johnson Creek SW-10 (continued)

	Compound	Vinyl Acetate			Vinyl Chloride			Xylenes, Total		
	CAS #	108-05-4			75-01-4			1330-20-7		
	Units	µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-010-112004				10	U	0.35	5	U	3.05
3/15/2005 12:00	SW-010-032005				0.4	U	0.09			
6/11/2005 16:00	SW-010-062005				0.4	U	0.09			
9/17/2005 14:05	SW-010-092005				0.4	U	0.09			
11/29/2005 12:05	SW-010-122005	2	U	0.5	2	U	0.239			
3/27/2006 11:15	SW-010-032006	2	U	0.15	2	U	0.239			
6/19/2006 12:15	SW-010-062006	2	U	0.15	2	U	0.239			
9/25/2006 13:45	SW-010-092006	2	U	0.15	2	U	0.239			
12/7/2006 11:15	SW-010-122006	2	U	0.15	2	U	0.239			
2/28/2007 9:14	SW-010-032007	2	U	0.15	2	U	0.239			
5/29/2007 16:15	SW-010-052007				1	UJ	0.092	1	U	0.097
9/5/2007 10:30	SW-010-092007				1	UJ	0.092	1	UJ	0.097
12/4/2007 9:35	SW-010-122007				1	U	0.062	1	U	0.097
3/4/2008 10:15	SW-010-032008				1	U	0.062	1	U	0.097
6/18/2008 11:00	SW-010-062008				1	U	0.062	1	U	0.097
8/27/2008 14:00	SW-010-092008				1	U	0.062	1	U	0.097
11/12/2008 12:30	SW-010-122008				1	U	0.062	1	U	0.097
2/26/2009 11:25	SW-010-032009				1	U	0.062	1	U	0.097
5/18/2009 13:50	SW-010-062009				1	U	0.062	1	U	0.097
8/4/2009 11:15	SW-010-092009				1	U	0.34	1	U	0.4
11/12/2009 9:45	SW-010-122009				1	U	0.34	1	U	0.4
1/28/2010 10:20	SW-010-012010				1	U	0.079			
5/6/2010 10:55	SW-010-042010				1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloroethane		
	CAS #	630-20-6			71-55-6			79-34-5			79-00-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	0.71	5	U	0.82	5	UJ	2.58	5	U	0.99

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene			1,2,3-Trichlorobenzene		
	CAS #	75-34-3			75-35-4			563-58-6			87-61-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	0.8	5	U	0.98	5	U	1	5	UJ	1.32

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	120-82-1			95-63-6			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	1.36	5	U	1.95	5	U	0.93	5	U	1.29

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene			1,3-Dichloropropane		
	CAS #	78-87-5			108-67-8			541-73-1			142-28-9		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	0.97	5	U	1.47	5	U	0.39	5	U	1.2

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	1,4-Dichlorobenzene			2-Butanone (MEK)			2-Chlorotoluene			2-Hexanone		
	CAS #	106-46-7			78-93-3			95-49-8			591-78-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	0.86	10	U	2.21	5	U	1.05	10	UJ	0.83

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)			Acetone			Benzene		
	CAS #	106-43-4			108-10-1			67-64-1			71-43-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	0.95	10	UJ	1.01	10	U	2.35	5	U	0.99

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	Bromobenzene			Bromochloromethane			Bromodichloromethane			Bromoform		
	CAS #	108-86-1			74-97-5			75-27-4			75-25-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	1.24	5	U	0.72	5	U	0.72	5	U	1.01

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	Bromomethane			Carbon Disulfide			Carbon Tetrachloride			Chlorobenzene		
	CAS #	74-83-9			75-15-0			56-23-5			108-90-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	10	U	0.66	5	U	0.45	5	U	0.96	5	U	0.64

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	Chloroethane			Chloroform			Chloromethane			cis-1,2-Dichloroethene		
	CAS #	75-00-3			67-66-3			74-87-3			156-59-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	10	U	1.42	5	U	0.95	10	U	0.47	5	U	0.77

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	cis-1,3-Dichloropropene			Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane		
	CAS #	10061-01-5			124-48-1			74-95-3			75-71-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	1.03	5	U	0.88	5	U	0.76	10	U	0.86

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	Ethylbenzene			Hexachlorobutadiene			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	100-41-4			87-68-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	0.79	5	U	0.83	5	U	0.83	5	U	2.05

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	4	J	4.95	5	UJ	3.57	5	U	1.94	5	U	1.82

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	ert-Butyl Methyl Ether (MTBE)			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	CAS #	1634-04-4			98-06-6			127-18-4			108-88-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Vinyl Chloride		
	CAS #	156-60-5			10061-02-6			79-01-6			75-01-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	0.98	5	U	1.03	5	U	0.67	10	U	0.35

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-29 Summary of VOCs in Surface Water for Clear Creek SW-07 (continued)

	Compound	Xylenes, Total		
	CAS #	1330-20-7		
	Units	µg/L		
Sample Date	Field Sample ID	Result	Q	MDL
11/30/2004	SW-07-112004	5	U	3.05

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	0.71	5	U	0.82	5	UJ	2.58			
3/19/2005 13:00	SW-009-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	UJ	0.13
6/12/2005 15:05	SW-009-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	UJ	0.13
9/17/2005 13:05	SW-009-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/30/2005 13:05	SW-009-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/27/2006 15:15	SW-009-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/20/2006 7:30	SW-009-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 10:55	SW-009-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 10:55	SW-009-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/28/2007 11:05	SW-009-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/29/2007 15:00	SW-009-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/4/2007 12:50	SW-009-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	U	0.059
12/3/2007 11:40	SW-009-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/3/2008 12:30	SW-009-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 12:30	SW-009-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 11:25	SW-009-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 14:05	SW-009-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 12:15	SW-009-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 15:40	SW-009-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 12:40	SW-009-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 10:05	SW-009-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	0.99	5	U	0.8	5	U	0.98	5	U	1
3/19/2005 13:00	SW-009-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/12/2005 15:05	SW-009-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/17/2005 13:05	SW-009-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/30/2005 13:05	SW-009-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/27/2006 15:15	SW-009-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/20/2006 7:30	SW-009-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 10:55	SW-009-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 10:55	SW-009-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/28/2007 11:05	SW-009-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/29/2007 15:00	SW-009-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/4/2007 12:50	SW-009-092007	1	UJ	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/3/2007 11:40	SW-009-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/3/2008 12:30	SW-009-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 12:30	SW-009-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 11:25	SW-009-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 14:05	SW-009-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 12:15	SW-009-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 15:40	SW-009-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 12:40	SW-009-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 10:05	SW-009-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	UJ	1.32				5	U	1.36	5	U	1.95
3/19/2005 13:00	SW-009-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/12/2005 15:05	SW-009-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/17/2005 13:05	SW-009-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/30/2005 13:05	SW-009-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/27/2006 15:15	SW-009-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/20/2006 7:30	SW-009-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 10:55	SW-009-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 10:55	SW-009-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/28/2007 11:05	SW-009-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/29/2007 15:00	SW-009-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/4/2007 12:50	SW-009-092007	1	U	0.064				1	U	0.042	1	U	0.096
12/3/2007 11:40	SW-009-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/3/2008 12:30	SW-009-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 12:30	SW-009-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 11:25	SW-009-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 14:05	SW-009-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 12:15	SW-009-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 15:40	SW-009-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 12:40	SW-009-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 10:05	SW-009-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004							5	U	0.93	5	U	1.29
3/19/2005 13:00	SW-009-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/12/2005 15:05	SW-009-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/17/2005 13:05	SW-009-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/30/2005 13:05	SW-009-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/27/2006 15:15	SW-009-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/20/2006 7:30	SW-009-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 10:55	SW-009-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 10:55	SW-009-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/28/2007 11:05	SW-009-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/29/2007 15:00	SW-009-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/4/2007 12:50	SW-009-092007	1	UJ	0.13	1	U	0.077	1	U	0.062	1	U	0.063
12/3/2007 11:40	SW-009-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/3/2008 12:30	SW-009-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 12:30	SW-009-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 11:25	SW-009-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 14:05	SW-009-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 12:15	SW-009-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 15:40	SW-009-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 12:40	SW-009-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 10:05	SW-009-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
11/30/2004	SW-09-112004				5	U	0.97	5	U	1.47	5	U	0.39
3/19/2005 13:00	SW-009-032005				1	U	0.15	1	U	0.09	1	U	0.1
6/12/2005 15:05	SW-009-062005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
9/17/2005 13:05	SW-009-092005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
11/30/2005 13:05	SW-009-122005				2	U	0.119	2	U	0.113	2	U	0.189
3/27/2006 15:15	SW-009-032006				2	U	0.119	2	U	0.113	2	U	0.189
6/20/2006 7:30	SW-009-062006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 10:55	SW-009-092006				2	U	0.119	2	U	0.113	2	U	0.189
12/7/2006 10:55	SW-009-122006				2	U	0.119	2	U	0.113	2	U	0.189
2/28/2007 11:05	SW-009-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/29/2007 15:00	SW-009-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/4/2007 12:50	SW-009-092007	1	U	0.14	1	UJ	0.088	1	U	0.064	1	U	0.071
12/3/2007 11:40	SW-009-122007	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/3/2008 12:30	SW-009-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 12:30	SW-009-062008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 11:25	SW-009-092008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 14:05	SW-009-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 12:15	SW-009-032009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 15:40	SW-009-062009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 12:40	SW-009-092009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 10:05	SW-009-122009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 10:00	SW-009-012010				1	U	0.068						
5/6/2010 10:35	SW-009-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	1.2	5	U	0.86				10	U	2.21
3/19/2005 13:00	SW-009-032005	0.5	U	0.14	0.5	U	0.12				1	UJ	0.23
6/12/2005 15:05	SW-009-062005	0.5	UJ	0.14	0.5	UJ	0.12				1	UJ	0.23
9/17/2005 13:05	SW-009-092005	0.5	U	0.14	0.5	UJ	0.12				1	U	0.23
11/30/2005 13:05	SW-009-122005	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
3/27/2006 15:15	SW-009-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
6/20/2006 7:30	SW-009-062006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 10:55	SW-009-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
12/7/2006 10:55	SW-009-122006	2	U	0.107	2	U	0.15	2	U	0.108	4	U	0.481
2/28/2007 11:05	SW-009-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/29/2007 15:00	SW-009-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/4/2007 12:50	SW-009-092007	1	U	0.066	1	U	0.037				5	U	0.72
12/3/2007 11:40	SW-009-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/3/2008 12:30	SW-009-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 12:30	SW-009-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 11:25	SW-009-092008	1	U	0.054	1	U	0.079				2.8	J	0.78
11/12/2008 14:05	SW-009-122008	1	U	0.054	1	U	0.079				3	J	0.78
2/26/2009 12:15	SW-009-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 15:40	SW-009-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 12:40	SW-009-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 10:05	SW-009-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	1.05	10	UJ	0.83	5	U	0.95	10	UJ	1.01
3/19/2005 13:00	SW-009-032005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
6/12/2005 15:05	SW-009-062005	1	UJ	0.09	1	U	0.57	1	UJ	0.1	1	U	0.46
9/17/2005 13:05	SW-009-092005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
11/30/2005 13:05	SW-009-122005	2	U	0.106	2	U	0.163	2	U	0.1	2	UJ	0.128
3/27/2006 15:15	SW-009-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
6/20/2006 7:30	SW-009-062006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 10:55	SW-009-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
12/7/2006 10:55	SW-009-122006	2	U	0.106	4	U	0.163	2	U	0.1	4	U	0.128
2/28/2007 11:05	SW-009-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/29/2007 15:00	SW-009-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/4/2007 12:50	SW-009-092007	1	U	0.062	5	U	0.5	1	U	0.11	5	UJ	0.56
12/3/2007 11:40	SW-009-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/3/2008 12:30	SW-009-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 12:30	SW-009-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 11:25	SW-009-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 14:05	SW-009-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 12:15	SW-009-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 15:40	SW-009-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 12:40	SW-009-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 10:05	SW-009-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	10	U	2.35	5	U	0.99	5	U	1.24	5	U	0.72
3/19/2005 13:00	SW-009-032005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
6/12/2005 15:05	SW-009-062005	5	UJ	1.6	0.5	U	0.15	1	UJ	0.11	1	U	0.14
9/17/2005 13:05	SW-009-092005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
11/30/2005 13:05	SW-009-122005	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
3/27/2006 15:15	SW-009-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
6/20/2006 7:30	SW-009-062006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 10:55	SW-009-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
12/7/2006 10:55	SW-009-122006	4	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/28/2007 11:05	SW-009-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/29/2007 15:00	SW-009-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/4/2007 12:50	SW-009-092007	3	J	1.3	1	U	0.083	1	U	0.051	1	U	0.067
12/3/2007 11:40	SW-009-122007	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/3/2008 12:30	SW-009-032008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 12:30	SW-009-062008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 11:25	SW-009-092008	2.6	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 14:05	SW-009-122008	2.9	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 12:15	SW-009-032009	1.4	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 15:40	SW-009-062009	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 12:40	SW-009-092009	3.6	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 10:05	SW-009-122009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	0.72	5	U	1.01	10	U	0.66	5	U	0.45
3/19/2005 13:00	SW-009-032005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
6/12/2005 15:05	SW-009-062005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	UJ	0.11
9/17/2005 13:05	SW-009-092005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
11/30/2005 13:05	SW-009-122005	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
3/27/2006 15:15	SW-009-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
6/20/2006 7:30	SW-009-062006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 10:55	SW-009-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
12/7/2006 10:55	SW-009-122006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/28/2007 11:05	SW-009-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/29/2007 15:00	SW-009-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/4/2007 12:50	SW-009-092007	1	U	0.088	1	U	0.057	1	U	0.068	1	U	0.067
12/3/2007 11:40	SW-009-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/3/2008 12:30	SW-009-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 12:30	SW-009-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 11:25	SW-009-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
11/12/2008 14:05	SW-009-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 12:15	SW-009-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 15:40	SW-009-062009	1	U	0.031	1	U	0.1	1	U	0.29	1	UJ	0.045
8/4/2009 12:40	SW-009-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 10:05	SW-009-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	0.96	5	U	0.64	10	U	1.42	5	U	0.95
3/19/2005 13:00	SW-009-032005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
6/12/2005 15:05	SW-009-062005	1	UJ	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
9/17/2005 13:05	SW-009-092005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
11/30/2005 13:05	SW-009-122005	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
3/27/2006 15:15	SW-009-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
6/20/2006 7:30	SW-009-062006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 10:55	SW-009-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
12/7/2006 10:55	SW-009-122006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
2/28/2007 11:05	SW-009-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/29/2007 15:00	SW-009-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/4/2007 12:50	SW-009-092007	1	U	0.063	1	U	0.059	1	U	0.13	1	U	0.052
12/3/2007 11:40	SW-009-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/3/2008 12:30	SW-009-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 12:30	SW-009-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 11:25	SW-009-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 14:05	SW-009-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 12:15	SW-009-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 15:40	SW-009-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 12:40	SW-009-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 10:05	SW-009-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane		
	CAS #	74-87-3			156-59-2			10061-01-5			110-82-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	10	U	0.47	5	U	0.77	5	U	1.03			
3/19/2005 13:00	SW-009-032005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
6/12/2005 15:05	SW-009-062005	1	U	0.08	1	U	0.09	0.5	UJ	0.12	1	UJ	0.15
9/17/2005 13:05	SW-009-092005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
11/30/2005 13:05	SW-009-122005	2	U	0.173	2	U	0.151	2	U	0.1			
3/27/2006 15:15	SW-009-032006	2	U	0.173	2	U	0.151	2	U	0.1			
6/20/2006 7:30	SW-009-062006	2	U	0.173	2	U	0.151	2	U	0.1			
9/25/2006 10:55	SW-009-092006	2	U	0.173	2	U	0.151	2	U	0.1			
12/7/2006 10:55	SW-009-122006	2	U	0.173	2	U	0.151	2	U	0.1			
2/28/2007 11:05	SW-009-032007	2	U	0.173	2	U	0.151	2	U	0.1			
5/29/2007 15:00	SW-009-052007	1	UJ	0.052	1	U	0.11	1	U	0.09			
9/4/2007 12:50	SW-009-092007	1	UJ	0.052	1	U	0.11	1	U	0.09			
12/3/2007 11:40	SW-009-122007	1	U	0.11	1	U	0.065	1	U	0.049			
3/3/2008 12:30	SW-009-032008	1	U	0.11	1	U	0.065	1	U	0.049			
6/18/2008 12:30	SW-009-062008	1	U	0.11	1	U	0.065	1	U	0.049			
8/27/2008 11:25	SW-009-092008	1	UJ	0.11	1	U	0.065	1	U	0.049			
11/12/2008 14:05	SW-009-122008	1	U	0.11	1	U	0.065	1	U	0.049			
2/26/2009 12:15	SW-009-032009	1	U	0.11	1	U	0.065	1	U	0.049			
5/18/2009 15:40	SW-009-062009	1	U	0.11	1	U	0.065	1	U	0.049			
8/4/2009 12:40	SW-009-092009	1	U	0.28	1	U	0.18	1	U	0.18			
11/12/2009 10:05	SW-009-122009	1	U	0.28	1	U	0.18	1	U	0.18			
1/28/2010 10:00	SW-009-012010				1	U	0.069						
5/6/2010 10:35	SW-009-042010				1	U	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane			Ethylbenzene		
	CAS #	124-48-1			74-95-3			75-71-8			100-41-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	0.88	5	U	0.76	10	U	0.86	5	U	0.79
3/19/2005 13:00	SW-009-032005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
6/12/2005 15:05	SW-009-062005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
9/17/2005 13:05	SW-009-092005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
11/30/2005 13:05	SW-009-122005	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
3/27/2006 15:15	SW-009-032006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
6/20/2006 7:30	SW-009-062006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
9/25/2006 10:55	SW-009-092006	2	UJ	0.133	2	U	0.1	2	U	0.5	2	U	0.1
12/7/2006 10:55	SW-009-122006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
2/28/2007 11:05	SW-009-032007	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
5/29/2007 15:00	SW-009-052007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
9/4/2007 12:50	SW-009-092007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
12/3/2007 11:40	SW-009-122007	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
3/3/2008 12:30	SW-009-032008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
6/18/2008 12:30	SW-009-062008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/27/2008 11:25	SW-009-092008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
11/12/2008 14:05	SW-009-122008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
2/26/2009 12:15	SW-009-032009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
5/18/2009 15:40	SW-009-062009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/4/2009 12:40	SW-009-092009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
11/12/2009 10:05	SW-009-122009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	Hexachlorobutadiene			ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	87-68-3			108-20-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	0.83				5	U	0.83	5	U	2.05
3/19/2005 13:00	SW-009-032005	1	U	0.15				1	U	0.12	1	U	0.24
6/12/2005 15:05	SW-009-062005	1	U	0.15				1	UJ	0.12	1	U	0.24
9/17/2005 13:05	SW-009-092005	1	U	0.15				1	UJ	0.12	1	U	0.24
11/30/2005 13:05	SW-009-122005	2	U	0.192				2	U	0.1	2	U	0.216
3/27/2006 15:15	SW-009-032006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
6/20/2006 7:30	SW-009-062006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
9/25/2006 10:55	SW-009-092006	2	UJ	0.192	2	UJ	0.5	2	U	0.1	2	U	0.216
12/7/2006 10:55	SW-009-122006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
2/28/2007 11:05	SW-009-032007	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
5/29/2007 15:00	SW-009-052007	1	U	0.075				1	UJ	0.078	1	U	0.097
9/4/2007 12:50	SW-009-092007	1	U	0.075				1	U	0.078	1	U	0.097
12/3/2007 11:40	SW-009-122007	1	U	0.091				1	U	0.039	1	U	0.097
3/3/2008 12:30	SW-009-032008	1	U	0.091				1	U	0.039	1	U	0.097
6/18/2008 12:30	SW-009-062008	1	U	0.091				1	U	0.039	1	U	0.097
8/27/2008 11:25	SW-009-092008	1	U	0.091				1	U	0.039	1	U	0.097
11/12/2008 14:05	SW-009-122008	1	U	0.091				1	U	0.039	1	U	0.097
2/26/2009 12:15	SW-009-032009	1	U	0.091				1	U	0.039	1	U	0.097
5/18/2009 15:40	SW-009-062009	1	U	0.091				1	U	0.039	1	U	0.097
8/4/2009 12:40	SW-009-092009	1	U	0.21				1	U	0.22	1	U	0.4
11/12/2009 10:05	SW-009-122009	1	U	0.21				1	U	0.22	1	U	0.4
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	3	J	4.95	5	UJ	3.57	5	U	1.94	5	U	1.82
3/19/2005 13:00	SW-009-032005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
6/12/2005 15:05	SW-009-062005	1	U	0.42	1	U	0.1	1	U	0.12	1	UJ	0.1
9/17/2005 13:05	SW-009-092005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
11/30/2005 13:05	SW-009-122005	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
3/27/2006 15:15	SW-009-032006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
6/20/2006 7:30	SW-009-062006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
9/25/2006 10:55	SW-009-092006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
12/7/2006 10:55	SW-009-122006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
2/28/2007 11:05	SW-009-032007	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
5/29/2007 15:00	SW-009-052007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
9/4/2007 12:50	SW-009-092007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
12/3/2007 11:40	SW-009-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/3/2008 12:30	SW-009-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/18/2008 12:30	SW-009-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 11:25	SW-009-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
11/12/2008 14:05	SW-009-122008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 12:15	SW-009-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 15:40	SW-009-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 12:40	SW-009-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
11/12/2009 10:05	SW-009-122009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
1/28/2010 10:00	SW-009-012010	1	U	0.1									
5/6/2010 10:35	SW-009-042010	1	U	0.1									

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71
3/19/2005 13:00	SW-009-032005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
6/12/2005 15:05	SW-009-062005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
9/17/2005 13:05	SW-009-092005	1	U	0.13	1	U	0.13	1	UJ	0.13	1	U	0.11
11/30/2005 13:05	SW-009-122005	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
3/27/2006 15:15	SW-009-032006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
6/20/2006 7:30	SW-009-062006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
9/25/2006 10:55	SW-009-092006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
12/7/2006 10:55	SW-009-122006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
2/28/2007 11:05	SW-009-032007	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
5/29/2007 15:00	SW-009-052007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
9/4/2007 12:50	SW-009-092007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
12/3/2007 11:40	SW-009-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/3/2008 12:30	SW-009-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/18/2008 12:30	SW-009-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 11:25	SW-009-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
11/12/2008 14:05	SW-009-122008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 12:15	SW-009-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 15:40	SW-009-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 12:40	SW-009-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
11/12/2009 10:05	SW-009-122009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

		tert-Butyl Methyl Ether			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	Compound	(MTBE)											
	CAS #	1634-04-4			98-06-6			127-18-4			108-88-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96
3/19/2005 13:00	SW-009-032005	1	U	0.22	1	U	0.15	1	U	0.12	0.29	J	0.11
6/12/2005 15:05	SW-009-062005	1	U	0.22	1	UJ	0.15	1	UJ	0.12	1	UJ	0.11
9/17/2005 13:05	SW-009-092005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	U	0.11
11/30/2005 13:05	SW-009-122005	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
3/27/2006 15:15	SW-009-032006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
6/20/2006 7:30	SW-009-062006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
9/25/2006 10:55	SW-009-092006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
12/7/2006 10:55	SW-009-122006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
2/28/2007 11:05	SW-009-032007	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
5/29/2007 15:00	SW-009-052007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
9/4/2007 12:50	SW-009-092007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
12/3/2007 11:40	SW-009-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/3/2008 12:30	SW-009-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/18/2008 12:30	SW-009-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 11:25	SW-009-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
11/12/2008 14:05	SW-009-122008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 12:15	SW-009-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 15:40	SW-009-062009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/4/2009 12:40	SW-009-092009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
11/12/2009 10:05	SW-009-122009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
1/28/2010 10:00	SW-009-012010												
5/6/2010 10:35	SW-009-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004	5	U	0.98	5	U	1.03	5	U	0.67			
3/19/2005 13:00	SW-009-032005	1	U	0.1	1	U	0.1	1	U	0.12	1	U	0.1
6/12/2005 15:05	SW-009-062005	1	U	0.1	1	UJ	0.1	1	UJ	0.12	1	UJ	0.1
9/17/2005 13:05	SW-009-092005	1	U	0.1	1	U	0.1	1	U	0.12	1	U	0.1
11/30/2005 13:05	SW-009-122005	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
3/27/2006 15:15	SW-009-032006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
6/20/2006 7:30	SW-009-062006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
9/25/2006 10:55	SW-009-092006	2	U	0.152	2	U	0.1	2	U	0.151	2	UJ	0.111
12/7/2006 10:55	SW-009-122006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
2/28/2007 11:05	SW-009-032007	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
5/29/2007 15:00	SW-009-052007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
9/4/2007 12:50	SW-009-092007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
12/3/2007 11:40	SW-009-122007	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
3/3/2008 12:30	SW-009-032008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
6/18/2008 12:30	SW-009-062008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/27/2008 11:25	SW-009-092008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
11/12/2008 14:05	SW-009-122008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
2/26/2009 12:15	SW-009-032009	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
5/18/2009 15:40	SW-009-062009	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/4/2009 12:40	SW-009-092009	1	U	0.14	1	U	0.2	1	U	0.17	1	U	0.36
11/12/2009 10:05	SW-009-122009	1	U	0.14	1	U	0.2	1	U	0.17	1	U	0.36
1/28/2010 10:00	SW-009-012010	1	U	0.095				1	U	0.11			
5/6/2010 10:35	SW-009-042010	1	U	0.095				1	U	0.11			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-30 Summary of VOCs in Surface Water for Clear Creek SW-09 (continued)

	Compound	Vinyl Acetate			Vinyl Chloride			Xylenes, Total		
	CAS #	108-05-4			75-01-4			1330-20-7		
	Units	µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-09-112004				10	U	0.35	5	U	3.05
3/19/2005 13:00	SW-009-032005				0.4	U	0.09			
6/12/2005 15:05	SW-009-062005				0.4	U	0.09			
9/17/2005 13:05	SW-009-092005				0.4	U	0.09			
11/30/2005 13:05	SW-009-122005	2	U	0.5	2	U	0.239			
3/27/2006 15:15	SW-009-032006	2	U	0.15	2	U	0.239			
6/20/2006 7:30	SW-009-062006	2	U	0.15	2	U	0.239			
9/25/2006 10:55	SW-009-092006	2	U	0.15	2	U	0.239			
12/7/2006 10:55	SW-009-122006	2	U	0.15	2	U	0.239			
2/28/2007 11:05	SW-009-032007	2	U	0.15	2	U	0.239			
5/29/2007 15:00	SW-009-052007				1	UJ	0.092	1	U	0.097
9/4/2007 12:50	SW-009-092007				1	U	0.092	1	U	0.097
12/3/2007 11:40	SW-009-122007				1	U	0.062	1	U	0.097
3/3/2008 12:30	SW-009-032008				1	U	0.062	1	U	0.097
6/18/2008 12:30	SW-009-062008				1	U	0.062	1	U	0.097
8/27/2008 11:25	SW-009-092008				1	U	0.062	1	U	0.097
11/12/2008 14:05	SW-009-122008				1	U	0.062	1	U	0.097
2/26/2009 12:15	SW-009-032009				1	U	0.062	1	U	0.097
5/18/2009 15:40	SW-009-062009				1	U	0.062	1	U	0.097
8/4/2009 12:40	SW-009-092009				1	U	0.34	1	U	0.4
11/12/2009 10:05	SW-009-122009				1	U	0.34	1	U	0.4
1/28/2010 10:00	SW-009-012010				1	U	0.079			
5/6/2010 10:35	SW-009-042010				1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	0.71	5	U	0.82	5	U	2.58			
3/15/2005 12:00	SW-011-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	U	0.13
6/12/2005 14:00	SW-011-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	UJ	0.13
9/17/2005 13:00	SW-011-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/30/2005 9:05	SW-011-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/27/2006 11:00	SW-011-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/19/2006 13:15	SW-011-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 14:25	SW-011-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 12:00	SW-011-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/28/2007 10:00	SW-011-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/30/2007 9:00	SW-011-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/5/2007 9:10	SW-011-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	UJ	0.059
12/3/2007 10:45	SW-011-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/3/2008 11:30	SW-011-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/17/2008 13:00	SW-011-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 13:00	SW-011-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 12:15	SW-011-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 11:00	SW-011-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 14:30	SW-011-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 10:50	SW-011-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 9:30	SW-011-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	0.99	5	U	0.8	5	U	0.98	5	U	1
3/15/2005 12:00	SW-011-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/12/2005 14:00	SW-011-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/17/2005 13:00	SW-011-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/30/2005 9:05	SW-011-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/27/2006 11:00	SW-011-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/19/2006 13:15	SW-011-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 14:25	SW-011-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 12:00	SW-011-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/28/2007 10:00	SW-011-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/30/2007 9:00	SW-011-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/5/2007 9:10	SW-011-092007	1	U	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/3/2007 10:45	SW-011-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/3/2008 11:30	SW-011-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/17/2008 13:00	SW-011-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 13:00	SW-011-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 12:15	SW-011-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 11:00	SW-011-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 14:30	SW-011-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 10:50	SW-011-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 9:30	SW-011-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	UJ	1.32				5	U	1.36	5	U	1.95
3/15/2005 12:00	SW-011-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/12/2005 14:00	SW-011-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/17/2005 13:00	SW-011-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/30/2005 9:05	SW-011-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/27/2006 11:00	SW-011-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/19/2006 13:15	SW-011-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 14:25	SW-011-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 12:00	SW-011-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/28/2007 10:00	SW-011-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/30/2007 9:00	SW-011-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/5/2007 9:10	SW-011-092007	1	U	0.064				1	U	0.042	1	U	0.096
12/3/2007 10:45	SW-011-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/3/2008 11:30	SW-011-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/17/2008 13:00	SW-011-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 13:00	SW-011-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 12:15	SW-011-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 11:00	SW-011-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 14:30	SW-011-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 10:50	SW-011-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 9:30	SW-011-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004							5	U	0.93	5	U	1.29
3/15/2005 12:00	SW-011-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/12/2005 14:00	SW-011-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/17/2005 13:00	SW-011-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/30/2005 9:05	SW-011-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/27/2006 11:00	SW-011-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/19/2006 13:15	SW-011-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 14:25	SW-011-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 12:00	SW-011-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/28/2007 10:00	SW-011-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/30/2007 9:00	SW-011-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/5/2007 9:10	SW-011-092007	1	UJ	0.13	1	U	0.077	1	U	0.062	1	U	0.063
12/3/2007 10:45	SW-011-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/3/2008 11:30	SW-011-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/17/2008 13:00	SW-011-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 13:00	SW-011-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 12:15	SW-011-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 11:00	SW-011-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 14:30	SW-011-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 10:50	SW-011-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 9:30	SW-011-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004				5	U	0.97	5	U	1.47	5	U	0.39
3/15/2005 12:00	SW-011-032005				1	U	0.15	1	U	0.09	1	U	0.1
6/12/2005 14:00	SW-011-062005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
9/17/2005 13:00	SW-011-092005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
11/30/2005 9:05	SW-011-122005				2	U	0.119	2	U	0.113	2	U	0.189
3/27/2006 11:00	SW-011-032006				2	U	0.119	2	U	0.113	2	U	0.189
6/19/2006 13:15	SW-011-062006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 14:25	SW-011-092006				2	U	0.119	2	U	0.113	2	U	0.189
12/7/2006 12:00	SW-011-122006				2	U	0.119	2	U	0.113	2	U	0.189
2/28/2007 10:00	SW-011-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/30/2007 9:00	SW-011-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/5/2007 9:10	SW-011-092007	1	U	0.14	1	UJ	0.088	1	U	0.064	1	U	0.071
12/3/2007 10:45	SW-011-122007	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/3/2008 11:30	SW-011-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/17/2008 13:00	SW-011-062008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 13:00	SW-011-092008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 12:15	SW-011-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 11:00	SW-011-032009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 14:30	SW-011-062009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 10:50	SW-011-092009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 9:30	SW-011-122009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 9:45	SW-011-012010				1	U	0.068						
5/6/2010 10:20	SW-011-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	1.2	5	U	0.86				10	UJ	2.21
3/15/2005 12:00	SW-011-032005	0.5	U	0.14	0.5	U	0.12				1	U	0.23
6/12/2005 14:00	SW-011-062005	0.5	UJ	0.14	0.5	UJ	0.12				1	UJ	0.23
9/17/2005 13:00	SW-011-092005	0.5	U	0.14	0.5	UJ	0.12				1	U	0.23
11/30/2005 9:05	SW-011-122005	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
3/27/2006 11:00	SW-011-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
6/19/2006 13:15	SW-011-062006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 14:25	SW-011-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
12/7/2006 12:00	SW-011-122006	2	U	0.107	2	U	0.15	2	U	0.108	4	U	0.481
2/28/2007 10:00	SW-011-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/30/2007 9:00	SW-011-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/5/2007 9:10	SW-011-092007	1	U	0.066	1	U	0.037				5	U	0.72
12/3/2007 10:45	SW-011-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/3/2008 11:30	SW-011-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/17/2008 13:00	SW-011-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 13:00	SW-011-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 12:15	SW-011-122008	1	U	0.054	1	U	0.079				4.9	J	0.78
2/26/2009 11:00	SW-011-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 14:30	SW-011-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 10:50	SW-011-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 9:30	SW-011-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	1.05	10	UJ	0.83	5	U	0.95	10	UJ	1.01
3/15/2005 12:00	SW-011-032005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
6/12/2005 14:00	SW-011-062005	1	UJ	0.09	1	U	0.57	1	UJ	0.1	1	U	0.46
9/17/2005 13:00	SW-011-092005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
11/30/2005 9:05	SW-011-122005	2	U	0.106	2	U	0.163	2	U	0.1	2	UJ	0.128
3/27/2006 11:00	SW-011-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
6/19/2006 13:15	SW-011-062006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 14:25	SW-011-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
12/7/2006 12:00	SW-011-122006	2	U	0.106	4	U	0.163	2	U	0.1	4	U	0.128
2/28/2007 10:00	SW-011-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/30/2007 9:00	SW-011-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/5/2007 9:10	SW-011-092007	1	U	0.062	5	U	0.5	1	U	0.11	5	UJ	0.56
12/3/2007 10:45	SW-011-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/3/2008 11:30	SW-011-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/17/2008 13:00	SW-011-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 13:00	SW-011-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 12:15	SW-011-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 11:00	SW-011-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 14:30	SW-011-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 10:50	SW-011-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 9:30	SW-011-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	10	UJ	2.35	5	U	0.99	5	U	1.24	5	U	0.72
3/15/2005 12:00	SW-011-032005	5	U	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
6/12/2005 14:00	SW-011-062005	5	UJ	1.6	0.5	U	0.15	1	UJ	0.11	1	U	0.14
9/17/2005 13:00	SW-011-092005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
11/30/2005 9:05	SW-011-122005	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
3/27/2006 11:00	SW-011-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
6/19/2006 13:15	SW-011-062006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 14:25	SW-011-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
12/7/2006 12:00	SW-011-122006	4	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/28/2007 10:00	SW-011-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/30/2007 9:00	SW-011-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/5/2007 9:10	SW-011-092007	2.8	J	1.3	1	U	0.083	1	U	0.051	1	U	0.067
12/3/2007 10:45	SW-011-122007	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/3/2008 11:30	SW-011-032008	2.8	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/17/2008 13:00	SW-011-062008	2.8	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 13:00	SW-011-092008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 12:15	SW-011-122008	2.5	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 11:00	SW-011-032009	2.2	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 14:30	SW-011-062009	2.9	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 10:50	SW-011-092009	3.6	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 9:30	SW-011-122009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	0.72	5	U	1.01	10	U	0.66	5	U	0.45
3/15/2005 12:00	SW-011-032005	0.5	U	0.14	1	U	0.09	1	UJ	0.18	1	U	0.11
6/12/2005 14:00	SW-011-062005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	UJ	0.11
9/17/2005 13:00	SW-011-092005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
11/30/2005 9:05	SW-011-122005	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
3/27/2006 11:00	SW-011-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
6/19/2006 13:15	SW-011-062006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 14:25	SW-011-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
12/7/2006 12:00	SW-011-122006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/28/2007 10:00	SW-011-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/30/2007 9:00	SW-011-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/5/2007 9:10	SW-011-092007	1	U	0.088	1	U	0.057	1	U	0.068	1	U	0.067
12/3/2007 10:45	SW-011-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/3/2008 11:30	SW-011-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/17/2008 13:00	SW-011-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 13:00	SW-011-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
11/12/2008 12:15	SW-011-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 11:00	SW-011-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 14:30	SW-011-062009	1	U	0.031	1	U	0.1	1	U	0.29	1	UJ	0.045
8/4/2009 10:50	SW-011-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 9:30	SW-011-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	0.96	5	U	0.64	10	U	1.42	5	U	0.95
3/15/2005 12:00	SW-011-032005	1	U	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
6/12/2005 14:00	SW-011-062005	1	UJ	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
9/17/2005 13:00	SW-011-092005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
11/30/2005 9:05	SW-011-122005	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
3/27/2006 11:00	SW-011-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
6/19/2006 13:15	SW-011-062006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 14:25	SW-011-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
12/7/2006 12:00	SW-011-122006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
2/28/2007 10:00	SW-011-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/30/2007 9:00	SW-011-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/5/2007 9:10	SW-011-092007	1	U	0.063	1	U	0.059	1	U	0.13	1	U	0.052
12/3/2007 10:45	SW-011-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/3/2008 11:30	SW-011-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/17/2008 13:00	SW-011-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 13:00	SW-011-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 12:15	SW-011-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 11:00	SW-011-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 14:30	SW-011-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 10:50	SW-011-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 9:30	SW-011-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane		
	CAS #	74-87-3			156-59-2			10061-01-5			110-82-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	10	U	0.47	5	U	0.77	5	U	1.03			
3/15/2005 12:00	SW-011-032005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
6/12/2005 14:00	SW-011-062005	1	U	0.08	1	U	0.09	0.5	UJ	0.12	1	UJ	0.15
9/17/2005 13:00	SW-011-092005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
11/30/2005 9:05	SW-011-122005	2	U	0.173	2	U	0.151	2	U	0.1			
3/27/2006 11:00	SW-011-032006	2	U	0.173	2	U	0.151	2	U	0.1			
6/19/2006 13:15	SW-011-062006	2	U	0.173	2	U	0.151	2	U	0.1			
9/25/2006 14:25	SW-011-092006	2	U	0.173	2	U	0.151	2	U	0.1			
12/7/2006 12:00	SW-011-122006	2	U	0.173	2	U	0.151	2	U	0.1			
2/28/2007 10:00	SW-011-032007	2	U	0.173	2	U	0.151	2	U	0.1			
5/30/2007 9:00	SW-011-052007	1	UJ	0.052	1	U	0.11	1	U	0.09			
9/5/2007 9:10	SW-011-092007	1	UJ	0.052	1	U	0.11	1	U	0.09			
12/3/2007 10:45	SW-011-122007	1	U	0.11	1	U	0.065	1	U	0.049			
3/3/2008 11:30	SW-011-032008	1	U	0.11	1	U	0.065	1	U	0.049			
6/17/2008 13:00	SW-011-062008	1	U	0.11	1	U	0.065	1	U	0.049			
8/27/2008 13:00	SW-011-092008	1	UJ	0.11	1	U	0.065	1	U	0.049			
11/12/2008 12:15	SW-011-122008	1	U	0.11	1	U	0.065	1	U	0.049			
2/26/2009 11:00	SW-011-032009	1	U	0.11	1	U	0.065	1	U	0.049			
5/18/2009 14:30	SW-011-062009	1	U	0.11	1	U	0.065	1	U	0.049			
8/4/2009 10:50	SW-011-092009	1	U	0.28	1	U	0.18	1	U	0.18			
11/12/2009 9:30	SW-011-122009	1	U	0.28	1	U	0.18	1	U	0.18			
1/28/2010 9:45	SW-011-012010				1	U	0.069						
5/6/2010 10:20	SW-011-042010				1	U	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane			Ethylbenzene		
	CAS #	124-48-1			74-95-3			75-71-8			100-41-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	0.88	5	U	0.76	10	U	0.86	5	U	0.79
3/15/2005 12:00	SW-011-032005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
6/12/2005 14:00	SW-011-062005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
9/17/2005 13:00	SW-011-092005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
11/30/2005 9:05	SW-011-122005	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
3/27/2006 11:00	SW-011-032006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
6/19/2006 13:15	SW-011-062006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
9/25/2006 14:25	SW-011-092006	2	UJ	0.133	2	U	0.1	2	U	0.5	2	U	0.1
12/7/2006 12:00	SW-011-122006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
2/28/2007 10:00	SW-011-032007	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
5/30/2007 9:00	SW-011-052007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
9/5/2007 9:10	SW-011-092007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
12/3/2007 10:45	SW-011-122007	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
3/3/2008 11:30	SW-011-032008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
6/17/2008 13:00	SW-011-062008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/27/2008 13:00	SW-011-092008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
11/12/2008 12:15	SW-011-122008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
2/26/2009 11:00	SW-011-032009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
5/18/2009 14:30	SW-011-062009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/4/2009 10:50	SW-011-092009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
11/12/2009 9:30	SW-011-122009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	Hexachlorobutadiene			ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	87-68-3			108-20-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	0.83				5	U	0.83	5	U	2.05
3/15/2005 12:00	SW-011-032005	1	U	0.15				1	U	0.12	1	U	0.24
6/12/2005 14:00	SW-011-062005	1	U	0.15				1	UJ	0.12	1	U	0.24
9/17/2005 13:00	SW-011-092005	1	U	0.15				1	UJ	0.12	1	U	0.24
11/30/2005 9:05	SW-011-122005	2	U	0.192				2	U	0.1	2	U	0.216
3/27/2006 11:00	SW-011-032006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
6/19/2006 13:15	SW-011-062006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
9/25/2006 14:25	SW-011-092006	2	UJ	0.192	2	UJ	0.5	2	U	0.1	2	U	0.216
12/7/2006 12:00	SW-011-122006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
2/28/2007 10:00	SW-011-032007	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
5/30/2007 9:00	SW-011-052007	1	U	0.075				1	UJ	0.078	1	U	0.097
9/5/2007 9:10	SW-011-092007	1	U	0.075				1	U	0.078	1	U	0.097
12/3/2007 10:45	SW-011-122007	1	U	0.091				1	U	0.039	1	U	0.097
3/3/2008 11:30	SW-011-032008	1	U	0.091				1	U	0.039	1	U	0.097
6/17/2008 13:00	SW-011-062008	1	U	0.091				1	U	0.039	1	U	0.097
8/27/2008 13:00	SW-011-092008	1	U	0.091				1	U	0.039	1	U	0.097
11/12/2008 12:15	SW-011-122008	1	U	0.091				1	U	0.039	1	U	0.097
2/26/2009 11:00	SW-011-032009	1	U	0.091				1	U	0.039	1	U	0.097
5/18/2009 14:30	SW-011-062009	1	U	0.091				1	U	0.039	1	U	0.097
8/4/2009 10:50	SW-011-092009	1	U	0.21				1	U	0.22	1	U	0.4
11/12/2009 9:30	SW-011-122009	1	U	0.21				1	U	0.22	1	U	0.4
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	4.95	5	UJ	3.57	5	U	1.94	5	U	1.82
3/15/2005 12:00	SW-011-032005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
6/12/2005 14:00	SW-011-062005	1	U	0.42	1	U	0.1	1	U	0.12	1	UJ	0.1
9/17/2005 13:00	SW-011-092005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
11/30/2005 9:05	SW-011-122005	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
3/27/2006 11:00	SW-011-032006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
6/19/2006 13:15	SW-011-062006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
9/25/2006 14:25	SW-011-092006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
12/7/2006 12:00	SW-011-122006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
2/28/2007 10:00	SW-011-032007	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
5/30/2007 9:00	SW-011-052007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
9/5/2007 9:10	SW-011-092007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
12/3/2007 10:45	SW-011-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/3/2008 11:30	SW-011-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/17/2008 13:00	SW-011-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 13:00	SW-011-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
11/12/2008 12:15	SW-011-122008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 11:00	SW-011-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 14:30	SW-011-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 10:50	SW-011-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
11/12/2009 9:30	SW-011-122009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
1/28/2010 9:45	SW-011-012010	1	U	0.1									
5/6/2010 10:20	SW-011-042010	1	U	0.1									

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71
3/15/2005 12:00	SW-011-032005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
6/12/2005 14:00	SW-011-062005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
9/17/2005 13:00	SW-011-092005	1	U	0.13	1	U	0.13	1	UJ	0.13	1	U	0.11
11/30/2005 9:05	SW-011-122005	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
3/27/2006 11:00	SW-011-032006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
6/19/2006 13:15	SW-011-062006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
9/25/2006 14:25	SW-011-092006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
12/7/2006 12:00	SW-011-122006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
2/28/2007 10:00	SW-011-032007	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
5/30/2007 9:00	SW-011-052007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
9/5/2007 9:10	SW-011-092007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
12/3/2007 10:45	SW-011-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/3/2008 11:30	SW-011-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/17/2008 13:00	SW-011-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 13:00	SW-011-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
11/12/2008 12:15	SW-011-122008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 11:00	SW-011-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 14:30	SW-011-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 10:50	SW-011-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
11/12/2009 9:30	SW-011-122009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

		tert-Butyl Methyl Ether			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	Compound	**(MTBE)**											
	CAS #	**1634-04-4**			**98-06-6**			**127-18-4**			**108-88-3**		
	Units	**µg/L**			**µg/L**			**µg/L**			**µg/L**		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
12/1/2004	SW-011-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96
3/15/2005 12:00	SW-011-032005	1	U	0.22	1	U	0.15	1	U	0.12	1	U	0.11
6/12/2005 14:00	SW-011-062005	1	U	0.22	1	UJ	0.15	1	UJ	0.12	1	UJ	0.11
9/17/2005 13:00	SW-011-092005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	U	0.11
11/30/2005 9:05	SW-011-122005	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
3/27/2006 11:00	SW-011-032006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
6/19/2006 13:15	SW-011-062006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
9/25/2006 14:25	SW-011-092006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
12/7/2006 12:00	SW-011-122006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
2/28/2007 10:00	SW-011-032007	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
5/30/2007 9:00	SW-011-052007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
9/5/2007 9:10	SW-011-092007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
12/3/2007 10:45	SW-011-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/3/2008 11:30	SW-011-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/17/2008 13:00	SW-011-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 13:00	SW-011-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
11/12/2008 12:15	SW-011-122008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 11:00	SW-011-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 14:30	SW-011-062009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/4/2009 10:50	SW-011-092009	1	U	0.21	1	U	0.23	1	U	0.34	0.25	J	0.19
11/12/2009 9:30	SW-011-122009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
1/28/2010 9:45	SW-011-012010												
5/6/2010 10:20	SW-011-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004	5	U	0.98	5	U	1.03	12		0.67			
3/15/2005 12:00	SW-011-032005	1	U	0.1	1	U	0.1	1	U	0.12	1	U	0.1
6/12/2005 14:00	SW-011-062005	1	U	0.1	1	UJ	0.1	1	UJ	0.12	1	UJ	0.1
9/17/2005 13:00	SW-011-092005	1	U	0.1	1	U	0.1	1	U	0.12	1	U	0.1
11/30/2005 9:05	SW-011-122005	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
3/27/2006 11:00	SW-011-032006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
6/19/2006 13:15	SW-011-062006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
9/25/2006 14:25	SW-011-092006	2	U	0.152	2	U	0.1	2	U	0.151	2	UJ	0.111
12/7/2006 12:00	SW-011-122006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
2/28/2007 10:00	SW-011-032007	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
5/30/2007 9:00	SW-011-052007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
9/5/2007 9:10	SW-011-092007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
12/3/2007 10:45	SW-011-122007	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
3/3/2008 11:30	SW-011-032008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
6/17/2008 13:00	SW-011-062008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/27/2008 13:00	SW-011-092008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
11/12/2008 12:15	SW-011-122008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
2/26/2009 11:00	SW-011-032009	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
5/18/2009 14:30	SW-011-062009	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/4/2009 10:50	SW-011-092009	1	U	0.14	1	U	0.2	1	U	0.17	1	U	0.36
11/12/2009 9:30	SW-011-122009	1	U	0.14	1	U	0.2	1	U	0.17	1	U	0.36
1/28/2010 9:45	SW-011-012010	1	U	0.095				1	U	0.11			
5/6/2010 10:20	SW-011-042010	1	U	0.095				1	U	0.11			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-31 Summary of VOCs in Surface Water for Clear Creek SW-11 (continued)

	Compound	Vinyl Acetate			Vinyl Chloride			Xylenes, Total		
	CAS #	108-05-4			75-01-4			1330-20-7		
	Units	µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
12/1/2004	SW-011-112004				10	U	0.35	5	U	3.05
3/15/2005 12:00	SW-011-032005				0.4	U	0.09			
6/12/2005 14:00	SW-011-062005				0.4	U	0.09			
9/17/2005 13:00	SW-011-092005				0.4	U	0.09			
11/30/2005 9:05	SW-011-122005	2	U	0.5	2	U	0.239			
3/27/2006 11:00	SW-011-032006	2	U	0.15	2	U	0.239			
6/19/2006 13:15	SW-011-062006	2	U	0.15	2	U	0.239			
9/25/2006 14:25	SW-011-092006	2	U	0.15	2	U	0.239			
12/7/2006 12:00	SW-011-122006	2	U	0.15	2	U	0.239			
2/28/2007 10:00	SW-011-032007	2	U	0.15	2	U	0.239			
5/30/2007 9:00	SW-011-052007				1	UJ	0.092	1	U	0.097
9/5/2007 9:10	SW-011-092007				1	U	0.092	1	U	0.097
12/3/2007 10:45	SW-011-122007				1	U	0.062	1	U	0.097
3/3/2008 11:30	SW-011-032008				1	U	0.062	1	U	0.097
6/17/2008 13:00	SW-011-062008				1	U	0.062	1	U	0.097
8/27/2008 13:00	SW-011-092008				1	U	0.062	1	U	0.097
11/12/2008 12:15	SW-011-122008				1	U	0.062	1	U	0.097
2/26/2009 11:00	SW-011-032009				1	U	0.062	1	U	0.097
5/18/2009 14:30	SW-011-062009				1	U	0.062	1	U	0.097
8/4/2009 10:50	SW-011-092009				1	U	0.34	1	U	0.4
11/12/2009 9:30	SW-011-122009				1	U	0.34	1	U	0.4
1/28/2010 9:45	SW-011-012010				1	U	0.079			
5/6/2010 10:20	SW-011-042010				1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	0.71	5	U	0.82	5	UJ	2.58			
3/20/2005 10:00	SW-012-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	UJ	0.13
6/12/2005 14:01	SW-012-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	UJ	0.13
9/18/2005 12:00	SW-012-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/30/2005 10:05	SW-012-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/27/2006 11:45	SW-012-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/19/2006 13:45	SW-012-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 11:15	SW-012-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 11:40	SW-012-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/28/2007 9:45	SW-012-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/30/2007 8:20	SW-012-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/5/2007 8:40	SW-012-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	UJ	0.059
12/4/2007 8:40	SW-012-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/4/2008 8:00	SW-012-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 10:10	SW-012-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 12:30	SW-012-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 11:55	SW-012-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	UJ	0.062
2/26/2009 10:35	SW-012-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 14:20	SW-012-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 10:00	SW-012-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 9:20	SW-012-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	0.99	5	U	0.8	5	U	0.98	5	U	1
3/20/2005 10:00	SW-012-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/12/2005 14:01	SW-012-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/18/2005 12:00	SW-012-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/30/2005 10:05	SW-012-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/27/2006 11:45	SW-012-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/19/2006 13:45	SW-012-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 11:15	SW-012-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 11:40	SW-012-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/28/2007 9:45	SW-012-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/30/2007 8:20	SW-012-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/5/2007 8:40	SW-012-092007	1	U	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/4/2007 8:40	SW-012-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/4/2008 8:00	SW-012-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 10:10	SW-012-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 12:30	SW-012-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 11:55	SW-012-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 10:35	SW-012-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 14:20	SW-012-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 10:00	SW-012-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 9:20	SW-012-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	UJ	1.32				5	U	1.36	5	U	1.95
3/20/2005 10:00	SW-012-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/12/2005 14:01	SW-012-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/18/2005 12:00	SW-012-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/30/2005 10:05	SW-012-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/27/2006 11:45	SW-012-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/19/2006 13:45	SW-012-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 11:15	SW-012-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 11:40	SW-012-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/28/2007 9:45	SW-012-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/30/2007 8:20	SW-012-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/5/2007 8:40	SW-012-092007	1	U	0.064				1	U	0.042	1	U	0.096
12/4/2007 8:40	SW-012-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/4/2008 8:00	SW-012-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 10:10	SW-012-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 12:30	SW-012-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 11:55	SW-012-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 10:35	SW-012-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 14:20	SW-012-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 10:00	SW-012-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 9:20	SW-012-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
11/29/2004	SW-012-112004							5	U	0.93	5	U	1.29
3/20/2005 10:00	SW-012-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/12/2005 14:01	SW-012-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/18/2005 12:00	SW-012-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/30/2005 10:05	SW-012-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/27/2006 11:45	SW-012-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/19/2006 13:45	SW-012-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 11:15	SW-012-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 11:40	SW-012-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/28/2007 9:45	SW-012-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/30/2007 8:20	SW-012-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/5/2007 8:40	SW-012-092007	1	UJ	0.13	1	U	0.077	1	U	0.062	1	U	0.063
12/4/2007 8:40	SW-012-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/4/2008 8:00	SW-012-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 10:10	SW-012-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 12:30	SW-012-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 11:55	SW-012-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 10:35	SW-012-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 14:20	SW-012-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 10:00	SW-012-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 9:20	SW-012-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004				5	U	0.97	5	U	1.47	5	U	0.39
3/20/2005 10:00	SW-012-032005				1	U	0.15	1	U	0.09	1	U	0.1
6/12/2005 14:01	SW-012-062005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
9/18/2005 12:00	SW-012-092005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
11/30/2005 10:05	SW-012-122005				2	U	0.119	2	U	0.113	2	U	0.189
3/27/2006 11:45	SW-012-032006				2	U	0.119	2	U	0.113	2	U	0.189
6/19/2006 13:45	SW-012-062006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 11:15	SW-012-092006				2	U	0.119	2	U	0.113	2	U	0.189
12/7/2006 11:40	SW-012-122006				2	U	0.119	2	U	0.113	2	U	0.189
2/28/2007 9:45	SW-012-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/30/2007 8:20	SW-012-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/5/2007 8:40	SW-012-092007	1	U	0.14	1	UJ	0.088	1	U	0.064	1	U	0.071
12/4/2007 8:40	SW-012-122007	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/4/2008 8:00	SW-012-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 10:10	SW-012-062008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 12:30	SW-012-092008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 11:55	SW-012-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 10:35	SW-012-032009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 14:20	SW-012-062009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 10:00	SW-012-092009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 9:20	SW-012-122009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 9:28	SW-012-012010				1	U	0.068						
5/6/2010 10:10	SW-012-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	1.2	5	U	0.86				10	U	2.21
3/20/2005 10:00	SW-012-032005	0.5	U	0.14	0.5	U	0.12				1	UJ	0.23
6/12/2005 14:01	SW-012-062005	0.5	UJ	0.14	0.5	UJ	0.12				1	UJ	0.23
9/18/2005 12:00	SW-012-092005	0.5	U	0.14	0.5	UJ	0.12				1	U	0.23
11/30/2005 10:05	SW-012-122005	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
3/27/2006 11:45	SW-012-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
6/19/2006 13:45	SW-012-062006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 11:15	SW-012-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
12/7/2006 11:40	SW-012-122006	2	U	0.107	2	U	0.15	2	U	0.108	4	U	0.481
2/28/2007 9:45	SW-012-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/30/2007 8:20	SW-012-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/5/2007 8:40	SW-012-092007	1	U	0.066	1	U	0.037				5	U	0.72
12/4/2007 8:40	SW-012-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/4/2008 8:00	SW-012-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 10:10	SW-012-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 12:30	SW-012-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 11:55	SW-012-122008	1	U	0.054	1	U	0.079				5.2		0.78
2/26/2009 10:35	SW-012-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 14:20	SW-012-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 10:00	SW-012-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 9:20	SW-012-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	1.05	10	UJ	0.83	5	U	0.95	10	UJ	1.01
3/20/2005 10:00	SW-012-032005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
6/12/2005 14:01	SW-012-062005	1	UJ	0.09	1	U	0.57	1	UJ	0.1	1	U	0.46
9/18/2005 12:00	SW-012-092005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
11/30/2005 10:05	SW-012-122005	2	U	0.106	2	U	0.163	2	U	0.1	2	UJ	0.128
3/27/2006 11:45	SW-012-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
6/19/2006 13:45	SW-012-062006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 11:15	SW-012-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
12/7/2006 11:40	SW-012-122006	2	U	0.106	4	U	0.163	2	U	0.1	4	U	0.128
2/28/2007 9:45	SW-012-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/30/2007 8:20	SW-012-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/5/2007 8:40	SW-012-092007	1	U	0.062	5	U	0.5	1	U	0.11	5	UJ	0.56
12/4/2007 8:40	SW-012-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/4/2008 8:00	SW-012-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 10:10	SW-012-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 12:30	SW-012-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 11:55	SW-012-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 10:35	SW-012-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 14:20	SW-012-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 10:00	SW-012-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 9:20	SW-012-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	10	U	2.35	5	U	0.99	5	U	1.24	5	U	0.72
3/20/2005 10:00	SW-012-032005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
6/12/2005 14:01	SW-012-062005	5	UJ	1.6	0.5	U	0.15	1	UJ	0.11	1	U	0.14
9/18/2005 12:00	SW-012-092005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
11/30/2005 10:05	SW-012-122005	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
3/27/2006 11:45	SW-012-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
6/19/2006 13:45	SW-012-062006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 11:15	SW-012-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
12/7/2006 11:40	SW-012-122006	4	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/28/2007 9:45	SW-012-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/30/2007 8:20	SW-012-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/5/2007 8:40	SW-012-092007	3.6	J	1.3	1	U	0.083	1	U	0.051	1	U	0.067
12/4/2007 8:40	SW-012-122007	2.5	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/4/2008 8:00	SW-012-032008	3	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 10:10	SW-012-062008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 12:30	SW-012-092008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 11:55	SW-012-122008	2.2	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 10:35	SW-012-032009	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 14:20	SW-012-062009	1.6	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 10:00	SW-012-092009	2.4	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 9:20	SW-012-122009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	0.72	5	U	1.01	10	U	0.66	5	U	0.45
3/20/2005 10:00	SW-012-032005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
6/12/2005 14:01	SW-012-062005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	UJ	0.11
9/18/2005 12:00	SW-012-092005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
11/30/2005 10:05	SW-012-122005	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
3/27/2006 11:45	SW-012-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
6/19/2006 13:45	SW-012-062006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 11:15	SW-012-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
12/7/2006 11:40	SW-012-122006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/28/2007 9:45	SW-012-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/30/2007 8:20	SW-012-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/5/2007 8:40	SW-012-092007	1	U	0.088	1	U	0.057	1	U	0.068	1	U	0.067
12/4/2007 8:40	SW-012-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/4/2008 8:00	SW-012-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 10:10	SW-012-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 12:30	SW-012-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	UJ	0.045
11/12/2008 11:55	SW-012-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	UJ	0.045
2/26/2009 10:35	SW-012-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 14:20	SW-012-062009	1	U	0.031	1	U	0.1	1	U	0.29	1	UJ	0.045
8/4/2009 10:00	SW-012-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 9:20	SW-012-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	0.96	5	U	0.64	10	U	1.42	5	U	0.95
3/20/2005 10:00	SW-012-032005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
6/12/2005 14:01	SW-012-062005	1	UJ	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
9/18/2005 12:00	SW-012-092005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
11/30/2005 10:05	SW-012-122005	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
3/27/2006 11:45	SW-012-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
6/19/2006 13:45	SW-012-062006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 11:15	SW-012-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
12/7/2006 11:40	SW-012-122006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
2/28/2007 9:45	SW-012-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/30/2007 8:20	SW-012-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/5/2007 8:40	SW-012-092007	1	U	0.063	1	U	0.059	1	U	0.13	1	U	0.052
12/4/2007 8:40	SW-012-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/4/2008 8:00	SW-012-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 10:10	SW-012-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 12:30	SW-012-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 11:55	SW-012-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 10:35	SW-012-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 14:20	SW-012-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 10:00	SW-012-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 9:20	SW-012-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane		
	CAS #	74-87-3			156-59-2			10061-01-5			110-82-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	10	U	0.47	5	U	0.77	5	U	1.03			
3/20/2005 10:00	SW-012-032005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
6/12/2005 14:01	SW-012-062005	1	U	0.08	1	U	0.09	0.5	UJ	0.12	1	UJ	0.15
9/18/2005 12:00	SW-012-092005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
11/30/2005 10:05	SW-012-122005	2	U	0.173	2	U	0.151	2	U	0.1			
3/27/2006 11:45	SW-012-032006	2	U	0.173	2	U	0.151	2	U	0.1			
6/19/2006 13:45	SW-012-062006	2	U	0.173	2	U	0.151	2	U	0.1			
9/25/2006 11:15	SW-012-092006	2	U	0.173	2	U	0.151	2	U	0.1			
12/7/2006 11:40	SW-012-122006	2	U	0.173	2	U	0.151	2	U	0.1			
2/28/2007 9:45	SW-012-032007	2	U	0.173	2	U	0.151	2	U	0.1			
5/30/2007 8:20	SW-012-052007	1	UJ	0.052	1	U	0.11	1	U	0.09			
9/5/2007 8:40	SW-012-092007	1	UJ	0.052	1	U	0.11	1	U	0.09			
12/4/2007 8:40	SW-012-122007	1	U	0.11	1	U	0.065	1	U	0.049			
3/4/2008 8:00	SW-012-032008	1	U	0.11	1	U	0.065	1	U	0.049			
6/18/2008 10:10	SW-012-062008	1	U	0.11	1	U	0.065	1	U	0.049			
8/27/2008 12:30	SW-012-092008	1	UJ	0.11	1	U	0.065	1	U	0.049			
11/12/2008 11:55	SW-012-122008	1	U	0.11	1	U	0.065	1	U	0.049			
2/26/2009 10:35	SW-012-032009	1	U	0.11	1	U	0.065	1	U	0.049			
5/18/2009 14:20	SW-012-062009	1	U	0.11	1	U	0.065	1	U	0.049			
8/4/2009 10:00	SW-012-092009	1	U	0.28	1	U	0.18	1	U	0.18			
11/12/2009 9:20	SW-012-122009	1	U	0.28	1	U	0.18	1	U	0.18			
1/28/2010 9:28	SW-012-012010				1	U	0.069						
5/6/2010 10:10	SW-012-042010				1	U	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane			Ethylbenzene		
	CAS #	124-48-1			74-95-3			75-71-8			100-41-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	0.88	5	U	0.76	10	U	0.86	5	U	0.79
3/20/2005 10:00	SW-012-032005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
6/12/2005 14:01	SW-012-062005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
9/18/2005 12:00	SW-012-092005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
11/30/2005 10:05	SW-012-122005	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
3/27/2006 11:45	SW-012-032006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
6/19/2006 13:45	SW-012-062006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
9/25/2006 11:15	SW-012-092006	2	UJ	0.133	2	U	0.1	2	U	0.5	2	U	0.1
12/7/2006 11:40	SW-012-122006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
2/28/2007 9:45	SW-012-032007	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
5/30/2007 8:20	SW-012-052007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
9/5/2007 8:40	SW-012-092007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
12/4/2007 8:40	SW-012-122007	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
3/4/2008 8:00	SW-012-032008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
6/18/2008 10:10	SW-012-062008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/27/2008 12:30	SW-012-092008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
11/12/2008 11:55	SW-012-122008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
2/26/2009 10:35	SW-012-032009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
5/18/2009 14:20	SW-012-062009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/4/2009 10:00	SW-012-092009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
11/12/2009 9:20	SW-012-122009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	Hexachlorobutadiene			ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	87-68-3			108-20-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	0.83				5	U	0.83	5	U	2.05
3/20/2005 10:00	SW-012-032005	1	U	0.15				1	U	0.12	1	U	0.24
6/12/2005 14:01	SW-012-062005	1	U	0.15				1	UJ	0.12	1	U	0.24
9/18/2005 12:00	SW-012-092005	1	U	0.15				1	UJ	0.12	1	U	0.24
11/30/2005 10:05	SW-012-122005	2	U	0.192				2	U	0.1	2	U	0.216
3/27/2006 11:45	SW-012-032006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
6/19/2006 13:45	SW-012-062006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
9/25/2006 11:15	SW-012-092006	2	UJ	0.192	2	UJ	0.5	2	U	0.1	2	U	0.216
12/7/2006 11:40	SW-012-122006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
2/28/2007 9:45	SW-012-032007	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
5/30/2007 8:20	SW-012-052007	1	U	0.075				1	UJ	0.078	1	U	0.097
9/5/2007 8:40	SW-012-092007	1	U	0.075				1	U	0.078	1	U	0.097
12/4/2007 8:40	SW-012-122007	1	U	0.091				1	U	0.039	1	U	0.097
3/4/2008 8:00	SW-012-032008	1	U	0.091				1	U	0.039	1	U	0.097
6/18/2008 10:10	SW-012-062008	1	U	0.091				1	U	0.039	1	U	0.097
8/27/2008 12:30	SW-012-092008	1	U	0.091				1	UJ	0.039	1	U	0.097
11/12/2008 11:55	SW-012-122008	1	U	0.091				1	U	0.039	1	U	0.097
2/26/2009 10:35	SW-012-032009	1	U	0.091				1	U	0.039	1	U	0.097
5/18/2009 14:20	SW-012-062009	1	U	0.091				1	U	0.039	1	U	0.097
8/4/2009 10:00	SW-012-092009	1	U	0.21				1	U	0.22	1	U	0.4
11/12/2009 9:20	SW-012-122009	1	U	0.21				1	U	0.22	1	U	0.4
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	3	J	4.95	5	UJ	3.57	5	U	1.94	5	U	1.82
3/20/2005 10:00	SW-012-032005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
6/12/2005 14:01	SW-012-062005	1	U	0.42	1	U	0.1	1	U	0.12	1	UJ	0.1
9/18/2005 12:00	SW-012-092005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
11/30/2005 10:05	SW-012-122005	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
3/27/2006 11:45	SW-012-032006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
6/19/2006 13:45	SW-012-062006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
9/25/2006 11:15	SW-012-092006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
12/7/2006 11:40	SW-012-122006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
2/28/2007 9:45	SW-012-032007	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
5/30/2007 8:20	SW-012-052007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
9/5/2007 8:40	SW-012-092007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
12/4/2007 8:40	SW-012-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/4/2008 8:00	SW-012-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/18/2008 10:10	SW-012-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 12:30	SW-012-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
11/12/2008 11:55	SW-012-122008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 10:35	SW-012-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 14:20	SW-012-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 10:00	SW-012-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
11/12/2009 9:20	SW-012-122009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
1/28/2010 9:28	SW-012-012010	1	U	0.1									
5/6/2010 10:10	SW-012-042010	1	U	0.1									

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	0.49	5	U	1.5	5	U	1.74	5	U	0.71
3/20/2005 10:00	SW-012-032005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
6/12/2005 14:01	SW-012-062005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
9/18/2005 12:00	SW-012-092005	1	U	0.13	1	U	0.13	1	UJ	0.13	1	U	0.11
11/30/2005 10:05	SW-012-122005	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
3/27/2006 11:45	SW-012-032006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
6/19/2006 13:45	SW-012-062006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
9/25/2006 11:15	SW-012-092006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
12/7/2006 11:40	SW-012-122006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
2/28/2007 9:45	SW-012-032007	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
5/30/2007 8:20	SW-012-052007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
9/5/2007 8:40	SW-012-092007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
12/4/2007 8:40	SW-012-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/4/2008 8:00	SW-012-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/18/2008 10:10	SW-012-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 12:30	SW-012-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
11/12/2008 11:55	SW-012-122008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 10:35	SW-012-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 14:20	SW-012-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 10:00	SW-012-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
11/12/2009 9:20	SW-012-122009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

		tert-Butyl Methyl Ether			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	Compound	**(MTBE)**											
	CAS #	**1634-04-4**			**98-06-6**			**127-18-4**			**108-88-3**		
	Units	**µg/L**			**µg/L**			**µg/L**			**µg/L**		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
11/29/2004	SW-012-112004	5	U	0.49	5	U	1.07	5	U	0.68	5	U	0.96
3/20/2005 10:00	SW-012-032005	1	U	0.22	1	U	0.15	1	U	0.12	1	U	0.11
6/12/2005 14:01	SW-012-062005	1	U	0.22	1	UJ	0.15	1	UJ	0.12	1	UJ	0.11
9/18/2005 12:00	SW-012-092005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	U	0.11
11/30/2005 10:05	SW-012-122005	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
3/27/2006 11:45	SW-012-032006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
6/19/2006 13:45	SW-012-062006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
9/25/2006 11:15	SW-012-092006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
12/7/2006 11:40	SW-012-122006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
2/28/2007 9:45	SW-012-032007	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
5/30/2007 8:20	SW-012-052007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
9/5/2007 8:40	SW-012-092007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
12/4/2007 8:40	SW-012-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/4/2008 8:00	SW-012-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/18/2008 10:10	SW-012-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 12:30	SW-012-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
11/12/2008 11:55	SW-012-122008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 10:35	SW-012-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 14:20	SW-012-062009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/4/2009 10:00	SW-012-092009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
11/12/2009 9:20	SW-012-122009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
1/28/2010 9:28	SW-012-012010												
5/6/2010 10:10	SW-012-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004	5	U	0.98	5	U	1.03	5	U	0.67			
3/20/2005 10:00	SW-012-032005	1	U	0.1	1	U	0.1	0.84	J	0.12	1	U	0.1
6/12/2005 14:01	SW-012-062005	1	U	0.1	1	UJ	0.1	1.6	J	0.12	1	UJ	0.1
9/18/2005 12:00	SW-012-092005	1	U	0.1	1	U	0.1	1.2		0.12	1	U	0.1
11/30/2005 10:05	SW-012-122005	2	U	0.152	2	U	0.1	1.42	J	0.151	2	U	0.111
3/27/2006 11:45	SW-012-032006	2	U	0.152	2	U	0.1	0.93	J	0.151	2	U	0.111
6/19/2006 13:45	SW-012-062006	2	U	0.152	2	U	0.1	1.77	J	0.151	2	U	0.111
9/25/2006 11:15	SW-012-092006	2	U	0.152	2	U	0.1	1.05	J	0.151	2	UJ	0.111
12/7/2006 11:40	SW-012-122006	2	U	0.152	2	U	0.1	1.09	J	0.151	2	U	0.111
2/28/2007 9:45	SW-012-032007	2	U	0.152	2	U	0.1	1.04	J	0.151	2	U	0.111
5/30/2007 8:20	SW-012-052007	1	U	0.1	1	U	0.1	1.6		0.089	1	U	0.038
9/5/2007 8:40	SW-012-092007	1	U	0.1	1	U	0.1	0.56	J	0.089	1	U	0.038
12/4/2007 8:40	SW-012-122007	1	U	0.059	1	U	0.053	1.8		0.058	1	U	0.067
3/4/2008 8:00	SW-012-032008	1	U	0.059	1	U	0.053	1.2		0.058	1	U	0.067
6/18/2008 10:10	SW-012-062008	1	U	0.059	1	U	0.053	0.74	J	0.058	1	U	0.067
8/27/2008 12:30	SW-012-092008	1	U	0.059	1	U	0.053	3.5		0.058	1	U	0.067
11/12/2008 11:55	SW-012-122008	1	U	0.059	1	U	0.053	2		0.058	1	U	0.067
2/26/2009 10:35	SW-012-032009	1	U	0.059	1	U	0.053	3.5		0.058	1	U	0.067
5/18/2009 14:20	SW-012-062009	1	U	0.059	1	U	0.053	2.3		0.058	1	U	0.067
8/4/2009 10:00	SW-012-092009	1	U	0.14	1	U	0.2	3.4		0.17	1	U	0.36
11/12/2009 9:20	SW-012-122009	1	U	0.14	1	U	0.2	4.1		0.17	1	U	0.36
1/28/2010 9:28	SW-012-012010	1	U	0.095				2.3		0.11			
5/6/2010 10:10	SW-012-042010	1	U	0.095				2.6	J	0.11			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-32 Summary of VOCs in Surface Water for Clear Creek SW-12 (continued)

	Compound	Vinyl Acetate			Vinyl Chloride			Xylenes, Total		
	CAS #	108-05-4			75-01-4			1330-20-7		
	Units	µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/29/2004	SW-012-112004				10	U	0.35	5	U	3.05
3/20/2005 10:00	SW-012-032005				0.4	U	0.09			
6/12/2005 14:01	SW-012-062005				0.4	U	0.09			
9/18/2005 12:00	SW-012-092005				0.4	U	0.09			
11/30/2005 10:05	SW-012-122005	2	U	0.5	2	U	0.239			
3/27/2006 11:45	SW-012-032006	2	U	0.15	2	U	0.239			
6/19/2006 13:45	SW-012-062006	2	U	0.15	2	U	0.239			
9/25/2006 11:15	SW-012-092006	2	U	0.15	2	U	0.239			
12/7/2006 11:40	SW-012-122006	2	U	0.15	2	U	0.239			
2/28/2007 9:45	SW-012-032007	2	U	0.15	2	U	0.239			
5/30/2007 8:20	SW-012-052007				1	UJ	0.092	1	U	0.097
9/5/2007 8:40	SW-012-092007				1	U	0.092	1	U	0.097
12/4/2007 8:40	SW-012-122007				1	U	0.062	1	U	0.097
3/4/2008 8:00	SW-012-032008				1	U	0.062	1	U	0.097
6/18/2008 10:10	SW-012-062008				1	U	0.062	1	U	0.097
8/27/2008 12:30	SW-012-092008				1	U	0.062	1	U	0.097
11/12/2008 11:55	SW-012-122008				1	U	0.062	1	U	0.097
2/26/2009 10:35	SW-012-032009				1	U	0.062	1	U	0.097
5/18/2009 14:20	SW-012-062009				1	U	0.062	1	U	0.097
8/4/2009 10:00	SW-012-092009				1	U	0.34	1	U	0.4
11/12/2009 9:20	SW-012-122009				1	U	0.34	1	U	0.4
1/28/2010 9:28	SW-012-012010				1	U	0.079			
5/6/2010 10:10	SW-012-042010				1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	0.71	5	U	0.82	5	UJ	2.58			
2/28/2007 10:30	SW-013-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/30/2007 9:40	SW-013-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/5/2007 9:45	SW-013-092007	1	UJ	0.09	1	UJ	0.06	1	UJ	0.12	1	UJ	0.059
12/3/2007 10:50	SW-013-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/3/2008 12:00	SW-013-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 10:40	SW-013-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 13:30	SW-013-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 11:45	SW-013-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 10:15	SW-013-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 15:10	SW-013-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 10:15	SW-013-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 9:05	SW-013-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	0.99	5	U	0.8	5	U	0.98	5	U	1
2/28/2007 10:30	SW-013-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/30/2007 9:40	SW-013-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/5/2007 9:45	SW-013-092007	1	UJ	0.054	1	UJ	0.065	1	UJ	0.094	1	UJ	0.096
12/3/2007 10:50	SW-013-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/3/2008 12:00	SW-013-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 10:40	SW-013-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 13:30	SW-013-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 11:45	SW-013-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 10:15	SW-013-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 15:10	SW-013-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 10:15	SW-013-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 9:05	SW-013-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	UJ	1.32				5	U	1.36	5	U	1.95
2/28/2007 10:30	SW-013-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/30/2007 9:40	SW-013-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/5/2007 9:45	SW-013-092007	1	UJ	0.064				1	UJ	0.042	1	UJ	0.096
12/3/2007 10:50	SW-013-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/3/2008 12:00	SW-013-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 10:40	SW-013-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 13:30	SW-013-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 11:45	SW-013-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 10:15	SW-013-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 15:10	SW-013-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 10:15	SW-013-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 9:05	SW-013-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004							5	U	0.93	5	U	1.29
2/28/2007 10:30	SW-013-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/30/2007 9:40	SW-013-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/5/2007 9:45	SW-013-092007	1	UJ	0.13	1	UJ	0.077	1	UJ	0.062	1	UJ	0.063
12/3/2007 10:50	SW-013-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/3/2008 12:00	SW-013-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 10:40	SW-013-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 13:30	SW-013-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 11:45	SW-013-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 10:15	SW-013-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 15:10	SW-013-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 10:15	SW-013-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 9:05	SW-013-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004				5	U	0.97	5	U	1.47	5	U	0.39
2/28/2007 10:30	SW-013-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/30/2007 9:40	SW-013-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/5/2007 9:45	SW-013-092007	1	UJ	0.14	1	UJ	0.088	1	UJ	0.064	1	UJ	0.071
12/3/2007 10:50	SW-013-122007	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/3/2008 12:00	SW-013-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 10:40	SW-013-062008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 13:30	SW-013-092008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 11:45	SW-013-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 10:15	SW-013-032009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 15:10	SW-013-062009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 10:15	SW-013-092009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 9:05	SW-013-122009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 9:20	SW-013-012010				1	U	0.068						
5/6/2010 10:00	SW-013-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	1.2	5	U	0.86				10	U	2.21
2/28/2007 10:30	SW-013-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/30/2007 9:40	SW-013-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/5/2007 9:45	SW-013-092007	1	UJ	0.066	1	UJ	0.037				5	UJ	0.72
12/3/2007 10:50	SW-013-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/3/2008 12:00	SW-013-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 10:40	SW-013-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 13:30	SW-013-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 11:45	SW-013-122008	1	U	0.054	1	U	0.079				4.8	J	0.78
2/26/2009 10:15	SW-013-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 15:10	SW-013-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 10:15	SW-013-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 9:05	SW-013-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	1.05	10	UJ	0.83	5	U	0.95	10	UJ	1.01
2/28/2007 10:30	SW-013-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/30/2007 9:40	SW-013-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/5/2007 9:45	SW-013-092007	1	UJ	0.062	5	UJ	0.5	1	UJ	0.11	5	UJ	0.56
12/3/2007 10:50	SW-013-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/3/2008 12:00	SW-013-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 10:40	SW-013-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 13:30	SW-013-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 11:45	SW-013-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 10:15	SW-013-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 15:10	SW-013-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 10:15	SW-013-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 9:05	SW-013-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	10	U	2.35	5	U	0.99	5	U	1.24	5	U	0.72
2/28/2007 10:30	SW-013-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/30/2007 9:40	SW-013-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/5/2007 9:45	SW-013-092007	2.9	J	1.3	1	UJ	0.083	1	UJ	0.051	1	UJ	0.067
12/3/2007 10:50	SW-013-122007	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/3/2008 12:00	SW-013-032008	4.3	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 10:40	SW-013-062008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 13:30	SW-013-092008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 11:45	SW-013-122008	3.3	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 10:15	SW-013-032009	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 15:10	SW-013-062009	2.8	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 10:15	SW-013-092009	3.6	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 9:05	SW-013-122009	2	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	0.72	5	U	1.01	10	U	0.66	5	U	0.45
2/28/2007 10:30	SW-013-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/30/2007 9:40	SW-013-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/5/2007 9:45	SW-013-092007	1	UJ	0.088	1	UJ	0.057	1	UJ	0.068	1	UJ	0.067
12/3/2007 10:50	SW-013-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/3/2008 12:00	SW-013-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 10:40	SW-013-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 13:30	SW-013-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
11/12/2008 11:45	SW-013-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 10:15	SW-013-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 15:10	SW-013-062009	1	U	0.031	1	U	0.1	1	U	0.29	1	UJ	0.045
8/4/2009 10:15	SW-013-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 9:05	SW-013-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	0.96	5	U	0.64	10	U	1.42	5	U	0.95
2/28/2007 10:30	SW-013-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/30/2007 9:40	SW-013-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/5/2007 9:45	SW-013-092007	1	UJ	0.063	1	UJ	0.059	1	UJ	0.13	1	UJ	0.052
12/3/2007 10:50	SW-013-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/3/2008 12:00	SW-013-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 10:40	SW-013-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 13:30	SW-013-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 11:45	SW-013-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 10:15	SW-013-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 15:10	SW-013-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 10:15	SW-013-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 9:05	SW-013-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Dibromochloromethane		
	CAS #	74-87-3			156-59-2			10061-01-5			124-48-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	10	U	0.47	5	U	0.77	5	U	1.03	5	U	0.88
2/28/2007 10:30	SW-013-032007	2	U	0.173	2	U	0.151	2	U	0.1	2	U	0.133
5/30/2007 9:40	SW-013-052007	1	UJ	0.052	1	U	0.11	1	U	0.09	1	U	0.077
9/5/2007 9:45	SW-013-092007	1	UJ	0.052	1	UJ	0.11	1	UJ	0.09	1	UJ	0.077
12/3/2007 10:50	SW-013-122007	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
3/3/2008 12:00	SW-013-032008	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
6/18/2008 10:40	SW-013-062008	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
8/27/2008 13:30	SW-013-092008	1	UJ	0.11	1	U	0.065	1	U	0.049	1	U	0.035
11/12/2008 11:45	SW-013-122008	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
2/26/2009 10:15	SW-013-032009	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
5/18/2009 15:10	SW-013-062009	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
8/4/2009 10:15	SW-013-092009	1	U	0.28	1	U	0.18	1	U	0.18	1	U	0.27
11/12/2009 9:05	SW-013-122009	1	U	0.28	1	U	0.18	1	U	0.18	1	U	0.27
1/28/2010 9:20	SW-013-012010				1	U	0.069						
5/6/2010 10:00	SW-013-042010				1	U	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	Dibromomethane			Dichlorodifluoromethane			Ethylbenzene			Hexachlorobutadiene		
	CAS #	74-95-3			75-71-8			100-41-4			87-68-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	0.76	10	U	0.86	5	U	0.79	5	U	0.83
2/28/2007 10:30	SW-013-032007	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
5/30/2007 9:40	SW-013-052007	1	U	0.14	1	U	0.05	1	U	0.076	1	U	0.075
9/5/2007 9:45	SW-013-092007	1	UJ	0.14	1	UJ	0.05	1	UJ	0.076	1	UJ	0.075
12/3/2007 10:50	SW-013-122007	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
3/3/2008 12:00	SW-013-032008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
6/18/2008 10:40	SW-013-062008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
8/27/2008 13:30	SW-013-092008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
11/12/2008 11:45	SW-013-122008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
2/26/2009 10:15	SW-013-032009	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
5/18/2009 15:10	SW-013-062009	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
8/4/2009 10:15	SW-013-092009	1	U	0.21	1	U	0.38	1	U	0.18	1	U	0.21
11/12/2009 9:05	SW-013-122009	1	U	0.21	1	U	0.38	1	U	0.18	1	U	0.21
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene			Methylene Chloride		
	CAS #	108-20-3			98-82-8			136777-61-2			75-09-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004				5	U	0.83	5	U	2.05	3	J	4.95
2/28/2007 10:30	SW-013-032007	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
5/30/2007 9:40	SW-013-052007				1	UJ	0.078	1	U	0.097	1	U	0.069
9/5/2007 9:45	SW-013-092007				1	UJ	0.078	1	UJ	0.097	1	UJ	0.069
12/3/2007 10:50	SW-013-122007				1	U	0.039	1	U	0.097	1	U	0.12
3/3/2008 12:00	SW-013-032008				1	U	0.039	1	U	0.097	1	U	0.12
6/18/2008 10:40	SW-013-062008				1	U	0.039	1	U	0.097	1	U	0.12
8/27/2008 13:30	SW-013-092008				1	U	0.039	1	U	0.097	1	U	0.12
11/12/2008 11:45	SW-013-122008				1	U	0.039	1	U	0.097	1	U	0.12
2/26/2009 10:15	SW-013-032009				1	U	0.039	1	U	0.097	1	U	0.12
5/18/2009 15:10	SW-013-062009				1	U	0.039	1	U	0.097	1	U	0.12
8/4/2009 10:15	SW-013-092009				1	U	0.22	1	U	0.4	1	U	0.25
11/12/2009 9:05	SW-013-122009				1	U	0.22	1	U	0.4	1	U	0.25
1/28/2010 9:20	SW-013-012010										1	U	0.1
5/6/2010 10:00	SW-013-042010										1	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	Naphthalene			n-Butylbenzene			n-Propylbenzene			o-Xylene		
	CAS #	91-20-3			104-51-8			103-65-1			95-47-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	UJ	3.57	5	U	1.94	5	U	1.82	5	U	0.49
2/28/2007 10:30	SW-013-032007	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
5/30/2007 9:40	SW-013-052007	1	U	0.059	1	U	0.068	1	U	0.056	1	U	0.069
9/5/2007 9:45	SW-013-092007	0.42	J	0.059	1	UJ	0.068	1	UJ	0.056	1	UJ	0.069
12/3/2007 10:50	SW-013-122007	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
3/3/2008 12:00	SW-013-032008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
6/18/2008 10:40	SW-013-062008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
8/27/2008 13:30	SW-013-092008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
11/12/2008 11:45	SW-013-122008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
2/26/2009 10:15	SW-013-032009	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
5/18/2009 15:10	SW-013-062009	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
8/4/2009 10:15	SW-013-092009	1	U	0.15	1	U	0.19	1	U	0.22	1	U	0.2
11/12/2009 9:05	SW-013-122009	1	U	0.15	1	U	0.19	1	U	0.22	1	U	0.2
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	p-Cymene (p-Isopropyltoluene)			sec-Butylbenzene			Styrene			tert-Butyl Methyl Ether (MTBE)		
	CAS #	99-87-6			135-98-8			100-42-5			1634-04-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	1.5	5	U	1.74	5	U	0.71	5	U	0.49
2/28/2007 10:30	SW-013-032007	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
5/30/2007 9:40	SW-013-052007	1	U	0.047	1	U	0.036	1	U	0.11	1	U	0.052
9/5/2007 9:45	SW-013-092007	1	UJ	0.047	1	UJ	0.036	1	UJ	0.11	1	UJ	0.052
12/3/2007 10:50	SW-013-122007	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
3/3/2008 12:00	SW-013-032008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
6/18/2008 10:40	SW-013-062008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
8/27/2008 13:30	SW-013-092008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
11/12/2008 11:45	SW-013-122008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
2/26/2009 10:15	SW-013-032009	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
5/18/2009 15:10	SW-013-062009	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
8/4/2009 10:15	SW-013-092009	1	U	0.19	1	U	0.22	1	U	0.19	1	U	0.21
11/12/2009 9:05	SW-013-122009	1	U	0.19	1	U	0.22	1	U	0.19	1	U	0.21
1/28/2010 9:20	SW-013-012010												
5/6/2010 10:00	SW-013-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene			trans-1,2-Dichloroethene		
	CAS #	98-06-6			127-18-4			108-88-3			156-60-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	1.07	5	U	0.68	5	U	0.96	5	U	0.98
2/28/2007 10:30	SW-013-032007	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
5/30/2007 9:40	SW-013-052007	1	U	0.056	1	U	0.056	1	U	0.059	1	U	0.1
9/5/2007 9:45	SW-013-092007	1	UJ	0.056	1	UJ	0.056	1	UJ	0.059	1	UJ	0.1
12/3/2007 10:50	SW-013-122007	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
3/3/2008 12:00	SW-013-032008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
6/18/2008 10:40	SW-013-062008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
8/27/2008 13:30	SW-013-092008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
11/12/2008 11:45	SW-013-122008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
2/26/2009 10:15	SW-013-032009	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
5/18/2009 15:10	SW-013-062009	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
8/4/2009 10:15	SW-013-092009	1	U	0.23	1	U	0.34	1	U	0.19	1	U	0.14
11/12/2009 9:05	SW-013-122009	1	U	0.23	1	U	0.34	1	U	0.19	1	U	0.14
1/28/2010 9:20	SW-013-012010										1	U	0.095
5/6/2010 10:00	SW-013-042010										1	U	0.095

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane			Vinyl Acetate		
	CAS #	10061-02-6			79-01-6			75-69-4			108-05-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	5	U	1.03	5	U	0.67						
2/28/2007 10:30	SW-013-032007	2	U	0.1	1.25	J	0.151	2	U	0.111	2	U	0.15
5/30/2007 9:40	SW-013-052007	1	U	0.1	1.1		0.089	1	U	0.038			
9/5/2007 9:45	SW-013-092007	1	UJ	0.1	1	J	0.089	1	UJ	0.038			
12/3/2007 10:50	SW-013-122007	1	U	0.053	1.6		0.058	1	U	0.067			
3/3/2008 12:00	SW-013-032008	1	U	0.053	1.3		0.058	1	U	0.067			
6/18/2008 10:40	SW-013-062008	1	U	0.053	1.1		0.058	1	U	0.067			
8/27/2008 13:30	SW-013-092008	1	U	0.053	2		0.058	1	U	0.067			
11/12/2008 11:45	SW-013-122008	1	U	0.053	1.2		0.058	1	U	0.067			
2/26/2009 10:15	SW-013-032009	1	U	0.053	1.7		0.058	1	U	0.067			
5/18/2009 15:10	SW-013-062009	1	U	0.053	1.2		0.058	1	U	0.067			
8/4/2009 10:15	SW-013-092009	1	U	0.2	1	U	0.17	1	U	0.36			
11/12/2009 9:05	SW-013-122009	1	U	0.2	3.9		0.17	1	U	0.36			
1/28/2010 9:20	SW-013-012010				1.8		0.11						
5/6/2010 10:00	SW-013-042010				1.6		0.11						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-33 Summary of VOCs in Surface Water for Clear Creek SW-13 (continued)

	Compound	Vinyl Chloride			Xylenes, Total		
	CAS #	75-01-4			1330-20-7		
	Units	µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL
11/30/2004	SW-013-112004	10	U	0.35	5	U	3.05
2/28/2007 10:30	SW-013-032007	2	U	0.239			
5/30/2007 9:40	SW-013-052007	1	UJ	0.092	1	U	0.097
9/5/2007 9:45	SW-013-092007	1	UJ	0.092	1	UJ	0.097
12/3/2007 10:50	SW-013-122007	1	U	0.062	1	U	0.097
3/3/2008 12:00	SW-013-032008	1	U	0.062	1	U	0.097
6/18/2008 10:40	SW-013-062008	1	U	0.062	1	U	0.097
8/27/2008 13:30	SW-013-092008	1	U	0.062	1	U	0.097
11/12/2008 11:45	SW-013-122008	1	U	0.062	1	U	0.097
2/26/2009 10:15	SW-013-032009	1	U	0.062	1	U	0.097
5/18/2009 15:10	SW-013-062009	1	U	0.062	1	U	0.097
8/4/2009 10:15	SW-013-092009	1	U	0.34	1	U	0.4
11/12/2009 9:05	SW-013-122009	1	U	0.34	1	U	0.4
1/28/2010 9:20	SW-013-012010	1	U	0.079			
5/6/2010 10:00	SW-013-042010	1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	UJ	0.13
6/11/2005 13:00	SCW-001-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	U	0.13
9/17/2005 16:00	SCW-001-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/30/2005 13:00	SCW-001-122005	2	U	0.222	2	U	0.18	2	U	0.1			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/11/2005 13:00	SCW-001-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/17/2005 16:00	SCW-001-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/30/2005 13:00	SCW-001-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/11/2005 13:00	SCW-001-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/17/2005 16:00	SCW-001-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/30/2005 13:00	SCW-001-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/11/2005 13:00	SCW-001-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/17/2005 16:00	SCW-001-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/30/2005 13:00	SCW-001-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene			1,3-Dichloropropane		
	CAS #	78-87-5			108-67-8			541-73-1			142-28-9		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.15	1	U	0.09	1	U	0.1	0.5	U	0.14
6/11/2005 13:00	SCW-001-062005	1	U	0.15	1	UJ	0.09	1	UJ	0.1	0.5	UJ	0.14
9/17/2005 16:00	SCW-001-092005	1	U	0.15	1	UJ	0.09	1	UJ	0.1	0.5	U	0.14
11/30/2005 13:00	SCW-001-122005	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)			2-Chlorotoluene		
	CAS #	106-46-7			594-20-7			78-93-3			95-49-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	0.5	U	0.12				1	UJ	0.23	1	U	0.09
6/11/2005 13:00	SCW-001-062005	0.5	UJ	0.12				1	UJ	0.23	1	UJ	0.09
9/17/2005 16:00	SCW-001-092005	0.5	UJ	0.12				1	U	0.23	1	U	0.09
11/30/2005 13:00	SCW-001-122005	2	U	0.15	2	U	0.108	2	U	0.481	2	U	0.106

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)			Acetone		
	CAS #	591-78-6			106-43-4			108-10-1			67-64-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.57	1	U	0.1	1	U	0.46	5	UJ	1.6
6/11/2005 13:00	SCW-001-062005	1	U	0.57	1	UJ	0.1	1	U	0.46	5	UJ	1.6
9/17/2005 16:00	SCW-001-092005	1	U	0.57	1	U	0.1	1	U	0.46	5	UJ	1.6
11/30/2005 13:00	SCW-001-122005	2	U	0.163	2	U	0.1	2	UJ	0.128	2	U	0.612

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	Benzene			Bromobenzene			Bromochloromethane			Bromodichloromethane		
	CAS #	71-43-2			108-86-1			74-97-5			75-27-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	0.5	U	0.15	1	U	0.11	1	U	0.14	0.5	U	0.14
6/11/2005 13:00	SCW-001-062005	0.5	U	0.15	1	UJ	0.11	1	U	0.14	0.5	U	0.14
9/17/2005 16:00	SCW-001-092005	0.5	U	0.15	1	U	0.11	1	U	0.14	0.5	U	0.14
11/30/2005 13:00	SCW-001-122005	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	Bromoform			Bromomethane			Carbon Disulfide			Carbon Tetrachloride		
	CAS #	75-25-2			74-83-9			75-15-0			56-23-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.09	1	U	0.18	1	U	0.11	1	U	0.16
6/11/2005 13:00	SCW-001-062005	1	U	0.09	1	UJ	0.18	1	UJ	0.11	1	U	0.16
9/17/2005 16:00	SCW-001-092005	1	U	0.09	1	U	0.18	1	U	0.11	1	U	0.16
11/30/2005 13:00	SCW-001-122005	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	Chlorobenzene			Chloroethane			Chloroform			Chloromethane		
	CAS #	108-90-7			75-00-3			67-66-3			74-87-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	0.5	U	0.11	1	U	0.46	0.5	U	0.16	1	U	0.08
6/11/2005 13:00	SCW-001-062005	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16	1	U	0.08
9/17/2005 16:00	SCW-001-092005	0.5	U	0.11	1	U	0.46	0.5	U	0.16	1	U	0.08
11/30/2005 13:00	SCW-001-122005	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane			Dibromochloromethane		
	CAS #	156-59-2			10061-01-5			110-82-7			124-48-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.09	0.5	U	0.12	1	U	0.15	0.5	U	0.13
6/11/2005 13:00	SCW-001-062005	1	U	0.09	0.5	UJ	0.12	1	U	0.15	0.5	U	0.13
9/17/2005 16:00	SCW-001-092005	1	U	0.09	0.5	U	0.12	1	U	0.15	0.5	U	0.13
11/30/2005 13:00	SCW-001-122005	2	U	0.151	2	U	0.1				2	U	0.133

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	Dibromomethane			Dichlorodifluoromethane			Ethylbenzene			Hexachlorobutadiene		
	CAS #	74-95-3			75-71-8			100-41-4			87-68-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.09	1	U	0.12	1	U	0.11	1	U	0.15
6/11/2005 13:00	SCW-001-062005	1	U	0.09	1	U	0.12	1	U	0.11	1	U	0.15
9/17/2005 16:00	SCW-001-092005	1	U	0.09	1	UJ	0.12	1	U	0.11	1	U	0.15
11/30/2005 13:00	SCW-001-122005	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	Isopropylbenzene (Cumene)			m,p-Xylene			Methylene Chloride			Naphthalene		
	CAS #	98-82-8			136777-61-2			75-09-2			91-20-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.12	1	U	0.24	1	U	0.42	1	U	0.1
6/11/2005 13:00	SCW-001-062005	1	UJ	0.12	1	U	0.24	1	U	0.42	1	U	0.1
9/17/2005 16:00	SCW-001-092005	1	UJ	0.12	1	U	0.24	1	U	0.42	1	U	0.1
11/30/2005 13:00	SCW-001-122005	2	U	0.1	2	U	0.216	2	U	0.398	2	U	0.139

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	n-Butylbenzene			n-Propylbenzene			o-Xylene			p-Cymene (p-		
	CAS #	104-51-8			103-65-1			95-47-6			99-87-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.12	1	U	0.1	1	U	0.13	1	U	0.13
6/11/2005 13:00	SCW-001-062005	1	U	0.12	1	UJ	0.1	1	U	0.13	1	U	0.13
9/17/2005 16:00	SCW-001-092005	1	U	0.12	1	U	0.1	1	U	0.13	1	U	0.13
11/30/2005 13:00	SCW-001-122005	2	U	0.14	2	U	0.1	2	U	0.102	2	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	sec-Butylbenzene			Styrene			tert-Butyl Methyl Ether (MTBE)			tert-Butylbenzene		
	CAS #	135-98-8			100-42-5			1634-04-4			98-06-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.13	1	U	0.11	1	U	0.22	1	U	0.15
6/11/2005 13:00	SCW-001-062005	1	U	0.13	1	U	0.11	1	U	0.22	1	UJ	0.15
9/17/2005 16:00	SCW-001-092005	1	UJ	0.13	1	U	0.11	1	U	0.22	1	UJ	0.15
11/30/2005 13:00	SCW-001-122005	2	U	0.133	2	U	0.1	2	U	0.1	2	U	0.17

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	Tetrachloroethene (PCE)			Toluene			trans-1,2-Dichloroethene			trans-1,3-Dichloropropene		
	CAS #	127-18-4			108-88-3			156-60-5			10061-02-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.12	1	U	0.11	1	U	0.1	1	U	0.1
6/11/2005 13:00	SCW-001-062005	1	U	0.12	1	UJ	0.11	1	U	0.1	1	UJ	0.1
9/17/2005 16:00	SCW-001-092005	1	U	0.12	1	U	0.11	1	U	0.1	1	U	0.1
11/30/2005 13:00	SCW-001-122005	2	U	0.115	2	U	0.105	2	U	0.152	2	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-34 Summary of VOCs in Surface Water for Silver Creek SCW-01 (continued)

	Compound	Trichloroethene (TCE)			Trichlorofluoromethane			Vinyl Acetate			Vinyl Chloride		
	CAS #	79-01-6			75-69-4			108-05-4			75-01-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 14:00	SCW-001-032005	1	U	0.12	1	U	0.1				0.4	U	0.09
6/11/2005 13:00	SCW-001-062005	1	U	0.12	1	UJ	0.1				0.4	U	0.09
9/17/2005 16:00	SCW-001-092005	1	U	0.12	1	U	0.1				0.4	U	0.09
11/30/2005 13:00	SCW-001-122005	2	U	0.151	2	U	0.111	2	U	0.5	2	U	0.239

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	UJ	0.13
6/11/2005 13:00	SCW-003-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	U	0.13
9/17/2005 15:05	SCW-003-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/30/2005 10:05	SCW-003-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/27/2006 9:45	SCW-003-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/19/2006 8:25	SCW-003-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 15:35	SCW-003-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 8:10	SCW-003-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/27/2007 9:17	SCW-003-032007	2	U	0.222	2	U	0.18	2	U	0.1			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/11/2005 13:00	SCW-003-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/17/2005 15:05	SCW-003-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/30/2005 10:05	SCW-003-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/27/2006 9:45	SCW-003-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/19/2006 8:25	SCW-003-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 15:35	SCW-003-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 8:10	SCW-003-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/27/2007 9:17	SCW-003-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/11/2005 13:00	SCW-003-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/17/2005 15:05	SCW-003-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/30/2005 10:05	SCW-003-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/27/2006 9:45	SCW-003-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/19/2006 8:25	SCW-003-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 15:35	SCW-003-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 8:10	SCW-003-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/27/2007 9:17	SCW-003-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/11/2005 13:00	SCW-003-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/17/2005 15:05	SCW-003-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/30/2005 10:05	SCW-003-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/27/2006 9:45	SCW-003-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/19/2006 8:25	SCW-003-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 15:35	SCW-003-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 8:10	SCW-003-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/27/2007 9:17	SCW-003-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene			1,3-Dichloropropane		
	CAS #	78-87-5			108-67-8			541-73-1			142-28-9		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.15	1	U	0.09	1	U	0.1	0.5	U	0.14
6/11/2005 13:00	SCW-003-062005	1	U	0.15	1	UJ	0.09	1	UJ	0.1	0.5	UJ	0.14
9/17/2005 15:05	SCW-003-092005	1	U	0.15	1	UJ	0.09	1	UJ	0.1	0.5	U	0.14
11/30/2005 10:05	SCW-003-122005	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107
3/27/2006 9:45	SCW-003-032006	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107
6/19/2006 8:25	SCW-003-062006	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107
9/25/2006 15:35	SCW-003-092006	2	U	0.119	2	U	0.113	2	U	0.189	2	UJ	0.107
12/7/2006 8:10	SCW-003-122006	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107
2/27/2007 9:17	SCW-003-032007	2	U	0.119	2	U	0.113	2	U	0.189	2	U	0.107

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)			2-Chlorotoluene		
	CAS #	106-46-7			594-20-7			78-93-3			95-49-8		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	0.5	U	0.12				1	UJ	0.23	1	U	0.09
6/11/2005 13:00	SCW-003-062005	0.5	UJ	0.12				1	UJ	0.23	1	UJ	0.09
9/17/2005 15:05	SCW-003-092005	0.5	UJ	0.12				1	U	0.23	1	U	0.09
11/30/2005 10:05	SCW-003-122005	2	U	0.15	2	U	0.108	2	U	0.481	2	U	0.106
3/27/2006 9:45	SCW-003-032006	2	U	0.15	2	U	0.108	2	U	0.481	2	U	0.106
6/19/2006 8:25	SCW-003-062006	2	U	0.15	2	U	0.108	2	U	0.481	2	U	0.106
9/25/2006 15:35	SCW-003-092006	2	U	0.15	2	U	0.108	2	U	0.481	2	U	0.106
12/7/2006 8:10	SCW-003-122006	2	U	0.15	2	U	0.108	4	U	0.481	2	U	0.106
2/27/2007 9:17	SCW-003-032007	2	U	0.15	2	U	0.108	10	U	5	2	U	0.106

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)			Acetone		
	CAS #	591-78-6			106-43-4			108-10-1			67-64-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.57	1	U	0.1	1	U	0.46	5	UJ	1.6
6/11/2005 13:00	SCW-003-062005	1	U	0.57	1	UJ	0.1	1	U	0.46	5	UJ	1.6
9/17/2005 15:05	SCW-003-092005	1	U	0.57	1	U	0.1	1	U	0.46	5	UJ	1.6
11/30/2005 10:05	SCW-003-122005	2	U	0.163	2	U	0.1	2	UJ	0.128	2	U	0.612
3/27/2006 9:45	SCW-003-032006	2	U	0.163	2	U	0.1	2	U	0.128	2	U	0.612
6/19/2006 8:25	SCW-003-062006	2	U	0.163	2	U	0.1	2	U	0.128	2	U	0.612
9/25/2006 15:35	SCW-003-092006	2	U	0.163	2	U	0.1	2	U	0.128	2	U	0.612
12/7/2006 8:10	SCW-003-122006	4	U	0.163	2	U	0.1	4	U	0.128	4	U	0.612
2/27/2007 9:17	SCW-003-032007	10	U	5	2	U	0.1	10	U	5	10	U	5

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	Benzene			Bromobenzene			Bromochloromethane			Bromodichloromethane		
	CAS #	71-43-2			108-86-1			74-97-5			75-27-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	0.5	U	0.15	1	U	0.11	1	U	0.14	0.5	U	0.14
6/11/2005 13:00	SCW-003-062005	0.5	U	0.15	1	UJ	0.11	1	U	0.14	0.5	U	0.14
9/17/2005 15:05	SCW-003-092005	0.5	U	0.15	1	U	0.11	1	U	0.14	0.5	U	0.14
11/30/2005 10:05	SCW-003-122005	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
3/27/2006 9:45	SCW-003-032006	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
6/19/2006 8:25	SCW-003-062006	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
9/25/2006 15:35	SCW-003-092006	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
12/7/2006 8:10	SCW-003-122006	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135
2/27/2007 9:17	SCW-003-032007	2	U	0.139	2	U	0.156	2	U	0.165	2	U	0.135

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	Bromoform			Bromomethane			Carbon Disulfide			Carbon Tetrachloride		
	CAS #	75-25-2			74-83-9			75-15-0			56-23-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.09	1	U	0.18	1	U	0.11	1	U	0.16
6/11/2005 13:00	SCW-003-062005	1	U	0.09	1	UJ	0.18	1	UJ	0.11	1	U	0.16
9/17/2005 15:05	SCW-003-092005	1	U	0.09	1	U	0.18	1	U	0.11	1	U	0.16
11/30/2005 10:05	SCW-003-122005	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
3/27/2006 9:45	SCW-003-032006	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
6/19/2006 8:25	SCW-003-062006	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
9/25/2006 15:35	SCW-003-092006	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
12/7/2006 8:10	SCW-003-122006	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137
2/27/2007 9:17	SCW-003-032007	2	U	0.163	2	U	0.201	2	U	0.183	2	U	0.137

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	Chlorobenzene			Chloroethane			Chloroform			Chloromethane		
	CAS #	108-90-7			75-00-3			67-66-3			74-87-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	0.5	U	0.11	1	U	0.46	0.5	U	0.16	1	U	0.08
6/11/2005 13:00	SCW-003-062005	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16	1	U	0.08
9/17/2005 15:05	SCW-003-092005	0.5	U	0.11	1	U	0.46	0.5	U	0.16	1	U	0.08
11/30/2005 10:05	SCW-003-122005	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173
3/27/2006 9:45	SCW-003-032006	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173
6/19/2006 8:25	SCW-003-062006	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173
9/25/2006 15:35	SCW-003-092006	2	UJ	0.156	2	U	0.207	2	U	0.214	2	U	0.173
12/7/2006 8:10	SCW-003-122006	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173
2/27/2007 9:17	SCW-003-032007	2	U	0.156	2	U	0.207	2	U	0.214	2	U	0.173

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane			Dibromochloromethane		
	CAS #	156-59-2			10061-01-5			110-82-7			124-48-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.09	0.5	U	0.12	1	U	0.15	0.5	U	0.13
6/11/2005 13:00	SCW-003-062005	1	U	0.09	0.5	UJ	0.12	1	U	0.15	0.5	U	0.13
9/17/2005 15:05	SCW-003-092005	1	U	0.09	0.5	U	0.12	1	U	0.15	0.5	U	0.13
11/30/2005 10:05	SCW-003-122005	2	U	0.151	2	U	0.1				2	U	0.133
3/27/2006 9:45	SCW-003-032006	2	U	0.151	2	U	0.1				2	U	0.133
6/19/2006 8:25	SCW-003-062006	2	U	0.151	2	U	0.1				2	U	0.133
9/25/2006 15:35	SCW-003-092006	2	U	0.151	2	U	0.1				2	UJ	0.133
12/7/2006 8:10	SCW-003-122006	2	U	0.151	2	U	0.1				2	U	0.133
2/27/2007 9:17	SCW-003-032007	2	U	0.151	2	U	0.1				2	U	0.133

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	Dibromomethane			Dichlorodifluoromethane			Ethylbenzene			Hexachlorobutadiene		
	CAS #	74-95-3			75-71-8			100-41-4			87-68-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.09	1	U	0.12	1	U	0.11	1	U	0.15
6/11/2005 13:00	SCW-003-062005	1	U	0.09	1	U	0.12	1	U	0.11	1	U	0.15
9/17/2005 15:05	SCW-003-092005	1	U	0.09	1	UJ	0.12	1	U	0.11	1	U	0.15
11/30/2005 10:05	SCW-003-122005	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
3/27/2006 9:45	SCW-003-032006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
6/19/2006 8:25	SCW-003-062006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
9/25/2006 15:35	SCW-003-092006	2	U	0.1	2	U	0.5	2	U	0.1	2	UJ	0.192
12/7/2006 8:10	SCW-003-122006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
2/27/2007 9:17	SCW-003-032007	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene			Methylene Chloride		
	CAS #	108-20-3			98-82-8			136777-61-2			75-09-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005				1	U	0.12	1	U	0.24	1	U	0.42
6/11/2005 13:00	SCW-003-062005				1	UJ	0.12	1	U	0.24	1	U	0.42
9/17/2005 15:05	SCW-003-092005				1	UJ	0.12	1	U	0.24	1	U	0.42
11/30/2005 10:05	SCW-003-122005				2	U	0.1	2	U	0.216	2	U	0.398
3/27/2006 9:45	SCW-003-032006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
6/19/2006 8:25	SCW-003-062006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
9/25/2006 15:35	SCW-003-092006	2	UJ	0.5	2	U	0.1	2	U	0.216	2	U	0.398
12/7/2006 8:10	SCW-003-122006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
2/27/2007 9:17	SCW-003-032007	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	Naphthalene			n-Butylbenzene			n-Propylbenzene			o-Xylene		
	CAS #	91-20-3			104-51-8			103-65-1			95-47-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.1	1	U	0.12	1	U	0.1	1	U	0.13
6/11/2005 13:00	SCW-003-062005	1	U	0.1	1	U	0.12	1	UJ	0.1	1	U	0.13
9/17/2005 15:05	SCW-003-092005	1	U	0.1	1	U	0.12	1	U	0.1	1	U	0.13
11/30/2005 10:05	SCW-003-122005	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
3/27/2006 9:45	SCW-003-032006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
6/19/2006 8:25	SCW-003-062006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
9/25/2006 15:35	SCW-003-092006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
12/7/2006 8:10	SCW-003-122006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
2/27/2007 9:17	SCW-003-032007	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	p-Cymene (p-Isopropyltoluene)			sec-Butylbenzene			Styrene			tert-Butyl Methyl Ether (MTBE)		
	CAS #	99-87-6			135-98-8			100-42-5			1634-04-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.13	1	U	0.13	1	U	0.11	1	U	0.22
6/11/2005 13:00	SCW-003-062005	1	U	0.13	1	U	0.13	1	U	0.11	1	U	0.22
9/17/2005 15:05	SCW-003-092005	1	U	0.13	1	UJ	0.13	1	U	0.11	1	U	0.22
11/30/2005 10:05	SCW-003-122005	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
3/27/2006 9:45	SCW-003-032006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
6/19/2006 8:25	SCW-003-062006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
9/25/2006 15:35	SCW-003-092006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
12/7/2006 8:10	SCW-003-122006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
2/27/2007 9:17	SCW-003-032007	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene			trans-1,2-Dichloroethene		
	CAS #	98-06-6			127-18-4			108-88-3			156-60-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.15	1	U	0.12	1	U	0.11	1	U	0.1
6/11/2005 13:00	SCW-003-062005	1	UJ	0.15	1	U	0.12	1	UJ	0.11	1	U	0.1
9/17/2005 15:05	SCW-003-092005	1	UJ	0.15	1	U	0.12	1	U	0.11	1	U	0.1
11/30/2005 10:05	SCW-003-122005	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
3/27/2006 9:45	SCW-003-032006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
6/19/2006 8:25	SCW-003-062006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
9/25/2006 15:35	SCW-003-092006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
12/7/2006 8:10	SCW-003-122006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
2/27/2007 9:17	SCW-003-032007	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane			Vinyl Acetate		
	CAS #	10061-02-6			79-01-6			75-69-4			108-05-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	1	U	0.1	1	U	0.12	1	U	0.1			
6/11/2005 13:00	SCW-003-062005	1	UJ	0.1	1	U	0.12	1	UJ	0.1			
9/17/2005 15:05	SCW-003-092005	1	U	0.1	1	U	0.12	1	U	0.1			
11/30/2005 10:05	SCW-003-122005	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.5
3/27/2006 9:45	SCW-003-032006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
6/19/2006 8:25	SCW-003-062006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
9/25/2006 15:35	SCW-003-092006	2	U	0.1	2	U	0.151	2	UJ	0.111	2	U	0.15
12/7/2006 8:10	SCW-003-122006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
2/27/2007 9:17	SCW-003-032007	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-35 Summary of VOCs in Surface Water for Silver Creek SCW-03 (continued)

	Compound	Vinyl Chloride		
	CAS #	75-01-4		
	Units	µg/L		
Sample Date	Field Sample ID	Result	Q	MDL
3/20/2005 13:05	SCW-003-032005	0.4	U	0.09
6/11/2005 13:00	SCW-003-062005	0.4	U	0.09
9/17/2005 15:05	SCW-003-092005	0.4	U	0.09
11/30/2005 10:05	SCW-003-122005	2	U	0.239
3/27/2006 9:45	SCW-003-032006	2	U	0.239
6/19/2006 8:25	SCW-003-062006	2	U	0.239
9/25/2006 15:35	SCW-003-092006	2	U	0.239
12/7/2006 8:10	SCW-003-122006	2	U	0.239
2/27/2007 9:17	SCW-003-032007	2	U	0.239

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/19/2006 9:00	SCW-004-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 15:40	SCW-004-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 8:25	SCW-004-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/27/2007 9:38	SCW-004-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/29/2007 11:00	SCW-004-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/4/2007 8:45	SCW-004-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	U	0.059
12/3/2007 8:50	SCW-004-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/3/2008 9:30	SCW-004-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 9:00	SCW-004-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 9:20	SCW-004-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 9:55	SCW-004-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 8:50	SCW-004-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 9:25	SCW-004-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 9:25	SCW-004-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 8:45	SCW-004-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/19/2006 9:00	SCW-004-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 15:40	SCW-004-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 8:25	SCW-004-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/27/2007 9:38	SCW-004-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/29/2007 11:00	SCW-004-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/4/2007 8:45	SCW-004-092007	1	UJ	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/3/2007 8:50	SCW-004-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/3/2008 9:30	SCW-004-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 9:00	SCW-004-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 9:20	SCW-004-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 9:55	SCW-004-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 8:50	SCW-004-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 9:25	SCW-004-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 9:25	SCW-004-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 8:45	SCW-004-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/19/2006 9:00	SCW-004-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 15:40	SCW-004-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 8:25	SCW-004-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/27/2007 9:38	SCW-004-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/29/2007 11:00	SCW-004-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/4/2007 8:45	SCW-004-092007	1	U	0.064				1	U	0.042	1	U	0.096
12/3/2007 8:50	SCW-004-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/3/2008 9:30	SCW-004-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 9:00	SCW-004-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 9:20	SCW-004-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 9:55	SCW-004-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 8:50	SCW-004-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 9:25	SCW-004-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 9:25	SCW-004-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 8:45	SCW-004-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
3/27/2006 9:55	SCW-004-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/19/2006 9:00	SCW-004-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 15:40	SCW-004-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 8:25	SCW-004-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/27/2007 9:38	SCW-004-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/29/2007 11:00	SCW-004-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/4/2007 8:45	SCW-004-092007	1	UJ	0.13	1	U	0.077	1	U	0.062	1	U	0.063
12/3/2007 8:50	SCW-004-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/3/2008 9:30	SCW-004-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 9:00	SCW-004-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 9:20	SCW-004-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 9:55	SCW-004-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 8:50	SCW-004-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 9:25	SCW-004-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 9:25	SCW-004-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 8:45	SCW-004-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006				2	U	0.119	2	U	0.113	2	U	0.189
6/19/2006 9:00	SCW-004-062006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 15:40	SCW-004-092006				2	U	0.119	2	U	0.113	2	U	0.189
12/7/2006 8:25	SCW-004-122006				2	U	0.119	2	U	0.113	2	U	0.189
2/27/2007 9:38	SCW-004-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/29/2007 11:00	SCW-004-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/4/2007 8:45	SCW-004-092007	1	U	0.14	1	UJ	0.088	1	U	0.064	1	U	0.071
12/3/2007 8:50	SCW-004-122007	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/3/2008 9:30	SCW-004-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 9:00	SCW-004-062008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 9:20	SCW-004-092008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 9:55	SCW-004-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 8:50	SCW-004-032009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 9:25	SCW-004-062009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 9:25	SCW-004-092009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 8:45	SCW-004-122009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 14:50	SCW-004-012010				1	U	0.068						
5/6/2010 8:30	SCW-004-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
6/19/2006 9:00	SCW-004-062006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 15:40	SCW-004-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
12/7/2006 8:25	SCW-004-122006	2	U	0.107	2	U	0.15	2	U	0.108	4	U	0.481
2/27/2007 9:38	SCW-004-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/29/2007 11:00	SCW-004-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/4/2007 8:45	SCW-004-092007	1	U	0.066	1	U	0.037				5	U	0.72
12/3/2007 8:50	SCW-004-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/3/2008 9:30	SCW-004-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 9:00	SCW-004-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 9:20	SCW-004-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 9:55	SCW-004-122008	1	U	0.054	1	U	0.079				4.4	J	0.78
2/26/2009 8:50	SCW-004-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 9:25	SCW-004-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 9:25	SCW-004-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 8:45	SCW-004-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
6/19/2006 9:00	SCW-004-062006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 15:40	SCW-004-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
12/7/2006 8:25	SCW-004-122006	2	U	0.106	4	U	0.163	2	U	0.1	4	U	0.128
2/27/2007 9:38	SCW-004-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/29/2007 11:00	SCW-004-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/4/2007 8:45	SCW-004-092007	1	U	0.062	5	U	0.5	1	U	0.11	5	UJ	0.56
12/3/2007 8:50	SCW-004-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/3/2008 9:30	SCW-004-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 9:00	SCW-004-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 9:20	SCW-004-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 9:55	SCW-004-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 8:50	SCW-004-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 9:25	SCW-004-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 9:25	SCW-004-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 8:45	SCW-004-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
6/19/2006 9:00	SCW-004-062006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 15:40	SCW-004-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
12/7/2006 8:25	SCW-004-122006	4	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/27/2007 9:38	SCW-004-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/29/2007 11:00	SCW-004-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/4/2007 8:45	SCW-004-092007	2.9	J	1.3	1	U	0.083	1	U	0.051	1	U	0.067
12/3/2007 8:50	SCW-004-122007	2.6	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/3/2008 9:30	SCW-004-032008	5.4		0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 9:00	SCW-004-062008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 9:20	SCW-004-092008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 9:55	SCW-004-122008	8.1		0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 8:50	SCW-004-032009	1.4	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 9:25	SCW-004-062009	1.7	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 9:25	SCW-004-092009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 8:45	SCW-004-122009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
6/19/2006 9:00	SCW-004-062006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 15:40	SCW-004-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
12/7/2006 8:25	SCW-004-122006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/27/2007 9:38	SCW-004-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/29/2007 11:00	SCW-004-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/4/2007 8:45	SCW-004-092007	1	U	0.088	1	U	0.057	1	U	0.068	1	U	0.067
12/3/2007 8:50	SCW-004-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/3/2008 9:30	SCW-004-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 9:00	SCW-004-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 9:20	SCW-004-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
11/12/2008 9:55	SCW-004-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 8:50	SCW-004-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 9:25	SCW-004-062009	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
8/4/2009 9:25	SCW-004-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 8:45	SCW-004-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
6/19/2006 9:00	SCW-004-062006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 15:40	SCW-004-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
12/7/2006 8:25	SCW-004-122006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
2/27/2007 9:38	SCW-004-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/29/2007 11:00	SCW-004-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/4/2007 8:45	SCW-004-092007	1	U	0.063	1	U	0.059	1	U	0.13	1	U	0.052
12/3/2007 8:50	SCW-004-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/3/2008 9:30	SCW-004-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 9:00	SCW-004-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 9:20	SCW-004-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 9:55	SCW-004-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 8:50	SCW-004-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 9:25	SCW-004-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 9:25	SCW-004-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 8:45	SCW-004-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Dibromochloromethane		
	CAS #	74-87-3			156-59-2			10061-01-5			124-48-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.173	2	U	0.151	2	U	0.1	2	U	0.133
6/19/2006 9:00	SCW-004-062006	2	U	0.173	2	U	0.151	2	U	0.1	2	U	0.133
9/25/2006 15:40	SCW-004-092006	2	U	0.173	2	U	0.151	2	U	0.1	2	UJ	0.133
12/7/2006 8:25	SCW-004-122006	2	U	0.173	2	U	0.151	2	U	0.1	2	U	0.133
2/27/2007 9:38	SCW-004-032007	2	U	0.173	2	U	0.151	2	U	0.1	2	U	0.133
5/29/2007 11:00	SCW-004-052007	1	UJ	0.052	1	U	0.11	1	U	0.09	1	U	0.077
9/4/2007 8:45	SCW-004-092007	0.49	J	0.052	1	U	0.11	1	U	0.09	1	U	0.077
12/3/2007 8:50	SCW-004-122007	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
3/3/2008 9:30	SCW-004-032008	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
6/18/2008 9:00	SCW-004-062008	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
8/27/2008 9:20	SCW-004-092008	1	UJ	0.11	1	U	0.065	1	U	0.049	1	U	0.035
11/12/2008 9:55	SCW-004-122008	0.44	J	0.11	1	U	0.065	1	U	0.049	1	U	0.035
2/26/2009 8:50	SCW-004-032009	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
5/18/2009 9:25	SCW-004-062009	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
8/4/2009 9:25	SCW-004-092009	1	U	0.28	1	U	0.18	1	U	0.18	1	U	0.27
11/12/2009 8:45	SCW-004-122009	1	U	0.28	1	U	0.18	1	U	0.18	1	U	0.27
1/28/2010 14:50	SCW-004-012010				1	U	0.069						
5/6/2010 8:30	SCW-004-042010				1	U	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	Dibromomethane			Dichlorodifluoromethane			Ethylbenzene			Hexachlorobutadiene		
	CAS #	74-95-3			75-71-8			100-41-4			87-68-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
6/19/2006 9:00	SCW-004-062006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
9/25/2006 15:40	SCW-004-092006	2	U	0.1	2	U	0.5	2	U	0.1	2	UJ	0.192
12/7/2006 8:25	SCW-004-122006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
2/27/2007 9:38	SCW-004-032007	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
5/29/2007 11:00	SCW-004-052007	1	U	0.14	1	U	0.05	1	U	0.076	1	U	0.075
9/4/2007 8:45	SCW-004-092007	1	U	0.14	1	U	0.05	1	U	0.076	1	U	0.075
12/3/2007 8:50	SCW-004-122007	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
3/3/2008 9:30	SCW-004-032008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
6/18/2008 9:00	SCW-004-062008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
8/27/2008 9:20	SCW-004-092008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
11/12/2008 9:55	SCW-004-122008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
2/26/2009 8:50	SCW-004-032009	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
5/18/2009 9:25	SCW-004-062009	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
8/4/2009 9:25	SCW-004-092009	1	U	0.21	1	U	0.38	1	U	0.18	1	U	0.21
11/12/2009 8:45	SCW-004-122009	1	U	0.21	1	U	0.38	1	U	0.18	1	U	0.21
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene			Methylene Chloride		
	CAS #	108-20-3			98-82-8			136777-61-2			75-09-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
6/19/2006 9:00	SCW-004-062006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
9/25/2006 15:40	SCW-004-092006	2	UJ	0.5	2	U	0.1	2	U	0.216	2	U	0.398
12/7/2006 8:25	SCW-004-122006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
2/27/2007 9:38	SCW-004-032007	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
5/29/2007 11:00	SCW-004-052007				1	UJ	0.078	1	U	0.097	1	U	0.069
9/4/2007 8:45	SCW-004-092007				1	U	0.078	1	U	0.097	1	U	0.069
12/3/2007 8:50	SCW-004-122007				1	U	0.039	1	U	0.097	1	U	0.12
3/3/2008 9:30	SCW-004-032008				1	U	0.039	1	U	0.097	1	U	0.12
6/18/2008 9:00	SCW-004-062008				1	U	0.039	1	U	0.097	1	U	0.12
8/27/2008 9:20	SCW-004-092008				1	U	0.039	1	U	0.097	1	U	0.12
11/12/2008 9:55	SCW-004-122008				1	U	0.039	1	U	0.097	1	U	0.12
2/26/2009 8:50	SCW-004-032009				1	U	0.039	1	U	0.097	1	U	0.12
5/18/2009 9:25	SCW-004-062009				1	U	0.039	1	U	0.097	1	U	0.12
8/4/2009 9:25	SCW-004-092009				1	U	0.22	1	U	0.4	1	U	0.25
11/12/2009 8:45	SCW-004-122009				1	U	0.22	1	U	0.4	1	U	0.25
1/28/2010 14:50	SCW-004-012010										1	U	0.1
5/6/2010 8:30	SCW-004-042010										1	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	Naphthalene			n-Butylbenzene			n-Propylbenzene			o-Xylene		
	CAS #	91-20-3			104-51-8			103-65-1			95-47-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
6/19/2006 9:00	SCW-004-062006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
9/25/2006 15:40	SCW-004-092006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
12/7/2006 8:25	SCW-004-122006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
2/27/2007 9:38	SCW-004-032007	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
5/29/2007 11:00	SCW-004-052007	1	U	0.059	1	U	0.068	1	U	0.056	1	U	0.069
9/4/2007 8:45	SCW-004-092007	1	U	0.059	1	U	0.068	1	U	0.056	1	U	0.069
12/3/2007 8:50	SCW-004-122007	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
3/3/2008 9:30	SCW-004-032008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
6/18/2008 9:00	SCW-004-062008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
8/27/2008 9:20	SCW-004-092008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
11/12/2008 9:55	SCW-004-122008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
2/26/2009 8:50	SCW-004-032009	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
5/18/2009 9:25	SCW-004-062009	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
8/4/2009 9:25	SCW-004-092009	1	U	0.15	1	U	0.19	1	U	0.22	1	U	0.2
11/12/2009 8:45	SCW-004-122009	1	U	0.15	1	U	0.19	1	U	0.22	1	U	0.2
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	p-Cymene (p-Isopropyltoluene)			sec-Butylbenzene			Styrene			tert-Butyl Methyl Ether (MTBE)		
	CAS #	99-87-6			135-98-8			100-42-5			1634-04-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
6/19/2006 9:00	SCW-004-062006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
9/25/2006 15:40	SCW-004-092006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
12/7/2006 8:25	SCW-004-122006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
2/27/2007 9:38	SCW-004-032007	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
5/29/2007 11:00	SCW-004-052007	1	U	0.047	1	U	0.036	1	U	0.11	1	U	0.052
9/4/2007 8:45	SCW-004-092007	1	U	0.047	1	U	0.036	1	U	0.11	1	U	0.052
12/3/2007 8:50	SCW-004-122007	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
3/3/2008 9:30	SCW-004-032008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
6/18/2008 9:00	SCW-004-062008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
8/27/2008 9:20	SCW-004-092008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
11/12/2008 9:55	SCW-004-122008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
2/26/2009 8:50	SCW-004-032009	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
5/18/2009 9:25	SCW-004-062009	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
8/4/2009 9:25	SCW-004-092009	1	U	0.19	1	U	0.22	1	U	0.19	1	U	0.21
11/12/2009 8:45	SCW-004-122009	1	U	0.19	1	U	0.22	1	U	0.19	1	U	0.21
1/28/2010 14:50	SCW-004-012010												
5/6/2010 8:30	SCW-004-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene			trans-1,2-Dichloroethene		
	CAS #	98-06-6			127-18-4			108-88-3			156-60-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
6/19/2006 9:00	SCW-004-062006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
9/25/2006 15:40	SCW-004-092006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
12/7/2006 8:25	SCW-004-122006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
2/27/2007 9:38	SCW-004-032007	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
5/29/2007 11:00	SCW-004-052007	1	U	0.056	1	U	0.056	1	U	0.059	1	U	0.1
9/4/2007 8:45	SCW-004-092007	1	U	0.056	1	U	0.056	1	U	0.059	1	U	0.1
12/3/2007 8:50	SCW-004-122007	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
3/3/2008 9:30	SCW-004-032008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
6/18/2008 9:00	SCW-004-062008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
8/27/2008 9:20	SCW-004-092008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
11/12/2008 9:55	SCW-004-122008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
2/26/2009 8:50	SCW-004-032009	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
5/18/2009 9:25	SCW-004-062009	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
8/4/2009 9:25	SCW-004-092009	1	U	0.23	1	U	0.34	1	U	0.19	1	U	0.14
11/12/2009 8:45	SCW-004-122009	1	U	0.23	1	U	0.34	1	U	0.19	1	U	0.14
1/28/2010 14:50	SCW-004-012010										1	U	0.095
5/6/2010 8:30	SCW-004-042010										1	U	0.095

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane			Vinyl Acetate		
	CAS #	10061-02-6			79-01-6			75-69-4			108-05-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
6/19/2006 9:00	SCW-004-062006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
9/25/2006 15:40	SCW-004-092006	2	U	0.1	2	U	0.151	2	UJ	0.111	2	U	0.15
12/7/2006 8:25	SCW-004-122006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
2/27/2007 9:38	SCW-004-032007	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
5/29/2007 11:00	SCW-004-052007	1	U	0.1	1	U	0.089	1	U	0.038			
9/4/2007 8:45	SCW-004-092007	1	U	0.1	1	U	0.089	1	U	0.038			
12/3/2007 8:50	SCW-004-122007	1	U	0.053	1	U	0.058	1	U	0.067			
3/3/2008 9:30	SCW-004-032008	1	U	0.053	1	U	0.058	1	U	0.067			
6/18/2008 9:00	SCW-004-062008	1	U	0.053	1	U	0.058	1	U	0.067			
8/27/2008 9:20	SCW-004-092008	1	U	0.053	1	U	0.058	1	U	0.067			
11/12/2008 9:55	SCW-004-122008	1	U	0.053	1	U	0.058	1	U	0.067			
2/26/2009 8:50	SCW-004-032009	1	U	0.053	1	U	0.058	1	U	0.067			
5/18/2009 9:25	SCW-004-062009	1	U	0.053	1	U	0.058	1	U	0.067			
8/4/2009 9:25	SCW-004-092009	1	U	0.2	1	U	0.17	1	U	0.36			
11/12/2009 8:45	SCW-004-122009	1	U	0.2	1	U	0.17	1	U	0.36			
1/28/2010 14:50	SCW-004-012010				1	U	0.11						
5/6/2010 8:30	SCW-004-042010				1	U	0.11						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-36 Summary of VOCs in Surface Water for Silver Creek SCW-04 (continued)

	Compound	Vinyl Chloride			Xylenes, Total		
	CAS #	75-01-4			1330-20-7		
	Units	µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL
3/27/2006 9:55	SCW-004-032006	2	U	0.239			
6/19/2006 9:00	SCW-004-062006	2	U	0.239			
9/25/2006 15:40	SCW-004-092006	2	U	0.239			
12/7/2006 8:25	SCW-004-122006	2	U	0.239			
2/27/2007 9:38	SCW-004-032007	2	U	0.239			
5/29/2007 11:00	SCW-004-052007	1	UJ	0.092	1	U	0.097
9/4/2007 8:45	SCW-004-092007	1	U	0.092	1	U	0.097
12/3/2007 8:50	SCW-004-122007	1	U	0.062	1	U	0.097
3/3/2008 9:30	SCW-004-032008	1	U	0.062	1	U	0.097
6/18/2008 9:00	SCW-004-062008	1	U	0.062	1	U	0.097
8/27/2008 9:20	SCW-004-092008	1	U	0.062	1	U	0.097
11/12/2008 9:55	SCW-004-122008	1	U	0.062	1	U	0.097
2/26/2009 8:50	SCW-004-032009	1	U	0.062	1	U	0.097
5/18/2009 9:25	SCW-004-062009	1	U	0.062	1	U	0.097
8/4/2009 9:25	SCW-004-092009	1	U	0.34	1	U	0.4
11/12/2009 8:45	SCW-004-122009	1	U	0.34	1	U	0.4
1/28/2010 14:50	SCW-004-012010	1	U	0.079			
5/6/2010 8:30	SCW-004-042010	1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/19/2006 10:15	SCW-005-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 15:50	SCW-005-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 8:35	SCW-005-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/27/2007 9:55	SCW-005-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/29/2007 11:15	SCW-005-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/4/2007 9:05	SCW-005-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	U	0.059
12/3/2007 9:10	SCW-005-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/3/2008 10:00	SCW-005-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 9:15	SCW-005-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 9:35	SCW-005-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 10:08	SCW-005-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 9:05	SCW-005-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 9:35	SCW-005-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 9:05	SCW-005-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 8:35	SCW-005-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/19/2006 10:15	SCW-005-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 15:50	SCW-005-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 8:35	SCW-005-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/27/2007 9:55	SCW-005-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/29/2007 11:15	SCW-005-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/4/2007 9:05	SCW-005-092007	1	UJ	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/3/2007 9:10	SCW-005-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/3/2008 10:00	SCW-005-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 9:15	SCW-005-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 9:35	SCW-005-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 10:08	SCW-005-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 9:05	SCW-005-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 9:35	SCW-005-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 9:05	SCW-005-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 8:35	SCW-005-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/19/2006 10:15	SCW-005-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 15:50	SCW-005-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 8:35	SCW-005-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/27/2007 9:55	SCW-005-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/29/2007 11:15	SCW-005-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/4/2007 9:05	SCW-005-092007	1	U	0.064				1	U	0.042	1	U	0.096
12/3/2007 9:10	SCW-005-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/3/2008 10:00	SCW-005-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 9:15	SCW-005-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 9:35	SCW-005-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 10:08	SCW-005-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 9:05	SCW-005-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 9:35	SCW-005-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 9:05	SCW-005-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 8:35	SCW-005-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/19/2006 10:15	SCW-005-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 15:50	SCW-005-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 8:35	SCW-005-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/27/2007 9:55	SCW-005-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/29/2007 11:15	SCW-005-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/4/2007 9:05	SCW-005-092007	1	UJ	0.13	1	U	0.077	1	U	0.062	1	U	0.063
12/3/2007 9:10	SCW-005-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/3/2008 10:00	SCW-005-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 9:15	SCW-005-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 9:35	SCW-005-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 10:08	SCW-005-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 9:05	SCW-005-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 9:35	SCW-005-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 9:05	SCW-005-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 8:35	SCW-005-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006				2	U	0.119	2	U	0.113	2	U	0.189
6/19/2006 10:15	SCW-005-062006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 15:50	SCW-005-092006				2	U	0.119	2	U	0.113	2	U	0.189
12/7/2006 8:35	SCW-005-122006				2	U	0.119	2	U	0.113	2	U	0.189
2/27/2007 9:55	SCW-005-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/29/2007 11:15	SCW-005-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/4/2007 9:05	SCW-005-092007	1	U	0.14	1	UJ	0.088	1	U	0.064	1	U	0.071
12/3/2007 9:10	SCW-005-122007	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/3/2008 10:00	SCW-005-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 9:15	SCW-005-062008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 9:35	SCW-005-092008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 10:08	SCW-005-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 9:05	SCW-005-032009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 9:35	SCW-005-062009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 9:05	SCW-005-092009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 8:35	SCW-005-122009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 14:30	SCW-005-012010				1	U	0.068						
5/6/2010 8:45	SCW-005-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
6/19/2006 10:15	SCW-005-062006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 15:50	SCW-005-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
12/7/2006 8:35	SCW-005-122006	2	U	0.107	2	U	0.15	2	U	0.108	4	U	0.481
2/27/2007 9:55	SCW-005-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/29/2007 11:15	SCW-005-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/4/2007 9:05	SCW-005-092007	1	U	0.066	1	U	0.037				5	U	0.72
12/3/2007 9:10	SCW-005-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/3/2008 10:00	SCW-005-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 9:15	SCW-005-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 9:35	SCW-005-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 10:08	SCW-005-122008	1	U	0.054	1	U	0.079				4.7	J	0.78
2/26/2009 9:05	SCW-005-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 9:35	SCW-005-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 9:05	SCW-005-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 8:35	SCW-005-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone (MIBK)		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
6/19/2006 10:15	SCW-005-062006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 15:50	SCW-005-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
12/7/2006 8:35	SCW-005-122006	2	U	0.106	4	U	0.163	2	U	0.1	4	U	0.128
2/27/2007 9:55	SCW-005-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/29/2007 11:15	SCW-005-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/4/2007 9:05	SCW-005-092007	1	U	0.062	5	U	0.5	1	U	0.11	5	UJ	0.56
12/3/2007 9:10	SCW-005-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/3/2008 10:00	SCW-005-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 9:15	SCW-005-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 9:35	SCW-005-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 10:08	SCW-005-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 9:05	SCW-005-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 9:35	SCW-005-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 9:05	SCW-005-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 8:35	SCW-005-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
6/19/2006 10:15	SCW-005-062006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 15:50	SCW-005-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
12/7/2006 8:35	SCW-005-122006	4	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/27/2007 9:55	SCW-005-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/29/2007 11:15	SCW-005-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/4/2007 9:05	SCW-005-092007	2.3	J	1.3	1	U	0.083	1	U	0.051	1	U	0.067
12/3/2007 9:10	SCW-005-122007	2.3	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/3/2008 10:00	SCW-005-032008	5.9		0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 9:15	SCW-005-062008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 9:35	SCW-005-092008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 10:08	SCW-005-122008	4.6	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 9:05	SCW-005-032009	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 9:35	SCW-005-062009	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 9:05	SCW-005-092009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 8:35	SCW-005-122009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
6/19/2006 10:15	SCW-005-062006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 15:50	SCW-005-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
12/7/2006 8:35	SCW-005-122006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/27/2007 9:55	SCW-005-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/29/2007 11:15	SCW-005-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/4/2007 9:05	SCW-005-092007	1	U	0.088	1	U	0.057	1	U	0.068	1	U	0.067
12/3/2007 9:10	SCW-005-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/3/2008 10:00	SCW-005-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 9:15	SCW-005-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 9:35	SCW-005-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
11/12/2008 10:08	SCW-005-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 9:05	SCW-005-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 9:35	SCW-005-062009	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
8/4/2009 9:05	SCW-005-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 8:35	SCW-005-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
6/19/2006 10:15	SCW-005-062006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 15:50	SCW-005-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
12/7/2006 8:35	SCW-005-122006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
2/27/2007 9:55	SCW-005-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/29/2007 11:15	SCW-005-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/4/2007 9:05	SCW-005-092007	1	U	0.063	1	U	0.059	1	U	0.13	1	U	0.052
12/3/2007 9:10	SCW-005-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/3/2008 10:00	SCW-005-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 9:15	SCW-005-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 9:35	SCW-005-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 10:08	SCW-005-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 9:05	SCW-005-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 9:35	SCW-005-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 9:05	SCW-005-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 8:35	SCW-005-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Dibromochloromethane		
	CAS #	74-87-3			156-59-2			10061-01-5			124-48-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.173	2	U	0.151	2	U	0.1	2	U	0.133
6/19/2006 10:15	SCW-005-062006	2	U	0.173	2	U	0.151	2	U	0.1	2	U	0.133
9/25/2006 15:50	SCW-005-092006	2	U	0.173	2	U	0.151	2	U	0.1	2	UJ	0.133
12/7/2006 8:35	SCW-005-122006	2	U	0.173	2	U	0.151	2	U	0.1	2	U	0.133
2/27/2007 9:55	SCW-005-032007	2	U	0.173	2	U	0.151	2	U	0.1	2	U	0.133
5/29/2007 11:15	SCW-005-052007	1	UJ	0.052	1	U	0.11	1	U	0.09	1	U	0.077
9/4/2007 9:05	SCW-005-092007	1	UJ	0.052	1	U	0.11	1	U	0.09	1	U	0.077
12/3/2007 9:10	SCW-005-122007	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
3/3/2008 10:00	SCW-005-032008	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
6/18/2008 9:15	SCW-005-062008	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
8/27/2008 9:35	SCW-005-092008	1	UJ	0.11	1	U	0.065	1	U	0.049	1	U	0.035
11/12/2008 10:08	SCW-005-122008	0.35	J	0.11	1	U	0.065	1	U	0.049	1	U	0.035
2/26/2009 9:05	SCW-005-032009	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
5/18/2009 9:35	SCW-005-062009	1	U	0.11	1	U	0.065	1	U	0.049	1	U	0.035
8/4/2009 9:05	SCW-005-092009	1	U	0.28	1	U	0.18	1	U	0.18	1	U	0.27
11/12/2009 8:35	SCW-005-122009	1	U	0.28	1	U	0.18	1	U	0.18	1	U	0.27
1/28/2010 14:30	SCW-005-012010				1	U	0.069						
5/6/2010 8:45	SCW-005-042010				1	U	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	Dibromomethane			Dichlorodifluoromethane			Ethylbenzene			Hexachlorobutadiene		
	CAS #	74-95-3			75-71-8			100-41-4			87-68-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
6/19/2006 10:15	SCW-005-062006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
9/25/2006 15:50	SCW-005-092006	2	U	0.1	2	U	0.5	2	U	0.1	2	UJ	0.192
12/7/2006 8:35	SCW-005-122006	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
2/27/2007 9:55	SCW-005-032007	2	U	0.1	2	U	0.5	2	U	0.1	2	U	0.192
5/29/2007 11:15	SCW-005-052007	1	U	0.14	1	U	0.05	1	U	0.076	1	U	0.075
9/4/2007 9:05	SCW-005-092007	1	U	0.14	1	U	0.05	1	U	0.076	1	U	0.075
12/3/2007 9:10	SCW-005-122007	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
3/3/2008 10:00	SCW-005-032008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
6/18/2008 9:15	SCW-005-062008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
8/27/2008 9:35	SCW-005-092008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
11/12/2008 10:08	SCW-005-122008	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
2/26/2009 9:05	SCW-005-032009	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
5/18/2009 9:35	SCW-005-062009	1	U	0.026	1	U	0.058	1	U	0.038	1	U	0.091
8/4/2009 9:05	SCW-005-092009	1	U	0.21	1	U	0.38	1	U	0.18	1	U	0.21
11/12/2009 8:35	SCW-005-122009	1	U	0.21	1	U	0.38	1	U	0.18	1	U	0.21
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene			Methylene Chloride		
	CAS #	108-20-3			98-82-8			136777-61-2			75-09-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
6/19/2006 10:15	SCW-005-062006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
9/25/2006 15:50	SCW-005-092006	2	UJ	0.5	2	U	0.1	2	U	0.216	2	U	0.398
12/7/2006 8:35	SCW-005-122006	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
2/27/2007 9:55	SCW-005-032007	2	U	0.5	2	U	0.1	2	U	0.216	2	U	0.398
5/29/2007 11:15	SCW-005-052007				1	UJ	0.078	1	U	0.097	1	U	0.069
9/4/2007 9:05	SCW-005-092007				1	U	0.078	1	U	0.097	1	U	0.069
12/3/2007 9:10	SCW-005-122007				1	U	0.039	1	U	0.097	1	U	0.12
3/3/2008 10:00	SCW-005-032008				1	U	0.039	1	U	0.097	1	U	0.12
6/18/2008 9:15	SCW-005-062008				1	U	0.039	1	U	0.097	1	U	0.12
8/27/2008 9:35	SCW-005-092008				1	U	0.039	1	U	0.097	1	U	0.12
11/12/2008 10:08	SCW-005-122008				1	U	0.039	1	U	0.097	1	U	0.12
2/26/2009 9:05	SCW-005-032009				1	U	0.039	1	U	0.097	1	U	0.12
5/18/2009 9:35	SCW-005-062009				1	U	0.039	1	U	0.097	1	U	0.12
8/4/2009 9:05	SCW-005-092009				1	U	0.22	1	U	0.4	1	U	0.25
11/12/2009 8:35	SCW-005-122009				1	U	0.22	1	U	0.4	1	U	0.25
1/28/2010 14:30	SCW-005-012010										1	U	0.1
5/6/2010 8:45	SCW-005-042010										1	U	0.1

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	Naphthalene			n-Butylbenzene			n-Propylbenzene			o-Xylene		
	CAS #	91-20-3			104-51-8			103-65-1			95-47-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
6/19/2006 10:15	SCW-005-062006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
9/25/2006 15:50	SCW-005-092006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
12/7/2006 8:35	SCW-005-122006	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
2/27/2007 9:55	SCW-005-032007	2	U	0.139	2	U	0.14	2	U	0.1	2	U	0.102
5/29/2007 11:15	SCW-005-052007	1	U	0.059	1	U	0.068	1	U	0.056	1	U	0.069
9/4/2007 9:05	SCW-005-092007	1	U	0.059	1	U	0.068	1	U	0.056	1	U	0.069
12/3/2007 9:10	SCW-005-122007	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
3/3/2008 10:00	SCW-005-032008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
6/18/2008 9:15	SCW-005-062008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
8/27/2008 9:35	SCW-005-092008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
11/12/2008 10:08	SCW-005-122008	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
2/26/2009 9:05	SCW-005-032009	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
5/18/2009 9:35	SCW-005-062009	1	U	0.068	1	U	0.071	1	U	0.08	1	U	0.06
8/4/2009 9:05	SCW-005-092009	1	U	0.15	1	U	0.19	1	U	0.22	1	U	0.2
11/12/2009 8:35	SCW-005-122009	1	U	0.15	1	U	0.19	1	U	0.22	1	U	0.2
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	p-Cymene (p-Isopropyltoluene)			sec-Butylbenzene			Styrene			tert-Butyl Methyl Ether (MTBE)		
	CAS #	99-87-6			135-98-8			100-42-5			1634-04-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
6/19/2006 10:15	SCW-005-062006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
9/25/2006 15:50	SCW-005-092006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
12/7/2006 8:35	SCW-005-122006	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
2/27/2007 9:55	SCW-005-032007	2	U	0.1	2	U	0.133	2	U	0.1	2	U	0.1
5/29/2007 11:15	SCW-005-052007	1	U	0.047	1	U	0.036	1	U	0.11	1	U	0.052
9/4/2007 9:05	SCW-005-092007	1	U	0.047	1	U	0.036	1	U	0.11	1	U	0.052
12/3/2007 9:10	SCW-005-122007	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
3/3/2008 10:00	SCW-005-032008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
6/18/2008 9:15	SCW-005-062008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
8/27/2008 9:35	SCW-005-092008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
11/12/2008 10:08	SCW-005-122008	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
2/26/2009 9:05	SCW-005-032009	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
5/18/2009 9:35	SCW-005-062009	1	U	0.07	1	U	0.037	1	U	0.05	1	U	0.036
8/4/2009 9:05	SCW-005-092009	1	U	0.19	1	U	0.22	1	U	0.19	1	U	0.21
11/12/2009 8:35	SCW-005-122009	1	U	0.19	1	U	0.22	1	U	0.19	1	U	0.21
1/28/2010 14:30	SCW-005-012010												
5/6/2010 8:45	SCW-005-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene			trans-1,2-Dichloroethene		
	CAS #	98-06-6			127-18-4			108-88-3			156-60-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
6/19/2006 10:15	SCW-005-062006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
9/25/2006 15:50	SCW-005-092006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
12/7/2006 8:35	SCW-005-122006	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
2/27/2007 9:55	SCW-005-032007	2	U	0.17	2	U	0.115	2	U	0.105	2	U	0.152
5/29/2007 11:15	SCW-005-052007	1	U	0.056	1	U	0.056	1	U	0.059	1	U	0.1
9/4/2007 9:05	SCW-005-092007	1	U	0.056	1	U	0.056	1	U	0.059	1	U	0.1
12/3/2007 9:10	SCW-005-122007	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
3/3/2008 10:00	SCW-005-032008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
6/18/2008 9:15	SCW-005-062008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
8/27/2008 9:35	SCW-005-092008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
11/12/2008 10:08	SCW-005-122008	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
2/26/2009 9:05	SCW-005-032009	1	U	0.046	1	U	0.063	1	U	0.041	1	U	0.059
5/18/2009 9:35	SCW-005-062009	1	U	0.046	1	U	0.063	0.3	J	0.041	1	U	0.059
8/4/2009 9:05	SCW-005-092009	1	U	0.23	1	U	0.34	1	U	0.19	1	U	0.14
11/12/2009 8:35	SCW-005-122009	1	U	0.23	1	U	0.34	1	U	0.19	1	U	0.14
1/28/2010 14:30	SCW-005-012010										1	U	0.095
5/6/2010 8:45	SCW-005-042010										1	U	0.095

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane			Vinyl Acetate		
	CAS #	10061-02-6			79-01-6			75-69-4			108-05-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
6/19/2006 10:15	SCW-005-062006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
9/25/2006 15:50	SCW-005-092006	2	U	0.1	2	U	0.151	2	UJ	0.111	2	U	0.15
12/7/2006 8:35	SCW-005-122006	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
2/27/2007 9:55	SCW-005-032007	2	U	0.1	2	U	0.151	2	U	0.111	2	U	0.15
5/29/2007 11:15	SCW-005-052007	1	U	0.1	1	U	0.089	1	U	0.038			
9/4/2007 9:05	SCW-005-092007	1	U	0.1	1	U	0.089	1	U	0.038			
12/3/2007 9:10	SCW-005-122007	1	U	0.053	1	U	0.058	1	U	0.067			
3/3/2008 10:00	SCW-005-032008	1	U	0.053	1	U	0.058	1	U	0.067			
6/18/2008 9:15	SCW-005-062008	1	U	0.053	1	U	0.058	1	U	0.067			
8/27/2008 9:35	SCW-005-092008	1	U	0.053	1	U	0.058	1	U	0.067			
11/12/2008 10:08	SCW-005-122008	1	U	0.053	1	U	0.058	1	U	0.067			
2/26/2009 9:05	SCW-005-032009	1	U	0.053	1	U	0.058	1	U	0.067			
5/18/2009 9:35	SCW-005-062009	1	U	0.053	1	U	0.058	1	U	0.067			
8/4/2009 9:05	SCW-005-092009	1	U	0.2	1	U	0.17	1	U	0.36			
11/12/2009 8:35	SCW-005-122009	1	U	0.2	1	U	0.17	1	U	0.36			
1/28/2010 14:30	SCW-005-012010				1	U	0.11						
5/6/2010 8:45	SCW-005-042010				1	U	0.11						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-37 Summary of VOCs in Surface Water for Silver Creek SCW-05 (continued)

	Compound	Vinyl Chloride			Xylenes, Total		
	CAS #	75-01-4			1330-20-7		
	Units	µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL
3/27/2006 10:10	SCW-005-032006	2	U	0.239			
6/19/2006 10:15	SCW-005-062006	2	U	0.239			
9/25/2006 15:50	SCW-005-092006	2	U	0.239			
12/7/2006 8:35	SCW-005-122006	2	U	0.239			
2/27/2007 9:55	SCW-005-032007	2	U	0.239			
5/29/2007 11:15	SCW-005-052007	1	UJ	0.092	1	U	0.097
9/4/2007 9:05	SCW-005-092007	1	U	0.092	1	U	0.097
12/3/2007 9:10	SCW-005-122007	1	U	0.062	1	U	0.097
3/3/2008 10:00	SCW-005-032008	1	U	0.062	1	U	0.097
6/18/2008 9:15	SCW-005-062008	1	U	0.062	1	U	0.097
8/27/2008 9:35	SCW-005-092008	1	U	0.062	1	U	0.097
11/12/2008 10:08	SCW-005-122008	1	U	0.062	1	U	0.097
2/26/2009 9:05	SCW-005-032009	1	U	0.062	1	U	0.097
5/18/2009 9:35	SCW-005-062009	1	U	0.062	1	U	0.097
8/4/2009 9:05	SCW-005-092009	1	U	0.34	1	U	0.4
11/12/2009 8:35	SCW-005-122009	1	U	0.34	1	U	0.4
1/28/2010 14:30	SCW-005-012010	1	U	0.079			
5/6/2010 8:45	SCW-005-042010	1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06

	Compound	1,1,1,2-Tetrachloroethane			1,1,1-Trichloroethane			1,1,2,2-Tetrachloroethane			1,1,2-Trichloro-1,2,2-trifluoroethane		
	CAS #	630-20-6			71-55-6			79-34-5			76-13-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	0.5	U	0.15	1	U	0.16	0.5	U	0.09	1	UJ	0.13
6/11/2005 12:00	SCW-006-062005	0.5	U	0.15	1	U	0.16	0.5	UJ	0.09	1	U	0.13
9/17/2005 16:00	SCW-006-092005	0.5	U	0.15	1	UJ	0.16	0.5	U	0.09	1	U	0.13
11/30/2005 11:05	SCW-006-122005	2	U	0.222	2	U	0.18	2	U	0.1			
3/27/2006 10:20	SCW-006-032006	2	U	0.222	2	U	0.18	2	U	0.1			
6/19/2006 10:35	SCW-006-062006	2	U	0.222	2	U	0.18	2	U	0.1			
9/25/2006 16:05	SCW-006-092006	2	U	0.222	2	U	0.18	2	U	0.1			
12/7/2006 8:40	SCW-006-122006	2	U	0.222	2	U	0.18	2	U	0.1			
2/27/2007 10:05	SCW-006-032007	2	U	0.222	2	U	0.18	2	U	0.1			
5/29/2007 11:25	SCW-006-052007	1	U	0.09	1	U	0.06	1	U	0.12	1	U	0.059
9/4/2007 9:20	SCW-006-092007	1	U	0.09	1	U	0.06	1	UJ	0.12	1	U	0.059
12/3/2007 9:30	SCW-006-122007	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
3/3/2008 10:25	SCW-006-032008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
6/18/2008 9:30	SCW-006-062008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/27/2008 9:50	SCW-006-092008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
11/12/2008 10:15	SCW-006-122008	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
2/26/2009 9:30	SCW-006-032009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
5/18/2009 9:45	SCW-006-062009	1	U	0.054	1	U	0.041	1	U	0.047	1	U	0.062
8/4/2009 8:45	SCW-006-092009	1	U	0.23	1	U	0.2	1	U	0.22			
11/12/2009 8:20	SCW-006-122009	1	U	0.23	1	U	0.2	1	U	0.22	1	U	0.2
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	1,1,2-Trichloroethane			1,1-Dichloroethane			1,1-Dichloroethene			1,1-Dichloropropene		
	CAS #	79-00-5			75-34-3			75-35-4			563-58-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.11	1	U	0.17	1	U	0.19			
6/11/2005 12:00	SCW-006-062005	1	U	0.11	1	U	0.17	1	UJ	0.19	1	U	0.18
9/17/2005 16:00	SCW-006-092005	1	U	0.11	1	U	0.17	1	U	0.19	1	U	0.18
11/30/2005 11:05	SCW-006-122005	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
3/27/2006 10:20	SCW-006-032006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
6/19/2006 10:35	SCW-006-062006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
9/25/2006 16:05	SCW-006-092006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
12/7/2006 8:40	SCW-006-122006	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
2/27/2007 10:05	SCW-006-032007	2	U	0.143	2	U	0.214	2	U	0.183	2	U	0.1
5/29/2007 11:25	SCW-006-052007	1	U	0.054	1	U	0.065	1	U	0.094	1	U	0.096
9/4/2007 9:20	SCW-006-092007	1	UJ	0.054	1	UJ	0.065	1	U	0.094	1	U	0.096
12/3/2007 9:30	SCW-006-122007	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
3/3/2008 10:25	SCW-006-032008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
6/18/2008 9:30	SCW-006-062008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/27/2008 9:50	SCW-006-092008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
11/12/2008 10:15	SCW-006-122008	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
2/26/2009 9:30	SCW-006-032009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
5/18/2009 9:45	SCW-006-062009	1	U	0.072	1	U	0.041	1	U	0.077	1	U	0.057
8/4/2009 8:45	SCW-006-092009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
11/12/2009 8:20	SCW-006-122009	1	U	0.22	1	U	0.18	1	U	0.23	1	U	0.16
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	1,2,3-Trichlorobenzene			1,2,3-Trichloropropane			1,2,4-Trichlorobenzene			1,2,4-Trimethylbenzene		
	CAS #	87-61-6			96-18-4			120-82-1			95-63-6		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.1				1	U	0.08	1	U	0.1
6/11/2005 12:00	SCW-006-062005	1	U	0.1				1	U	0.08	1	UJ	0.1
9/17/2005 16:00	SCW-006-092005	1	UJ	0.1				1	UJ	0.08	1	UJ	0.1
11/30/2005 11:05	SCW-006-122005	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
3/27/2006 10:20	SCW-006-032006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
6/19/2006 10:35	SCW-006-062006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
9/25/2006 16:05	SCW-006-092006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
12/7/2006 8:40	SCW-006-122006	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
2/27/2007 10:05	SCW-006-032007	2	U	0.142	2	U	0.107	2	U	0.108	2	U	0.111
5/29/2007 11:25	SCW-006-052007	1	U	0.064				1	U	0.042	1	U	0.096
9/4/2007 9:20	SCW-006-092007	1	U	0.064				1	U	0.042	1	U	0.096
12/3/2007 9:30	SCW-006-122007	1	U	0.092				1	U	0.093	1	U	0.036
3/3/2008 10:25	SCW-006-032008	1	U	0.092				1	U	0.093	1	U	0.036
6/18/2008 9:30	SCW-006-062008	1	U	0.092				1	U	0.093	1	U	0.036
8/27/2008 9:50	SCW-006-092008	1	U	0.092				1	U	0.093	1	U	0.036
11/12/2008 10:15	SCW-006-122008	1	U	0.092				1	U	0.093	1	U	0.036
2/26/2009 9:30	SCW-006-032009	1	U	0.092				1	U	0.093	1	U	0.036
5/18/2009 9:45	SCW-006-062009	1	U	0.092				1	U	0.093	1	U	0.036
8/4/2009 8:45	SCW-006-092009	1	U	0.14				1	U	0.15	1	U	0.21
11/12/2009 8:20	SCW-006-122009	1	U	0.14				1	U	0.15	1	U	0.21
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	1,2-Dibromo-3-chloropropane			1,2-Dibromoethane (EDB)			1,2-Dichlorobenzene			1,2-Dichloroethane		
	CAS #	96-12-8			106-93-4			95-50-1			107-06-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.2	1	U	0.12	1	U	0.08	0.5	U	0.13
6/11/2005 12:00	SCW-006-062005	1	UJ	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
9/17/2005 16:00	SCW-006-092005	1	U	0.2	1	U	0.12	1	UJ	0.08	0.5	U	0.13
11/30/2005 11:05	SCW-006-122005	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
3/27/2006 10:20	SCW-006-032006	2	UJ	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
6/19/2006 10:35	SCW-006-062006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
9/25/2006 16:05	SCW-006-092006	2	U	0.133	2	UJ	0.117	2	U	0.141	2	U	0.182
12/7/2006 8:40	SCW-006-122006	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
2/27/2007 10:05	SCW-006-032007	2	U	0.133	2	U	0.117	2	U	0.141	2	U	0.182
5/29/2007 11:25	SCW-006-052007	1	U	0.13	1	U	0.077	1	U	0.062	1	UJ	0.063
9/4/2007 9:20	SCW-006-092007	1	UJ	0.13	1	U	0.077	1	U	0.062	1	U	0.063
12/3/2007 9:30	SCW-006-122007	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
3/3/2008 10:25	SCW-006-032008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
6/18/2008 9:30	SCW-006-062008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/27/2008 9:50	SCW-006-092008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
11/12/2008 10:15	SCW-006-122008	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
2/26/2009 9:30	SCW-006-032009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
5/18/2009 9:45	SCW-006-062009	1	U	0.14	1	U	0.066	1	U	0.07	1	U	0.1
8/4/2009 8:45	SCW-006-092009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
11/12/2009 8:20	SCW-006-122009	1	U	0.33	1	U	0.21	1	U	0.23	1	U	0.18
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	1,2-Dichloroethene			1,2-Dichloropropane			1,3,5-Trimethylbenzene			1,3-Dichlorobenzene		
	CAS #	540-59-0			78-87-5			108-67-8			541-73-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005				1	U	0.15	1	U	0.09	1	U	0.1
6/11/2005 12:00	SCW-006-062005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
9/17/2005 16:00	SCW-006-092005				1	U	0.15	1	UJ	0.09	1	UJ	0.1
11/30/2005 11:05	SCW-006-122005				2	U	0.119	2	U	0.113	2	U	0.189
3/27/2006 10:20	SCW-006-032006				2	U	0.119	2	U	0.113	2	U	0.189
6/19/2006 10:35	SCW-006-062006				2	U	0.119	2	U	0.113	2	U	0.189
9/25/2006 16:05	SCW-006-092006				2	U	0.119	2	U	0.113	2	U	0.189
12/7/2006 8:40	SCW-006-122006				2	U	0.119	2	U	0.113	2	U	0.189
2/27/2007 10:05	SCW-006-032007				2	U	0.119	2	U	0.113	2	U	0.189
5/29/2007 11:25	SCW-006-052007	1	U	0.14	1	U	0.088	1	U	0.064	1	U	0.071
9/4/2007 9:20	SCW-006-092007	1	U	0.14	1	UJ	0.088	1	U	0.064	1	U	0.071
12/3/2007 9:30	SCW-006-122007	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
3/3/2008 10:25	SCW-006-032008	1	U	0.11	1	UJ	0.1	1	U	0.059	1	U	0.054
6/18/2008 9:30	SCW-006-062008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/27/2008 9:50	SCW-006-092008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
11/12/2008 10:15	SCW-006-122008	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
2/26/2009 9:30	SCW-006-032009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
5/18/2009 9:45	SCW-006-062009	1	U	0.11	1	U	0.1	1	U	0.059	1	U	0.054
8/4/2009 8:45	SCW-006-092009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
11/12/2009 8:20	SCW-006-122009	1	U	0.31	1	U	0.21	1	U	0.22	1	U	0.19
1/28/2010 14:00	SCW-006-012010				1	U	0.068						
5/6/2010 8:55	SCW-006-042010				1	U	0.068						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	1,3-Dichloropropane			1,4-Dichlorobenzene			2,2-Dichloropropane			2-Butanone (MEK)		
	CAS #	142-28-9			106-46-7			594-20-7			78-93-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	0.5	U	0.14	0.5	U	0.12				1	UJ	0.23
6/11/2005 12:00	SCW-006-062005	0.5	UJ	0.14	0.5	UJ	0.12				1	UJ	0.23
9/17/2005 16:00	SCW-006-092005	0.5	U	0.14	0.5	UJ	0.12				1	U	0.23
11/30/2005 11:05	SCW-006-122005	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
3/27/2006 10:20	SCW-006-032006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
6/19/2006 10:35	SCW-006-062006	2	U	0.107	2	U	0.15	2	U	0.108	2	U	0.481
9/25/2006 16:05	SCW-006-092006	2	UJ	0.107	2	U	0.15	2	U	0.108	2	U	0.481
12/7/2006 8:40	SCW-006-122006	2	U	0.107	2	U	0.15	2	U	0.108	4	U	0.481
2/27/2007 10:05	SCW-006-032007	2	U	0.107	2	U	0.15	2	U	0.108	10	U	5
5/29/2007 11:25	SCW-006-052007	1	U	0.066	1	U	0.037				5	U	0.72
9/4/2007 9:20	SCW-006-092007	1	U	0.066	1	U	0.037				5	U	0.72
12/3/2007 9:30	SCW-006-122007	1	U	0.054	1	U	0.079				5	U	0.78
3/3/2008 10:25	SCW-006-032008	1	U	0.054	1	U	0.079				5	U	0.78
6/18/2008 9:30	SCW-006-062008	1	U	0.054	1	U	0.079				5	U	0.78
8/27/2008 9:50	SCW-006-092008	1	U	0.054	1	U	0.079				5	U	0.78
11/12/2008 10:15	SCW-006-122008	1	U	0.054	1	U	0.079				4.1	J	0.78
2/26/2009 9:30	SCW-006-032009	1	U	0.054	1	U	0.079				5	U	0.78
5/18/2009 9:45	SCW-006-062009	1	U	0.054	1	U	0.079				5	U	0.78
8/4/2009 8:45	SCW-006-092009	1	U	0.2	1	U	0.17				5	U	1
11/12/2009 8:20	SCW-006-122009	1	U	0.2	1	U	0.17				5	U	1
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	2-Chlorotoluene			2-Hexanone			4-Chlorotoluene			4-Methyl-2-pentanone		
	CAS #	95-49-8			591-78-6			106-43-4			108-10-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
6/11/2005 12:00	SCW-006-062005	1	UJ	0.09	1	U	0.57	1	UJ	0.1	1	U	0.46
9/17/2005 16:00	SCW-006-092005	1	U	0.09	1	U	0.57	1	U	0.1	1	U	0.46
11/30/2005 11:05	SCW-006-122005	2	U	0.106	2	U	0.163	2	U	0.1	2	UJ	0.128
3/27/2006 10:20	SCW-006-032006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
6/19/2006 10:35	SCW-006-062006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
9/25/2006 16:05	SCW-006-092006	2	U	0.106	2	U	0.163	2	U	0.1	2	U	0.128
12/7/2006 8:40	SCW-006-122006	2	U	0.106	4	U	0.163	2	U	0.1	4	U	0.128
2/27/2007 10:05	SCW-006-032007	2	U	0.106	10	U	5	2	U	0.1	10	U	5
5/29/2007 11:25	SCW-006-052007	1	U	0.062	5	U	0.5	1	U	0.11	5	U	0.56
9/4/2007 9:20	SCW-006-092007	1	U	0.062	5	U	0.5	1	U	0.11	5	UJ	0.56
12/3/2007 9:30	SCW-006-122007	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
3/3/2008 10:25	SCW-006-032008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
6/18/2008 9:30	SCW-006-062008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/27/2008 9:50	SCW-006-092008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
11/12/2008 10:15	SCW-006-122008	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
2/26/2009 9:30	SCW-006-032009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
5/18/2009 9:45	SCW-006-062009	1	U	0.051	5	U	0.29	1	U	0.079	5	U	0.29
8/4/2009 8:45	SCW-006-092009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
11/12/2009 8:20	SCW-006-122009	1	U	0.23	5	U	0.82	1	U	0.25	5	U	0.74
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	Acetone			Benzene			Bromobenzene			Bromochloromethane		
	CAS #	67-64-1			71-43-2			108-86-1			74-97-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
6/11/2005 12:00	SCW-006-062005	5	UJ	1.6	0.5	U	0.15	1	UJ	0.11	1	U	0.14
9/17/2005 16:00	SCW-006-092005	5	UJ	1.6	0.5	U	0.15	1	U	0.11	1	U	0.14
11/30/2005 11:05	SCW-006-122005	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
3/27/2006 10:20	SCW-006-032006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
6/19/2006 10:35	SCW-006-062006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
9/25/2006 16:05	SCW-006-092006	2	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
12/7/2006 8:40	SCW-006-122006	4	U	0.612	2	U	0.139	2	U	0.156	2	U	0.165
2/27/2007 10:05	SCW-006-032007	10	U	5	2	U	0.139	2	U	0.156	2	U	0.165
5/29/2007 11:25	SCW-006-052007	5	U	1.3	1	U	0.083	1	U	0.051	1	U	0.067
9/4/2007 9:20	SCW-006-092007	2.5	J	1.3	1	U	0.083	1	U	0.051	1	U	0.067
12/3/2007 9:30	SCW-006-122007	2.8	J	0.77	1	U	0.059	1	U	0.07	1	U	0.064
3/3/2008 10:25	SCW-006-032008	6.7		0.77	1	U	0.059	1	U	0.07	1	U	0.064
6/18/2008 9:30	SCW-006-062008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/27/2008 9:50	SCW-006-092008	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
11/12/2008 10:15	SCW-006-122008	6.1		0.77	1	U	0.059	1	U	0.07	1	U	0.064
2/26/2009 9:30	SCW-006-032009	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
5/18/2009 9:45	SCW-006-062009	5	U	0.77	1	U	0.059	1	U	0.07	1	U	0.064
8/4/2009 8:45	SCW-006-092009	5	U	1.7	1	U	0.19	1	U	0.2	1	U	0.37
11/12/2009 8:20	SCW-006-122009	2.1	J	1.7	1	U	0.19	1	U	0.2	1	U	0.37
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	Bromodichloromethane			Bromoform			Bromomethane			Carbon Disulfide		
	CAS #	75-27-4			75-25-2			74-83-9			75-15-0		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
6/11/2005 12:00	SCW-006-062005	0.5	U	0.14	1	U	0.09	1	UJ	0.18	1	UJ	0.11
9/17/2005 16:00	SCW-006-092005	0.5	U	0.14	1	U	0.09	1	U	0.18	1	U	0.11
11/30/2005 11:05	SCW-006-122005	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
3/27/2006 10:20	SCW-006-032006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
6/19/2006 10:35	SCW-006-062006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
9/25/2006 16:05	SCW-006-092006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
12/7/2006 8:40	SCW-006-122006	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
2/27/2007 10:05	SCW-006-032007	2	U	0.135	2	U	0.163	2	U	0.201	2	U	0.183
5/29/2007 11:25	SCW-006-052007	1	U	0.088	1	U	0.057	1	UJ	0.068	1	U	0.067
9/4/2007 9:20	SCW-006-092007	1	U	0.088	1	U	0.057	1	U	0.068	1	U	0.067
12/3/2007 9:30	SCW-006-122007	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
3/3/2008 10:25	SCW-006-032008	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
6/18/2008 9:30	SCW-006-062008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
8/27/2008 9:50	SCW-006-092008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
11/12/2008 10:15	SCW-006-122008	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
2/26/2009 9:30	SCW-006-032009	1	U	0.031	1	U	0.1	1	U	0.29	1	U	0.045
5/18/2009 9:45	SCW-006-062009	1	U	0.031	1	U	0.1	1	UJ	0.29	1	U	0.045
8/4/2009 8:45	SCW-006-092009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
11/12/2009 8:20	SCW-006-122009	1	U	0.2	1	U	0.17	1	U	0.29	1	U	0.13
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	Carbon Tetrachloride			Chlorobenzene			Chloroethane			Chloroform		
	CAS #	56-23-5			108-90-7			75-00-3			67-66-3		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
6/11/2005 12:00	SCW-006-062005	1	U	0.16	0.5	U	0.11	1	UJ	0.46	0.5	U	0.16
9/17/2005 16:00	SCW-006-092005	1	U	0.16	0.5	U	0.11	1	U	0.46	0.5	U	0.16
11/30/2005 11:05	SCW-006-122005	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
3/27/2006 10:20	SCW-006-032006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
6/19/2006 10:35	SCW-006-062006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
9/25/2006 16:05	SCW-006-092006	2	U	0.137	2	UJ	0.156	2	U	0.207	2	U	0.214
12/7/2006 8:40	SCW-006-122006	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
2/27/2007 10:05	SCW-006-032007	2	U	0.137	2	U	0.156	2	U	0.207	2	U	0.214
5/29/2007 11:25	SCW-006-052007	1	U	0.063	1	U	0.059	1	UJ	0.13	1	U	0.052
9/4/2007 9:20	SCW-006-092007	1	U	0.063	1	U	0.059	1	U	0.13	1	U	0.052
12/3/2007 9:30	SCW-006-122007	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
3/3/2008 10:25	SCW-006-032008	1	U	0.031	1	U	0.047	1	UJ	0.15	1	U	0.041
6/18/2008 9:30	SCW-006-062008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/27/2008 9:50	SCW-006-092008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
11/12/2008 10:15	SCW-006-122008	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
2/26/2009 9:30	SCW-006-032009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
5/18/2009 9:45	SCW-006-062009	1	U	0.031	1	U	0.047	1	U	0.15	1	U	0.041
8/4/2009 8:45	SCW-006-092009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
11/12/2009 8:20	SCW-006-122009	1	U	0.2	1	U	0.18	1	U	0.39	1	U	0.2
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	Chloromethane			cis-1,2-Dichloroethene			cis-1,3-Dichloropropene			Cyclohexane		
	CAS #	74-87-3			156-59-2			10061-01-5			110-82-7		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
6/11/2005 12:00	SCW-006-062005	1	U	0.08	1	U	0.09	0.5	UJ	0.12	1	U	0.15
9/17/2005 16:00	SCW-006-092005	1	U	0.08	1	U	0.09	0.5	U	0.12	1	U	0.15
11/30/2005 11:05	SCW-006-122005	2	U	0.173	2	U	0.151	2	U	0.1			
3/27/2006 10:20	SCW-006-032006	2	U	0.173	2	U	0.151	2	U	0.1			
6/19/2006 10:35	SCW-006-062006	2	U	0.173	2	U	0.151	2	U	0.1			
9/25/2006 16:05	SCW-006-092006	2	U	0.173	2	U	0.151	2	U	0.1			
12/7/2006 8:40	SCW-006-122006	2	U	0.173	2	U	0.151	2	U	0.1			
2/27/2007 10:05	SCW-006-032007	2	U	0.173	2	U	0.151	2	U	0.1			
5/29/2007 11:25	SCW-006-052007	1	UJ	0.052	1	U	0.11	1	U	0.09			
9/4/2007 9:20	SCW-006-092007	1	UJ	0.052	1	U	0.11	1	U	0.09			
12/3/2007 9:30	SCW-006-122007	1	U	0.11	1	U	0.065	1	U	0.049			
3/3/2008 10:25	SCW-006-032008	1	U	0.11	1	U	0.065	1	U	0.049			
6/18/2008 9:30	SCW-006-062008	1	U	0.11	1	U	0.065	1	U	0.049			
8/27/2008 9:50	SCW-006-092008	1	UJ	0.11	1	U	0.065	1	U	0.049			
11/12/2008 10:15	SCW-006-122008	0.67	J	0.11	1	U	0.065	1	U	0.049			
2/26/2009 9:30	SCW-006-032009	1	U	0.11	1	U	0.065	1	U	0.049			
5/18/2009 9:45	SCW-006-062009	1	U	0.11	1	U	0.065	1	U	0.049			
8/4/2009 8:45	SCW-006-092009	1	U	0.28	1	U	0.18	1	U	0.18			
11/12/2009 8:20	SCW-006-122009	1	U	0.28	1	U	0.18	1	U	0.18			
1/28/2010 14:00	SCW-006-012010				1	U	0.069						
5/6/2010 8:55	SCW-006-042010				1	U	0.069						

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	Dibromochloromethane			Dibromomethane			Dichlorodifluoromethane			Ethylbenzene		
	CAS #	124-48-1			74-95-3			75-71-8			100-41-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
6/11/2005 12:00	SCW-006-062005	0.5	U	0.13	1	U	0.09	1	U	0.12	1	U	0.11
9/17/2005 16:00	SCW-006-092005	0.5	U	0.13	1	U	0.09	1	UJ	0.12	1	U	0.11
11/30/2005 11:05	SCW-006-122005	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
3/27/2006 10:20	SCW-006-032006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
6/19/2006 10:35	SCW-006-062006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
9/25/2006 16:05	SCW-006-092006	2	UJ	0.133	2	U	0.1	2	U	0.5	2	U	0.1
12/7/2006 8:40	SCW-006-122006	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
2/27/2007 10:05	SCW-006-032007	2	U	0.133	2	U	0.1	2	U	0.5	2	U	0.1
5/29/2007 11:25	SCW-006-052007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
9/4/2007 9:20	SCW-006-092007	1	U	0.077	1	U	0.14	1	U	0.05	1	U	0.076
12/3/2007 9:30	SCW-006-122007	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
3/3/2008 10:25	SCW-006-032008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
6/18/2008 9:30	SCW-006-062008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/27/2008 9:50	SCW-006-092008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
11/12/2008 10:15	SCW-006-122008	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
2/26/2009 9:30	SCW-006-032009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
5/18/2009 9:45	SCW-006-062009	1	U	0.035	1	U	0.026	1	U	0.058	1	U	0.038
8/4/2009 8:45	SCW-006-092009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
11/12/2009 8:20	SCW-006-122009	1	U	0.27	1	U	0.21	1	U	0.38	1	U	0.18
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	Hexachlorobutadiene			ISOpropyl ether			Isopropylbenzene (Cumene)			m,p-Xylene		
	CAS #	87-68-3			108-20-3			98-82-8			136777-61-2		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.15				1	U	0.12	1	U	0.24
6/11/2005 12:00	SCW-006-062005	1	U	0.15				1	UJ	0.12	1	U	0.24
9/17/2005 16:00	SCW-006-092005	1	U	0.15				1	UJ	0.12	1	U	0.24
11/30/2005 11:05	SCW-006-122005	2	U	0.192				2	U	0.1	2	U	0.216
3/27/2006 10:20	SCW-006-032006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
6/19/2006 10:35	SCW-006-062006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
9/25/2006 16:05	SCW-006-092006	2	UJ	0.192	2	UJ	0.5	2	U	0.1	2	U	0.216
12/7/2006 8:40	SCW-006-122006	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
2/27/2007 10:05	SCW-006-032007	2	U	0.192	2	U	0.5	2	U	0.1	2	U	0.216
5/29/2007 11:25	SCW-006-052007	1	U	0.075				1	UJ	0.078	1	U	0.097
9/4/2007 9:20	SCW-006-092007	1	U	0.075				1	U	0.078	1	U	0.097
12/3/2007 9:30	SCW-006-122007	1	U	0.091				1	U	0.039	1	U	0.097
3/3/2008 10:25	SCW-006-032008	1	U	0.091				1	U	0.039	1	U	0.097
6/18/2008 9:30	SCW-006-062008	1	U	0.091				1	U	0.039	1	U	0.097
8/27/2008 9:50	SCW-006-092008	1	U	0.091				1	U	0.039	1	U	0.097
11/12/2008 10:15	SCW-006-122008	1	U	0.091				1	U	0.039	1	U	0.097
2/26/2009 9:30	SCW-006-032009	1	U	0.091				1	U	0.039	1	U	0.097
5/18/2009 9:45	SCW-006-062009	1	U	0.091				1	U	0.039	1	U	0.097
8/4/2009 8:45	SCW-006-092009	1	U	0.21				1	U	0.22	1	U	0.4
11/12/2009 8:20	SCW-006-122009	1	U	0.21				1	U	0.22	1	U	0.4
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	Methylene Chloride			Naphthalene			n-Butylbenzene			n-Propylbenzene		
	CAS #	75-09-2			91-20-3			104-51-8			103-65-1		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
6/11/2005 12:00	SCW-006-062005	1	U	0.42	1	U	0.1	1	U	0.12	1	UJ	0.1
9/17/2005 16:00	SCW-006-092005	1	U	0.42	1	U	0.1	1	U	0.12	1	U	0.1
11/30/2005 11:05	SCW-006-122005	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
3/27/2006 10:20	SCW-006-032006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
6/19/2006 10:35	SCW-006-062006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
9/25/2006 16:05	SCW-006-092006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
12/7/2006 8:40	SCW-006-122006	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
2/27/2007 10:05	SCW-006-032007	2	U	0.398	2	U	0.139	2	U	0.14	2	U	0.1
5/29/2007 11:25	SCW-006-052007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
9/4/2007 9:20	SCW-006-092007	1	U	0.069	1	U	0.059	1	U	0.068	1	U	0.056
12/3/2007 9:30	SCW-006-122007	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
3/3/2008 10:25	SCW-006-032008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
6/18/2008 9:30	SCW-006-062008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/27/2008 9:50	SCW-006-092008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
11/12/2008 10:15	SCW-006-122008	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
2/26/2009 9:30	SCW-006-032009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
5/18/2009 9:45	SCW-006-062009	1	U	0.12	1	U	0.068	1	U	0.071	1	U	0.08
8/4/2009 8:45	SCW-006-092009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
11/12/2009 8:20	SCW-006-122009	1	U	0.25	1	U	0.15	1	U	0.19	1	U	0.22
1/28/2010 14:00	SCW-006-012010	1	U	0.1									
5/6/2010 8:55	SCW-006-042010	1	U	0.1									

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	o-Xylene			p-Cymene (p-			sec-Butylbenzene			Styrene		
	CAS #	95-47-6			99-87-6			135-98-8			100-42-5		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
6/11/2005 12:00	SCW-006-062005	1	U	0.13	1	U	0.13	1	U	0.13	1	U	0.11
9/17/2005 16:00	SCW-006-092005	1	U	0.13	1	U	0.13	1	UJ	0.13	1	U	0.11
11/30/2005 11:05	SCW-006-122005	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
3/27/2006 10:20	SCW-006-032006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
6/19/2006 10:35	SCW-006-062006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
9/25/2006 16:05	SCW-006-092006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
12/7/2006 8:40	SCW-006-122006	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
2/27/2007 10:05	SCW-006-032007	2	U	0.102	2	U	0.1	2	U	0.133	2	U	0.1
5/29/2007 11:25	SCW-006-052007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
9/4/2007 9:20	SCW-006-092007	1	U	0.069	1	U	0.047	1	U	0.036	1	U	0.11
12/3/2007 9:30	SCW-006-122007	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
3/3/2008 10:25	SCW-006-032008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
6/18/2008 9:30	SCW-006-062008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/27/2008 9:50	SCW-006-092008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
11/12/2008 10:15	SCW-006-122008	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
2/26/2009 9:30	SCW-006-032009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
5/18/2009 9:45	SCW-006-062009	1	U	0.06	1	U	0.07	1	U	0.037	1	U	0.05
8/4/2009 8:45	SCW-006-092009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
11/12/2009 8:20	SCW-006-122009	1	U	0.2	1	U	0.19	1	U	0.22	1	U	0.19
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

		tert-Butyl Methyl Ether			tert-Butylbenzene			Tetrachloroethene (PCE)			Toluene		
	Compound	**(MTBE)**											
	CAS #	**1634-04-4**			**98-06-6**			**127-18-4**			**108-88-3**		
	Units	**µg/L**			**µg/L**			**µg/L**			**µg/L**		
Sample Date	**Field Sample ID**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**	**Result**	**Q**	**MDL**
3/20/2005 12:05	SCW-006-032005	1	U	0.22	1	U	0.15	1	U	0.12	1	U	0.11
6/11/2005 12:00	SCW-006-062005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	UJ	0.11
9/17/2005 16:00	SCW-006-092005	1	U	0.22	1	UJ	0.15	1	U	0.12	1	U	0.11
11/30/2005 11:05	SCW-006-122005	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
3/27/2006 10:20	SCW-006-032006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
6/19/2006 10:35	SCW-006-062006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
9/25/2006 16:05	SCW-006-092006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
12/7/2006 8:40	SCW-006-122006	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
2/27/2007 10:05	SCW-006-032007	2	U	0.1	2	U	0.17	2	U	0.115	2	U	0.105
5/29/2007 11:25	SCW-006-052007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
9/4/2007 9:20	SCW-006-092007	1	U	0.052	1	U	0.056	1	U	0.056	1	U	0.059
12/3/2007 9:30	SCW-006-122007	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
3/3/2008 10:25	SCW-006-032008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
6/18/2008 9:30	SCW-006-062008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/27/2008 9:50	SCW-006-092008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
11/12/2008 10:15	SCW-006-122008	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
2/26/2009 9:30	SCW-006-032009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
5/18/2009 9:45	SCW-006-062009	1	U	0.036	1	U	0.046	1	U	0.063	1	U	0.041
8/4/2009 8:45	SCW-006-092009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
11/12/2009 8:20	SCW-006-122009	1	U	0.21	1	U	0.23	1	U	0.34	1	U	0.19
1/28/2010 14:00	SCW-006-012010												
5/6/2010 8:55	SCW-006-042010												

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	trans-1,2-Dichloroethene			trans-1,3-Dichloropropene			Trichloroethene (TCE)			Trichlorofluoromethane		
	CAS #	156-60-5			10061-02-6			79-01-6			75-69-4		
	Units	µg/L			µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005	1	U	0.1	1	U	0.1	1	U	0.12	1	U	0.1
6/11/2005 12:00	SCW-006-062005	1	U	0.1	1	UJ	0.1	1	U	0.12	1	UJ	0.1
9/17/2005 16:00	SCW-006-092005	1	U	0.1	1	U	0.1	1	U	0.12	1	U	0.1
11/30/2005 11:05	SCW-006-122005	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
3/27/2006 10:20	SCW-006-032006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
6/19/2006 10:35	SCW-006-062006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
9/25/2006 16:05	SCW-006-092006	2	U	0.152	2	U	0.1	2	U	0.151	2	UJ	0.111
12/7/2006 8:40	SCW-006-122006	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
2/27/2007 10:05	SCW-006-032007	2	U	0.152	2	U	0.1	2	U	0.151	2	U	0.111
5/29/2007 11:25	SCW-006-052007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
9/4/2007 9:20	SCW-006-092007	1	U	0.1	1	U	0.1	1	U	0.089	1	U	0.038
12/3/2007 9:30	SCW-006-122007	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
3/3/2008 10:25	SCW-006-032008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
6/18/2008 9:30	SCW-006-062008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/27/2008 9:50	SCW-006-092008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
11/12/2008 10:15	SCW-006-122008	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
2/26/2009 9:30	SCW-006-032009	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
5/18/2009 9:45	SCW-006-062009	1	U	0.059	1	U	0.053	1	U	0.058	1	U	0.067
8/4/2009 8:45	SCW-006-092009	1	U	0.14	1	U	0.2	1	U	0.17	1	U	0.36
11/12/2009 8:20	SCW-006-122009	1	U	0.14	1	U	0.2	1	U	0.17	1	U	0.36
1/28/2010 14:00	SCW-006-012010	1	U	0.095				1	U	0.11			
5/6/2010 8:55	SCW-006-042010	1	U	0.095				1	U	0.11			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

Table C-38 Summary of VOCs in Surface Water for Silver Creek SCW-06 (continued)

	Compound	Vinyl Acetate			Vinyl Chloride			Xylenes, Total		
	CAS #	108-05-4			75-01-4			1330-20-7		
	Units	µg/L			µg/L			µg/L		
Sample Date	Field Sample ID	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
3/20/2005 12:05	SCW-006-032005				0.4	U	0.09			
6/11/2005 12:00	SCW-006-062005				0.4	U	0.09			
9/17/2005 16:00	SCW-006-092005				0.4	U	0.09			
11/30/2005 11:05	SCW-006-122005	2	U	0.5	2	U	0.239			
3/27/2006 10:20	SCW-006-032006	2	U	0.15	2	U	0.239			
6/19/2006 10:35	SCW-006-062006	2	U	0.15	2	U	0.239			
9/25/2006 16:05	SCW-006-092006	2	U	0.15	2	U	0.239			
12/7/2006 8:40	SCW-006-122006	2	U	0.15	2	U	0.239			
2/27/2007 10:05	SCW-006-032007	2	U	0.15	2	U	0.239			
5/29/2007 11:25	SCW-006-052007				1	UJ	0.092	1	U	0.097
9/4/2007 9:20	SCW-006-092007				1	U	0.092	1	U	0.097
12/3/2007 9:30	SCW-006-122007				1	U	0.062	1	U	0.097
3/3/2008 10:25	SCW-006-032008				1	U	0.062	1	U	0.097
6/18/2008 9:30	SCW-006-062008				1	U	0.062	1	U	0.097
8/27/2008 9:50	SCW-006-092008				1	U	0.062	1	U	0.097
11/12/2008 10:15	SCW-006-122008				1	U	0.062	1	U	0.097
2/26/2009 9:30	SCW-006-032009				1	U	0.062	1	U	0.097
5/18/2009 9:45	SCW-006-062009				1	U	0.062	1	U	0.097
8/4/2009 8:45	SCW-006-092009				1	U	0.34	1	U	0.4
11/12/2009 8:20	SCW-006-122009				1	U	0.34	1	U	0.4
1/28/2010 14:00	SCW-006-012010				1	U	0.079			
5/6/2010 8:55	SCW-006-042010				1	U	0.079			

µg/L: micrograms per liter, ID: identification, J: Estimated value; MDL: Method detection limit, Q: Laboratory Qualifier; R: Rejected Data, U: Not detected, VOC: volatile organic compound

APPENDIX D

SITE PHOTOGRAPHS

Photograph 1. 09/13/10. Drilling Rig. Brad Gough.

Photograph 2. 09/14/10. UXO avoidance. Brad Gough.

Photograph 3. 09/14/10. Drilling Rig operation. Brad Gough.

Photograph 4. 09/15/10. Drilling Rig operation. Brad Gough.

Photograph 5. 09/13/10. Soil core from PLA-08, 0 to 5 feet, section 1. Brad Gough.

Photograph 6. 09/13/10. Soil core from PLA-08, 0 to 5 feet, section 2. Brad Gough.

Photograph 7. 09/13/10. Soil core from PLA-08, 5 to 10 feet, section 1. Brad Gough.

Photograph 8. 09/13/10. Soil core from PLA-08, 5 to 10 feet, section 2. Brad Gough.

Photograph 9. 09/13/10. Soil core from PLA-08, 5 to 10 feet, section 2, close-up. Brad Gough.

Photograph 10. 09/13/10. Soil core from PLA-09, 0 to 5 feet, section 1. Brad Gough.

Photograph 11. 09/13/10. Soil core from PLA-09, 0 to 5 feet, section 2. Brad Gough.

Photograph 12. 09/13/10. Soil core from PLA-09, 0 to 5 feet, section 3. Brad Gough.

Photograph 13. 09/13/10. Soil core from PLA-09, 5 to 10 feet, section 1. Brad Gough.

Photograph 14. 09/13/10. Soil core from PLA-09, 5 to 10 feet, section 2. Brad Gough.

Photograph 15. 09/13/10. Soil core from PLA-09, 5 to 10 feet, section 3. Brad Gough.

Photograph 16. 09/13/10. Soil core from PLA-07, 0 to 5 feet, section 1. Brad Gough.

Photograph 17. 09/13/10. Soil core from PLA-07, 0 to 5 feet, section 2. Brad Gough.

Photograph 18. 09/13/10. Soil core from PLA-07, 0 to 5 feet, section 3. Brad Gough.

Photograph 19. 09/13/10. Soil core from PLA-07, 0 to 5 feet, section 2, close-up. Brad Gough.

Photograph 20. 09/13/10. Soil core from PLA-07, 5 to 10 feet, section 1. Brad Gough.

Photograph 21. 09/13/10. Soil core from PLA-07, 5 to 10 feet, section 2. Brad Gough.

Photograph 22. 09/13/10. Soil core from PLA-07, 5 to 10 feet, section 3. Brad Gough.

Photograph 23. 09/13/10. Soil core from PLA-06, 0 to 5 feet, section 1. Brad Gough.

Photograph 24. 09/13/10. Soil core from PLA-06, 0 to 5 feet, section 2. Brad Gough.

Photograph 25. 09/13/10. Soil core from PLA-06, 0 to 5 feet, section 3. Brad Gough.

Photograph 26. 09/13/10. Soil core from PLA-06, 5 to 10 feet, section 1. Brad Gough.

Photograph 27. 09/13/10. Soil core from PLA-06, 5 to 10 feet, section 2. Brad Gough.

Photograph 28. 09/13/10. Soil core from PLA-06, 5 to 10 feet, section 3. Brad Gough.

Photograph 29. 09/13/10. Soil core from PLA-11, 0 to 5 feet, section 1. Brad Gough.

Photograph 30. 09/13/10. Soil core from PLA-11, 0 to 5 feet, section 2. Brad Gough.

Photograph 31. 09/13/10. Soil core from PLA-11, 0 to 5 feet, section 3. Brad Gough.

Photograph 32. 09/13/10. Soil core from PLA-11, 5 to 10 feet, section 1. Brad Gough.

Photograph 33. 09/13/10. Soil core from PLA-11, 5 to 10 feet, section 2. Brad Gough.

Photograph 34. 09/13/10. Soil core from PLA-11, 5 to 10 feet, section 3. Brad Gough.

Photograph 35. 09/14/10. Soil core from PLA-01, 0 to 5 feet, section 1. Brad Gough.

Photograph 36. 09/14/10. Soil core from PLA-01, 0 to 5 feet, section 2. Brad Gough.

Photograph 37. 09/14/10. Soil core from PLA-01, 0 to 5 feet, section 2. Brad Gough.

Photograph 38. 09/14/10. Soil core from PLA-01, 5 to 10 feet, section 1. Brad Gough.

Photograph 39. 09/14/10. Soil core from PLA-01, 5 to 10 feet, section 2. Brad Gough.

Photograph 40. 09/14/10. Soil core from PLA-01, 5 to 10 feet, section 3. Brad Gough.

Photograph 41. 09/14/10. Soil core from PLA-02, 0 to 5 feet, section 1. Brad Gough.

Photograph 42. 09/14/10. Soil core from PLA-02, 0 to 5 feet, section 2. Brad Gough.

Photograph 43. 09/14/10. Soil core from PLA-02, 0 to 5 feet, section 2, close-up 1. Brad Gough.

Photograph 44. 09/14/10. Soil core from PLA-02, 0 to 5 feet, section 2, close-up 2. Brad Gough.

Photograph 45. 09/14/10. Soil core from PLA-03, 0 to 5 feet, section 1. Brad Gough.

Photograph 46. 09/14/10. Soil core from PLA-03, 0 to 5 feet, section 2. Brad Gough.

Photograph 47. 09/14/10. Soil core from PLA-03, 0 to 5 feet, shoe. Brad Gough.

Photograph 48. 09/14/10. Soil core from PLA-03, 5 to 10 feet, section 1. Brad Gough.

Photograph 49. 09/14/10. Soil core from PLA-03, 5 to 10 feet, section 2. Brad Gough.

Photograph 50. 09/14/10. Soil core from PLA-03, 5 to 10 feet, section 3. Brad Gough.

Photograph 51. 09/14/10. Soil core from PLA-03, 5 to 10 feet, section 4. Brad Gough.

Photograph 52. 09/14/10. Soil core from PLA-04, 0 to 5 feet, section 1. Brad Gough.

Photograph 53. 09/14/10. Soil core from PLA-05, 0 to 5 feet, section 1. Brad Gough.

Photograph 54. 09/14/10. Soil core from PLA-05, 0 to 5 feet, section 2. Brad Gough.

Photograph 55. 09/14/10. Soil core from PLA-05, 0 to 5 feet, section 3. Brad Gough.

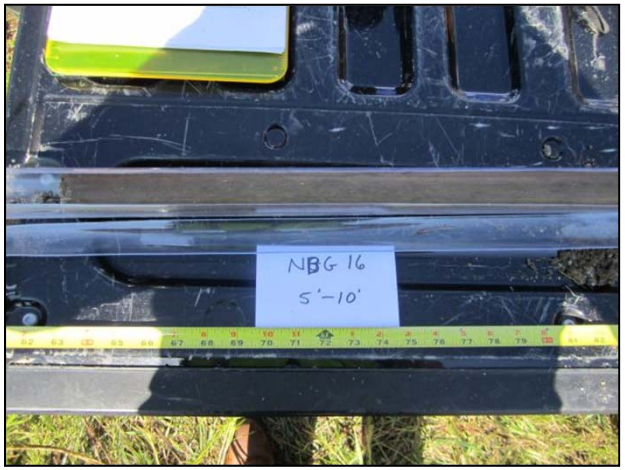
Photograph 56. 09/14/10. Soil core from PLA-05, 0 to 5 feet, section 3, close-up. Brad Gough.

Photograph 57. 09/14/10. Soil core from PLA-05, 5 to 10 feet, section 1. Brad Gough.

Photograph 58. 09/14/10. Soil core from NBG-16, 0 to 5 feet, section 1. Brad Gough.

Photograph 59. 09/14/10. Soil core from NBG-16, 0 to 5 feet, section 2. Brad Gough.

Photograph 60. 09/14/10. Soil core from NBG-16, 0 to 5 feet, section 3. Brad Gough.



Photograph 61. 09/14/10. Soil core from NBG-16, 5 to 10 feet, section 1. Brad Gough.

Photograph 62. 09/14/10. Soil core from NBG-16, 5 to 10 feet, section 2. Brad Gough.

Photograph 63. 09/14/10. Soil core from NBG-16, 5 to 10 feet, section 3. Brad Gough.

Photograph 64. 09/14/10. Soil core from NBG-17, 0 to 5 feet, section 1. Brad Gough.

Photograph 65. 09/14/10. Soil core from NBG-17, 0 to 5 feet, section 2. Brad Gough.

Photograph 66. 09/14/10. Soil core from NBG-17, 0 to 5 feet, section 3. Brad Gough.

Photograph 67. 09/14/10. Soil core from NBG-17, 0 to 5 feet, section 1. Brad Gough.

Photograph 68. 09/14/10. Soil core from NBG-17, 5 to 10 feet, section 1. Brad Gough.

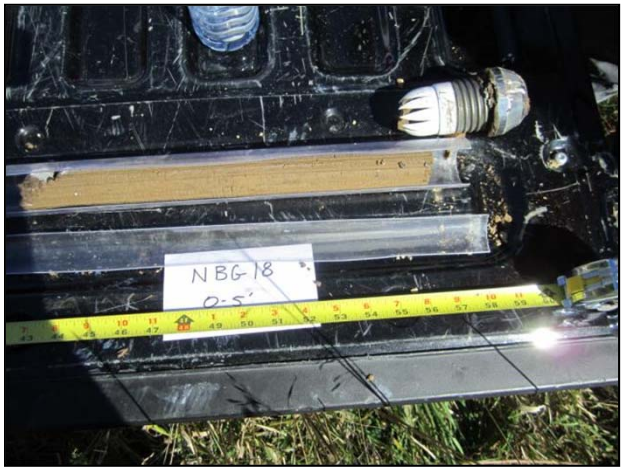
Photograph 69. 09/14/10. Soil core from NBG-17, 5 to 10 feet, section 2. Brad Gough.

Photograph 70. 09/14/10. Soil core from NBG-17, 5 to 10 feet, section 3. Brad Gough.

Photograph 71. 09/14/10. Soil core from NBG-17, 5 to 10 feet, section 4. Brad Gough.

Photograph 72. 09/14/10. Soil core from NBG-18, 0 to 5 feet, section 1. Brad Gough.

Photograph 73. 09/14/10. Soil core from NBG-18, 0 to 5 feet, section 2. Brad Gough.

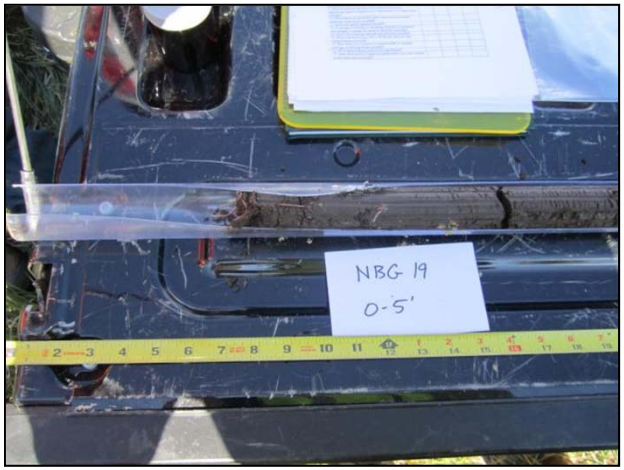


Photograph 74. 09/14/10. Soil core from NBG-18, 0 to 5 feet, section 3. Brad Gough.

Photograph 75. 09/14/10. Soil core from NBG-18, 5 to 10 feet, section 1. Brad Gough.

Photograph 76. 09/14/10. Soil core from NBG-18, 5 to 10 feet, section 2. Brad Gough.

Photograph 77. 09/14/10. Soil core from NBG-18, 5 to 10 feet, section 3. Brad Gough.



Photograph 78. 09/14/10. Soil core from NBG-19, 0 to 5 feet, section 1. Brad Gough.

Photograph 79. 09/14/10. Soil core from NBG-19, 0 to 5 feet, section 2. Brad Gough.

Photograph 80. 09/14/10. Soil core from NBG-19, 0 to 5 feet, section 3. Brad Gough.

Photograph 81. 09/14/10. Soil core from NBG-19, 0 to 5 feet, section 4. Brad Gough.

Photograph 82. 09/14/10. Soil core from NBG-19, 5 to 10 feet, section 1. Brad Gough.

Photograph 83. 09/14/10. Soil core from NBG-19, 5 to 10 feet, section 2. Brad Gough.

Photograph 84. 09/14/10. Soil core from NBG-19, 5 to 10 feet, section 3. Brad Gough.

Photograph 85. 09/14/10. Soil core from NBG-19, 5 to 10 feet, section 4. Brad Gough.

Photograph 86. 09/14/10. Soil core from NBG-20, 0 to 5 feet, section 1. Brad Gough.

Photograph 87. 09/14/10. Soil core from NBG-20, 0 to 5 feet, section 2. Brad Gough.

Photograph 88. 09/14/10. Soil core from NBG-20, 0 to 5 feet, section 3. Brad Gough.

Photograph 89. 09/14/10. Soil core from NBG-20, 0 to 5 feet, section 4. Brad Gough.

Photograph 90. 09/14/10. Soil core from NBG-20, 5 to 10 feet, section 1. Brad Gough.

Photograph 91. 09/14/10. Soil core from NBG-20, 5 to 10 feet, section 2. Brad Gough.

Photograph 92. 09/14/10. Soil core from NBG-20, 5 to 10 feet, section 3. Brad Gough.

Photograph 93. 09/14/10. Soil core from NBG-20, 5 to 10 feet, section 4. Brad Gough.

Photograph 94. 09/15/10. Soil core from PLA-10, 0 to 5 feet, section 1. Brad Gough.

Photograph 95. 09/15/10. Soil core from PLA-10, 0 to 5 feet, section 2. Brad Gough.

Photograph 96. 09/15/10. Soil core from PLA-10, 0 to 5 feet, section 3. Brad Gough.

Photograph 97. 09/15/10. Soil core from PLA-10, 5 to 10 feet, section 1. Brad Gough.

Photograph 98. 09/15/10. Soil core from PLA-10, 5 to 10 feet, section 2. Brad Gough.

Photograph 99. 09/15/10. Soil core from PLA-10, 5 to 10 feet, section 3. Brad Gough.

Photograph 100. 09/15/10. Soil core from NBG-13, 0 to 5 feet, section 1. Brad Gough.

Photograph 101. 09/15/10. Soil core from NBG-13, 0 to 5 feet, section 2. Brad Gough.

Photograph 102. 09/15/10. Soil core from NBG-13, 0 to 5 feet, section 3. Brad Gough.

Photograph 103. 09/15/10. Soil core from NBG-13, 5 to 10 feet, section 1. Brad Gough.

Photograph 104. 09/15/10. Soil core from NBG-13, 5 to 10 feet, section 2. Brad Gough.

Photograph 105. 09/15/10. Soil core from NBG-13, 5 to 10 feet, section 3. Brad Gough.

Photograph 106. 09/15/10. Soil core from NBG-12, 0 to 5 feet, section 1. Brad Gough.

Photograph 107. 09/15/10. Soil core from NBG-12, 0 to 5 feet, section 2. Brad Gough.

Photograph 108. 09/15/10. Soil core from NBG-12, 0 to 5 feet, section 3. Brad Gough.

Photograph 109. 09/15/10. Soil core from NBG-12, 5 to 10 feet, section 1. Brad Gough.

Photograph 110. 09/15/10. Soil core from NBG-12, 5 to 10 feet, section 2. Brad Gough.

Photograph 111. 09/15/10. Soil core from NBG-12, 5 to 10 feet, section 3. Brad Gough.

Photograph 112. 09/15/10. Soil core from NBG-12, 5 to 10 feet, shoe. Brad Gough.

Photograph 113. 09/15/10. Soil core from NBG-14, 0 to 5 feet, section 1. Brad Gough.

Photograph 114. 09/15/10. Soil core from NBG-14, 0 to 5 feet, section 2. Brad Gough.

Photograph 115. 09/15/10. Soil core from NBG-14, 0 to 5 feet, section 3. Brad Gough.

Photograph 116. 09/15/10. Soil core from NBG-14, 5 to 10 feet, section 1. Brad Gough.

Photograph 117. 09/15/10. Soil core from NBG-14, 5 to 10 feet, section 2. Brad Gough.

Photograph 118. 09/15/10. Soil core from NBG-14, 5 to 10 feet, section 3. Brad Gough.

Photograph 119. 09/15/10. Soil core from NBG-15, 0 to 5 feet, section 1. Brad Gough.

Photograph 120. 09/15/10. Soil core from NBG-15, 0 to 5 feet, section 2. Brad Gough.

Photograph 121. 09/15/10. Soil core from NBG-15, 0 to 5 feet, section 3. Brad Gough.

Photograph 122. 09/15/10. Soil core from NBG-15, 5 to 10 feet, section 1. Brad Gough.

Photograph 123. 09/15/10. Soil core from NBG-15, 5 to 10 feet, section 2. Brad Gough.

Photograph 124. 09/15/10. Soil core from NBG-15, 5 to 10 feet, section 3. Brad Gough.

Photograph 125. 09/14/10. Unit 001, Marotz residence. Natalie Magill

Photograph 126. 09/14/10. Unit 001, helium leak test indicating positive pressure. Natalie Magill

Photograph 127. 09/14/10. Unit 001 basement, leak testing of sub-slab port. Natalie Magill

Photograph 128. 09/14/10. Unit 001 basement, set-up for sub-slab port duplicate samples. Natalie Magill

Photograph 129. 09/14/10. Unit 001, ambient air sample. Natalie Magill

Photograph 130. 09/14/10. Unit 001, ambient air sample, close-up. Natalie Magill

Photograph 131. 09/14/10. Unit 001 basement, set-up for indoor air duplicate samples. Natalie Magill

Photograph 132. 09/14/10. Unit 001, basement office, set-up for indoor air sample. Natalie Magill

Photograph 133. 09/14/10. Unit 003, Feed Mill. Natalie Magill

Photograph 134. 09/14/10. Unit 003, basement indoor air sample. Natalie Magill

Photograph 135. 09/14/10. Unit 003, upstairs, indoor air sample. Natalie Magill

Photograph 136. 09/14/10. Unit 003, basement, faulty sub-slab port. Natalie Magill

Photograph 137. 09/14/10. Unit 006, northern section, sub-slab sample. Natalie Magill

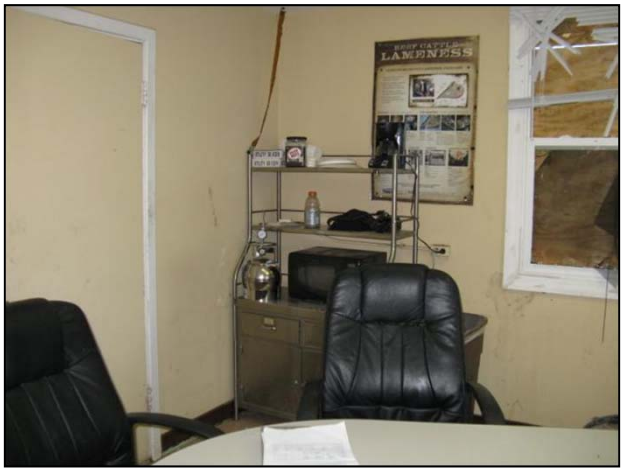
Photograph 138. 09/14/10. Unit 006, northern section, indoor air sample. Natalie Magill

Photograph 139. 09/14/10. Unit 006, central section, indoor air sample. Natalie Magill

Photograph 140. 09/14/10. Unit 006, outdoor ambient air sample. Natalie Magill

Photograph 141. 09/14/10. Unit 011, Feed Mill Office. Natalie Magill

Photograph 142. 09/14/10. Unit 011, office space, indoor air sample. Natalie Magill



Photograph 143. 09/14/10. Unit 011, break room, indoor air sample. Natalie Magill

Photograph 144. 09/14/10. Unit 011, locker room/bathroom, sub-slab sample. Natalie Magill

Photograph 145. 11/02/10. Unit 003 basement sub-slab ports. New port installed on right. Existing port repaired on left. Natalie Magill

Photograph 146. 11/02/10. Unit 003 basement, set-up for indoor air and sub-slab port sampling. Natalie Magill

APPENDIX E

REPORTING LIMITS AND SCREENING LEVELS

Table E-1 Reporting Limits and Screening Levels for Indoor Air/Soil Gas Chemicals of Interest

Analyte	CAS #	Reporting Limit ($\mu g/m^3$)	Residential Screening Limit[1] ($\mu g/m^3$)	Industrial Screening Limit[1] ($\mu g/m^3$)
1,1-Dichloroethene	75-35-4	0.79	210	880
cis-1,2-Dichloroethene	156-59-2	0.79	None	None
trans-1,2-Dichloroethene	156-60-5	0.79	63	260
Trichloroethene	79-01-6	1.10	0.43	3
Vinyl chloride	75-01-4	0.51	0.16	2.8

[1]Mid-Atlantic Risk Assessment, November 2010, USEPA 2010
CAS -- Chemical Abstracts Service
µg/L -- microgram(s) per liter
Shaded cells indicate a regulatory limit below the reporting limit.

Table E-2 Reporting Limits, Screening Levels, and Background Concentrations for Soil Chemicals of Interest

Analyte	CAS #	Reporting Limit Range (mg/kg)	2010 Residential Soil (mg/kg)	2010 Industrial Soil (mg/kg)	Background Threshold Value[2] - 95%UPL (mg/kg)	Distribution
Aluminum	7429-90-5	15.9 to 26.3	77,000	990,000	22,769	normal
Antimony	7440-36-0	3.7 to 7.7	31	410	NA	
Arsenic	7440-38-2	0.8 to 1.3	0.39	1.6	9.477	normal
Barium	7440-39-3	12.4 to 25.8	15,000	190,000	253	normal
Beryllium	7440-41-7	0.4 to 0.66	160	2000	0.86	nonparametric
Cadmium	7440-43-9	0.4 to 0.66	70	800	0.354	normal
Calcium	7440-70-2	398 to 6270	None	None	3830	normal
Chromium	18540-29-9	0.62 to 1.3	0.29	5.6	23.06	normal
Cobalt	7440-48-4	3.1 to 6.4	23	300	10.29	normal
Copper	7440-50-8	1.5 to 3.2	3100	41,000	23.15	normal
Iron	7439-89-6	15.9 to 198	55,000	720,000	21,000	nonparametric
Lead	7439-92-1	0.8 to 1.3	400	800	15.92	normal
Magnesium	7439-95-4	398 to 658	None	None	4639	normal
Manganese	7439-96-5	0.93 to 1.9	None	None	659.8	normal
Mercury	7439-97-6	0.02 to 0.043	5.6	34	NA	
Nickel	7440-02-0	2.5 to 5.2	1500	20,000	27.02	normal
Potassium	7440-09-7	398 to 658	None	None	3759	normal
Selenium	7782-49-2	2.8 to 4.6	390	5100	NA	
Silver	7440-22-4	0.62 to 1.3	390	5100	NA	
Sodium	7440-23-5	398 to 658	None	None	NA	
Thallium	7440-28-0	2 to 3.3	None	None	NA	
Vanadium	7440-62-2	3.1 to 6.4	390[1]	5200[1]	45.06	normal
Zinc	7440-66-6	1.2 to 2.6	23,000	310,000	74.55	normal

Source of 2010 soil screening levels: Mid-Atlantic Risk Assessment, November 2010, USEPA 2010

[1] The 'Vanadium and Compounds' Screening Levels were used

[2] Background soil samples collected during Phase I/II RI (Woodward-Clyde 1997)

CAS -- Chemical Abstracts Service

mg/kg -- milligram(s) per kilogram

Shaded cells indicate a regulatory limit below the reporting limit.

Table E-3 Reporting Limits and Surface Water Quality Criteria for Chemicals of Interest

Compound	CAS #	Reporting Limit (µg/L)	Surface Water Quality Criteria[1] (µg/L)
Volatile organic compounds			
1,1,1,2-Tetrachloroethane	630-20-6	0.5 to 5	None
1,1,2,2-Tetrachloroethane	79-34-5	0.5 to 5	None
1,1,2-Trichloroethane	79-00-5	1 to 5	None
1,1-Dichloroethane	75-34-3	1 to 5	None
1,2,3-Trichloropropane	96-18-4	2 to 2	None
1,2,4-Trichlorobenzene	120-82-1	1 to 5	None
1,2-Dibromo-3-chloropropane	96-12-8	1 to 5	None
1,2-Dibromoethane (EDB)	106-93-4	1 to 5	None
1,2-Dichloroethane	107-06-2	0.5 to 5	None
1,2-Dichloropropane	78-87-5	1 to 5	None
1,4-Dichlorobenzene	106-46-7	0.5 to 5	None
Benzene	71-43-2	0.5 to 5	None
Bromodichloromethane	75-27-4	0.5 to 5	None
Bromomethane	74-83-9	1 to 10	None
Carbon Tetrachloride	56-23-5	1 to 5	None
Chloroform	67-66-3	0.5 to 5	None
Dibromochloromethane	124-48-1	0.5 to 5	None
Ethylbenzene	100-41-4	1 to 5	None
Hexachlorobutadiene	87-68-3	1 to 5	None
Methylene Chloride	75-09-2	1 to 5	None
Naphthalene	91-20-3	1 to 5	None
Tetrachloroethene (PCE)	127-18-4	1 to 5	None
Trichloroethene (TCE)	79-01-6	1 to 5	None
Vinyl Chloride	75-01-4	0.4 to 10	None
1,2-Dichloroethene	540-59-0	1 to 1	None
2-Butanone (MEK)	78-93-3	1 to 10	None
Acetone	67-64-1	2 to 25	None
Chloromethane	74-87-3	1 to 10	None
cis-1,2-Dichloroethene	156-59-2	1 to 5	None
Toluene	108-88-3	1 to 5	None
Explosives			
2,4-Dinitrotoluene	121-14-2	0.15 to 0.75	91
2-Nitrotoluene	88-72-2	0.15 to 0.75	None
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	121-82-4	0.15 to 0.75	None
Nitrobenzene	98-95-3	0.15 to 0.75	1900
1,3,5-Trinitrobenzene (TNB)	99-35-4	0.15 to 0.75	None
1,3-Dinitrobenzene	99-65-0	0.15 to 0.75	None
2,4,6-Trinitrotoluene (TNT)	118-96-7	0.15 to 0.75	None
2,6-Dinitrotoluene	606-20-2	0.15 to 0.75	None
4-Amino-2,6-Dinitrotoluene	19406-51-0	0.15 to 0.75	None
3-Nitrotoluene	99-08-1	0.15 to 0.75	None
4-Nitrotoluene	99-99-0	0.15 to 0.75	None
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	2691-41-0	0.15 to 0.75	None

[1] Source: NDEQ 2010

CAS -- Chemical Abstracts Service

µg/L -- microgram(s) per liter

APPENDIX F

FIELD LOGS

(electronic copy only—provided on the disc located at the front of this document)

Daily Quality Control Report (Page 1 of 2)

Project Name/Number: Mead 2

Site: FORMER NOP

Date: 9/13/10

Weather: [✓] Clear, [✓] Overcast, [✓] Rain, [✓] Thunderstorm, [ ] Snow

Temperature: [ ] <32°F, [ ] 32-50 °F, [ ] 50-70 °F, [✓] 70-85 °F, [ ] 85+ °F

Wind: [ ] Still, [✓] Gusty, [ ] Moderate, [ ] High; Direction: _____

Humidity: [✓] Dry, [ ] Moderate, [ ] Humid

Activity	Contractor/ Subcontractor	Equipment	Number of Workers	Total Hours Worked	
~~BOREHOLE SAMPLING~~	~~OER, ICR~~	~~GEOPROBE~~	~~2~~	~~10~~	
VAPOR INTRUSION SITE	GEO		1	10	
RECON	SAIC		1	10	
BOREHOLE SAMPLING	GEO		3	10	30
	ICR	GEOPROBE	2	8	16
	OER		2	10	20

Problems Encountered	Corrective Action Taken
WEATHER - T. STORMS	

Tests: List type and location of the tests performed and the results of these tests.

Soil Boring Samples PLA06, PLA07, PLA08, PLA09, PLA11

Total Daily Hours Worked by all Personnel: ~~80~~ 86

Daily Quality Control Report (Page 2 of 2)

Safety: Activity Safety Inspection	
Safety Deficiencies Observed	Corrective Action Taken
N/A	

Remarks:

Safety Statistics	
Number of First Aid Incidents:	0
Number of Recordable Incidents:	0
Number of Lost Time Days:	0

Forms attached:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form	✓			
Surveying Checklist				
Borehole and Core Logging Checklist	✓			
Decontamination Checklist	✓			
Instrument Calibration Checklist	✓			
Sample Collection Checklist	✓			
Packing, Storing, and Shipment of Samples Checklist				✓
Field Documentation Checklist	✓			
Health and Safety Checklist				✓
IDW Management Checklist				✓
Mobilization/demobilization Checklist				✓
Building Questionnaire				✓
Field Data Air Sampling Form				✓
Indoor Air Quality Building Survey				✓
Air Sampling Log				✓
HTRW Drilling Log Form				✓
Field Data Sheet				✓
Chain of Custody Forms				✓

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

FOM Signature: [signature]

Date: 9/13/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: PLA 06

Starting Date: 9/13/10

Date: 9/13/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/13/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number: PLA 07

Starting Date: 9/13/10

Date: 9/13/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).	✓			
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?		✓		✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/13/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: PLA-08

Starting Date: 9/13/10

Date: 9/13/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).	✓			
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?				
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?	✓			✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?				✓
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓	✓		

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/13/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: PLA 09

Starting Date: 9/13/10

Date: 9/13/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?		✓		
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?		✓		
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?		✓		

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/13/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: PLA 11

Starting Date: 9/13/10

Date: 9/13/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?	✓			
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/13/10

Instrument Calibration Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Site: Former NOP

Date: 9/13/10

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Instrumental Calibration	Yes	No	N/O	N/A
1. Were all field instruments calibrated properly?	✓			
2. Were all field instruments calibrated on the schedule in the Work Plan/SSHP?	✓			
3. Did the Field Calibration Forms list all calibration events?	✓			

List instruments used at the site:

RAE MULTIRAE PID

Mini RAE 2000

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/13/10

Field Documentation Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Site: Former NOP

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Field Documentation	Yes	No	N/O	N/A
1. Was all original field data, except boring logs, recorded in black indelible ink?	✓			
2. Were logbooks filled out properly, accurately recounting the day's events?	✓			
3. Were all field forms completed and information accurately recorded:				
-Daily Quality Control Report?	✓			
-Daily Tailgate Meeting Form?	✓			
-HTRW Drilling Log Form?	✓			
-Air Sampling Log?				✓
-Building Questionnaire?				✓
-Field Data Air Sampling Form?				✓
-Indoor Air Quality Building Survey?				✓
-Field Log Books?	✓			
-Project Photograph Log (in Log Book)?	✓			
-Field Data Sheet?	✓			
-Chain of Custody Forms?				✓

List additional field forms completed:

4. Was field documentation forwarded to office for peer review and QC?		✓		

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/13/10

Sample Collection Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Sampling Date: 9/13/10

Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If "no" is checked, provide an explanation on the form.

General	Yes	No	N/O	N/A
1. Were new protective gloves worn between sampling locations and/or intervals?	✓			
2. Were samples collected using methods described in the Work Plan?	✓			
3. Were sample containers filled in the correct order?				✓
4. Was sampling equipment appropriate for the purpose and site conditions?	✓			
5. Was sampling equipment decontaminated or disposable/dedicated equipment used between each sample?	✓			
6. Were procedures for collecting QA/QC samples followed as per the Work Plan?	✓			
7. Were sampling locations properly identified by land survey or GPS locator?	✓			
8. Were bottles adequately protected from contamination prior to sample identification?	✓			

Soil samples for chemical analysis	Yes	No	N/O	N/A
9. Were samples collected according to the Work Plan?	✓			
10. Was a field sampling form completed?	✓			
11. Were the analytical parameters and QA/QC samples recorded on the Field Data Sheet?	✓			
12. Was headspace in sample containers for volatiles eliminated?				✓

Indoor air for chemical analysis	Yes	No	N/O	N/A
13. Were the following forms filled out completely for each building sampled for Vapor Intrusion?				
-the Building Questionnaire				
-the Field Data Air Sampling Form				
-the Indoor Air Quality Building Survey				
-the Air Sampling Log, including barometric pressure				
14. Were samples collected according to the Work Plan?				
15. Was each of the following tested?				
-each sub-slab port leak tested?				
-each sample transfer line vacuum tested?				
-purging of the sample line from the sub-slab port?				
16. Were sampling port and canister valves open and closed in correct sequence?				

Corrective Actions:

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magel

Date: 9/13/10

Decontamination Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Boring/Monitoring Well Number(s): PLA06, PLA07, PLA08, PLA09, PLA11

Date: 9/13/10

Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If "no" is checked, provide an explanation on the form.

Equipment	Yes	No	N/O	N/A
1. Was all sampling equipment decontaminated properly prior to use and between sample intervals?	✓			
2. Was each decontamination event recorded in the logbook?		✓		
3. Was IDW (decontamination water) handled in accordance with the approved work plan?	✓			

performed by drillers

Corrective Actions:

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Mazell

Date: 9/13/10

Daily Quality Control Report (Page 1 of 2)

Project Name/Number: Mead 2

Site: former NOP

Date: 9/14/10

Weather: ☑ Clear, ☐ Overcast, ☐ Rain, ☐ Thunderstorm, ☐ Snow

Temperature: ☐ <32°F, ☐ 32-50 °F, ☐ 50-70 °F, ☑ 70-85 °F, ☐ 85+ °F

Wind: ☑ Still, ☐ Gusty, ☐ Moderate, ☐ High; Direction: _____

Humidity: ☐ Dry, ☑ Moderate, ☐ Humid

Activity	Contractor/ Subcontractor	Equipment	Number of Workers	Total Hours Worked
Soil Boring	ICR	GeoProbe	2	8
	DER		2	10
	GEO		3	10.5
Vapor Intrusion	GEO		1	10.5
	SAIC		1	10.5

18
20
31.5

Problems Encountered	Corrective Action Taken
None	

Tests: List type and location of the tests performed and the results of these tests.

Total Daily Hours Worked by all Personnel: 88.5

Daily Quality Control Report (Page 2 of 2)

Safety: Activity Safety Inspection	
Safety Deficiencies Observed	Corrective Action Taken
None	

Remarks:

Safety Statistics	
Number of First Aid Incidents:	0
Number of Recordable Incidents:	0
Number of Lost Time Days:	0

Forms attached:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form	✓			
Surveying Checklist				
Borehole and Core Logging Checklist	✓			
Decontamination Checklist	✓			
Instrument Calibration Checklist	✓			
Sample Collection Checklist	✓			
Packing, Storing, and Shipment of Samples Checklist	✓			
Field Documentation Checklist	✓			
Health and Safety Checklist	✓			
IDW Management Checklist		✓		
Mobilization/demobilization Checklist				✓
Building Questionnaire		✓		
Field Data Air Sampling Form		✓		
Indoor Air Quality Building Survey		✓		
Air Sampling Log		✓		
HTRW Drilling Log Form		✓		
Field Data Sheet		✓		
Chain of Custody Forms		✓		

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

FOM Signature: [signature]

Date: 9/14/10

Sample Collection Checklist (Page 1 of 1)

Project Name/Number: PLA 01, PLA02, PLA03, PLA04, PLA05, NBG-16, NBG17 NBG-19, NBG-19, NBG-20

Sampling Date: 9/14/10

Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If "no" is checked, provide an explanation on the form.

General	Yes	No	N/O	N/A
1. Were new protective gloves worn between sampling locations and/or intervals?	✓			
2. Were samples collected using methods described in the Work Plan?	✓			
3. Were sample containers filled in the correct order?	✓			
4. Was sampling equipment appropriate for the purpose and site conditions?	✓			
5. Was sampling equipment decontaminated or disposable/dedicated equipment used between each sample?	✓			
6. Were procedures for collecting QA/QC samples followed as per the Work Plan?	✓			
7. Were sampling locations properly identified by land survey or GPS locator?	✓			
8. Were bottles adequately protected from contamination prior to sample identification?	✓			

Soil samples for chemical analysis	Yes	No	N/O	N/A
9. Were samples collected according to the Work Plan?	✓			
10. Was a field sampling form completed?	✓			
11. Were the analytical parameters and QA/QC samples recorded on the Field Data Sheet?	✓			
12. Was headspace in sample containers for volatiles eliminated?				✓

Indoor air for chemical analysis	Yes	No	N/O	N/A
13. Were the following forms filled out completely for each building sampled for Vapor Intrusion?				
-the Building Questionnaire		✓		
-the Field Data Air Sampling Form	✓			
-the Indoor Air Quality Building Survey		✓		
-the Air Sampling Log, including barometric pressure	✓			
14. Were samples collected according to the Work Plan?	✓			
15. Was each of the following tested?				
-each sub-slab port leak tested?		✓		
-each sample transfer line vacuum tested?	✓			
-purging of the sample line from the sub-slab port?	✓			
16. Were sampling port and canister valves open and closed in correct sequence?	✓			

Corrective Actions: Unit 003 sub-slab port bad and could not be sampled.

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Instrument Calibration Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Site: Former NOP

Date: 9/14/10

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Instrumental Calibration	Yes	No	N/O	N/A
1. Were all field instruments calibrated properly?	✓			
2. Were all field instruments calibrated on the schedule in the Work Plan/SSHP?	✓			
3. Did the Field Calibration Forms list all calibration events?	✓			

List instruments used at the site:

Multi RAE PID (fresh air calibration)

Mini RAE PID

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Field Documentation Checklist (Page 1 of 1)

Project Name/Number: Mod 2

Site: Former NOP

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Field Documentation	Yes	No	N/O	N/A
1. Was all original field data, except boring logs, recorded in black indelible ink?	✓			
2. Were logbooks filled out properly, accurately recounting the day's events?	✓			
3. Were all field forms completed and information accurately recorded:				
-Daily Quality Control Report?	✓			
-Daily Tailgate Meeting Form?	✓			
-HTRW Drilling Log Form?	✓			
-Air Sampling Log?				
-Building Questionnaire?				
-Field Data Air Sampling Form?				
-Indoor Air Quality Building Survey?				
-Field Log Books?	✓			
-Project Photograph Log (in Log Book)?		✓		
-Field Data Sheet?	✓			
-Chain of Custody Forms?	✓			

List additional field forms completed:

4. Was field documentation forwarded to office for peer review and QC?				✓

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: NBG 20

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?	✓			
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number: NBG 19

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?	✓			
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: NBG 18

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?	✓			
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Mazel

Date: 9/14/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number: NBG 17

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?	✓			✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: NBG 16

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number: PLA 05

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?	✓			
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

glass

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: ~~PLA~~ Mead 2

Site: former NOP

Boring/Monitoring Well Number: PLA04

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?	✓			
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?	~~✓~~			✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number: PLA 03

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?	✓			
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

gloves

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: PLA02

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?	~~✓~~			✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?		✓		
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

* No Picture Taken for 5'-10' Core

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former VOP

Boring/Monitoring Well Number: PLA 01

Starting Date: 9/14/10

Date: 9/14/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Mazell

Date: 9/14/10

Packing, Storing, and Shipment of Samples Checklist (Page 1 of 1)

Project Name/Number:

Site: Former NOP

Boring/Monitoring Well Number(s): PLA06, PLA07, PLA08, PLA09, PLA11

Surface Soil Sample Number(s):

Sampling Date: 9/13/10

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Packing, Storing, and Shipment of Samples	Yes	No	N/O	N/A
1. Were the samples handled according to the Work Plan and QAPP?	✓			
2. Did the samples remain in ice from collection until cooler was taped for shipment?	✓			
3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?	✓			✓
4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?				✓
5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?				✓
6. Was a shipping label attached to the cooler?				✓

not sent

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/13/10

Packing, Storing, and Shipment of Samples Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number(s): PLA01, PLA02, PLA03, PLA04, PLA05, NBG16, NBG17, NBG18, NBG19, NBG20

Surface Soil Sample Number(s):

Sampling Date: 9/14/10

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Packing, Storing, and Shipment of Samples	Yes	No	N/O	N/A
1. Were the samples handled according to the Work Plan and QAPP?	✓			
2. Did the samples remain in ice from collection until cooler was taped for shipment?	✓			
3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?	✓			
4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?	✓			
5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?	✓			
6. Was a shipping label attached to the cooler?				✓

NOT SENT YET

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Mogell

Date: 9/14/10

Decontamination Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Boring/Monitoring Well Number(s): PLA01, PLA02, PLA03, PLA04, PLA05, NBG 16, NBG 17, NBG 18, NBG-19, NBG-20

Date: 9/14/10

Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If "no" is checked, provide an explanation on the form.

Equipment	Yes	No	N/O	N/A
1. Was all sampling equipment decontaminated properly prior to use and between sample intervals?	✓			
2. Was each decontamination event recorded in the logbook?	✓			
3. Was IDW (decontamination water) handled in accordance with the approved work plan?	✓			

ICR

Corrective Actions: None

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/14/10

Daily Quality Control Report (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Date: 9/15/10

Weather: ☑ Clear, ☐ Overcast, ☐ Rain, ☐ Thunderstorm, ☐ Snow

Temperature: ☐ <32°F, ☐ 32-50 °F, ☐ 50-70 °F, ☑ 70-85 °F, ☐ 85+ °F

Wind: ☑ Still, ☐ Gusty, ☐ Moderate, ☐ High; Direction: _____

Humidity: ☑ Dry, ☐ Moderate, ☐ Humid

Activity	Contractor/ Subcontractor	Equipment	Number of Workers	Total Hours Worked	
Soil Boring	GEO		3	8	24
	ICR	GEOPROBE	2	8	16
	OER		2	8	16
Vapor Intrusion	GEO		1	11	
	SAIC		1	8.5	

Problems Encountered	Corrective Action Taken
None	

Tests: List type and location of the tests performed and the results of these tests.

Total Daily Hours Worked by all Personnel: 75.5

Daily Quality Control Report (Page 2 of 2)

Safety: Activity Safety Inspection	
Safety Deficiencies Observed	Corrective Action Taken
None	

Remarks:

Safety Statistics	
Number of First Aid Incidents:	0
Number of Recordable Incidents:	0
Number of Lost Time Days:	0

Forms attached:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form	✓			
Surveying Checklist		✓		
Borehole and Core Logging Checklist	✓			
Decontamination Checklist	✓			
Instrument Calibration Checklist	✓			
Sample Collection Checklist	✓			
Packing, Storing, and Shipment of Samples Checklist	✓			
Field Documentation Checklist	✓			
Health and Safety Checklist		✓		
IDW Management Checklist		✓		
Mobilization/demobilization Checklist		✓		
Building Questionnaire		✓		
Field Data Air Sampling Form		✓		
Indoor Air Quality Building Survey		✓		
Air Sampling Log		✓		
HTRW Drilling Log Form		✓		
Field Data Sheet		✓		
Chain of Custody Forms		✓		

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

FOM Signature: [signature]

Date: 9/15/10

Daily Tailgate Meeting Form

Job Name MGP RI Soils/Vapor | Number | Date 9-15-10
Start Time | Completed | Site Location FN of

Type of Work (General) Soil Investigation - VI Sampling

SAFETY ISSUES

Tasks (this shift)	Soils Investigation - VI Sampling
Protective Clothing/Equipment	Level D PPE
Chemical Hazards	Drill Rig Fluids
Physical Hazardous	Slip-Trip-Fall / Pinch Pts / Streams
Control Methods	PPE, Weather Watching, Buddy System
Special Equipment/Techniques	
Hazard Communication Overview	
Nearest Phone	Cell Phone
Name/Address	Sanford Medical Ctr
(incidents, actions taken, etc.)	

Hospital
Special Topics

ATTENDEES

Print Name	Sign Name
Mike Miller	Mike Miller
Natalie Magill	Natalie Magill
Jack Kristensen	[illegible]
Joseph Remington	[illegible]
Daryl Biere	Daryl Biere
Percy Lone Elk	Percy Lone Elk

Meeting conducted by: Jack Kristensen

Instrument Calibration Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Site: former NOP

Date: 9/15/10

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Instrumental Calibration	Yes	No	N/O	N/A
1. Were all field instruments calibrated properly?	✓			
2. Were all field instruments calibrated on the schedule in the Work Plan/SSHP?	✓			
3. Did the Field Calibration Forms list all calibration events?	✓			

List instruments used at the site:

Mini RAE

Multi RAE (fresh air calibration)

→ DEET was sprayed upwind during calibration. Should have affected calibration much.

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/15/10

Field Documentation Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Site: Former NOP

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Field Documentation	Yes	No	N/O	N/A
1. Was all original field data, except boring logs, recorded in black indelible ink?	✓			
2. Were logbooks filled out properly, accurately recounting the day's events?	✓			
3. Were all field forms completed and information accurately recorded:				
-Daily Quality Control Report?	✓			
-Daily Tailgate Meeting Form?	✓			
-HTRW Drilling Log Form?	✓			
-Air Sampling Log?	✓			
-Building Questionnaire?	✓			
-Field Data Air Sampling Form?	✓			
-Indoor Air Quality Building Survey?	✓			
-Field Log Books?	✓			
-Project Photograph Log (in Log Book)?		✓		
-Field Data Sheet?	✓			
-Chain of Custody Forms?	✓			

List additional field forms completed:

Building Questionnaire and Indoor Air Quality Survey not completed for Unit 001

4. Was field documentation forwarded to office for peer review and QC?				

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Mazzill

Date: 9/15/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: PLA10

Starting Date: 9/15/10

Date: 9/15/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)				✓ fill
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/15/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: [redacted] NBG 12

Starting Date: 9/15/10

Date: 9/15/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)	✓			✓ landfill
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?	✓			metal found in 5'-10' boring
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magel

Date: 9/15/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number: NBG 13

Starting Date: 9/15/10

Date: 9/15/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)				✓
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/15/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number: NBG 14

Starting Date: 9/15/10

Date: 9/15/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)				✓
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/15/10

Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: Mead 2

Site: Former NOP

Boring/Monitoring Well Number: NBG 15

Starting Date: 9/15/10

Date: 9/15/10

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?	✓			
2. Was log completed and entries printed legibly on the HTRW Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?	✓			
4. Were logs completed in the field (originals)?	✓			
5. Does the log contain the following entries?				
-Unique borehole number	✓			
-Depositional type (alluvium, till, loess, etc.)				✓
-Depths/Heights recorded in tenths of feet.	✓			
-Burn layer (ash) if found and other descriptive features (bedding, organic material, soil structures; e.g. root-holes).				✓
-Soils classified as per USCS and fully described with numerical percents of constituents.	✓			
-Soil moisture content and texture or cohesiveness.	✓			
-Soil color described using the Munsell System.		✓		
6. Was general information (top of form HTRW drilling log) completed?	✓			
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?				✓
8. Were start and completion dates and time included for boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at appropriate depth or dashed line if transitional or if observed in cuttings?	✓			
10. Were depths at which free water was encountered and stabilized water levels recorded?				✓
11. Were soil sample depths recorded?	✓			
12. If changes in drilling or sampling methods or equipment and changes in sample or borehole diameter recorded?				✓
13. Were soil sampling methods and recovery recorded?	✓			
14. Were instrument (e.g. LEL, OVM) and detector tube measurements recorded?	✓			
15. Was observed evidence of contamination in samples, cuttings, or drilling fluids recorded?				✓
16. Were abbreviations used on the log defined?	✓			
17. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				✓

Borehole and Core Logging Checklist (Page 2 of 2)

Borehole Logging	Yes	No	N/O	N/A
18. Was drilling fluid described (water source, additive brand, product name, and mixture)?				✓
19. Were drilling pressures and driller's comments recorded?				✓
20. Was total depth recorded and marked with a double line?	✓			
21. Was monitoring well diagram completed and attached to log?				✓

In addition to the items above, the following also apply to core-logging:

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or closed fractures, joints, bedding planes, or cavities and filling materials?				✓
23. Was start and stop time of each core run recorded?	✓			
24. Were depths to top and bottom of each core run recorded?	✓			
25. Was length of core recovered in each core run recorded?	✓			
26. Were the size and type of coring bit and barrel recorded?	✓			
27. Was the depth to the bottom of the hole measured after the core was removed for each core run?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Moyll

Date: 9/15/10

Sample Collection Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Sampling Date: 9/15/10

Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If "no" is checked, provide an explanation on the form.

General	Yes	No	N/O	N/A
1. Were new protective gloves worn between sampling locations and/or intervals?	✓			
2. Were samples collected using methods described in the Work Plan?	✓			
3. Were sample containers filled in the correct order?	✓			
4. Was sampling equipment appropriate for the purpose and site conditions?	✓			
5. Was sampling equipment decontaminated or disposable/dedicated equipment used between each sample?	✓			
6. Were procedures for collecting QA/QC samples followed as per the Work Plan?	✓			
7. Were sampling locations properly identified by land survey or GPS locator?	✓			
8. Were bottles adequately protected from contamination prior to sample identification?	✓			

Soil samples for chemical analysis	Yes	No	N/O	N/A
9. Were samples collected according to the Work Plan?	✓			
10. Was a field sampling form completed?	✓			
11. Were the analytical parameters and QA/QC samples recorded on the Field Data Sheet?	✓			
12. Was headspace in sample containers for volatiles eliminated?				✓

Indoor air for chemical analysis	Yes	No	N/O	N/A
13. Were the following forms filled out completely for each building sampled for Vapor Intrusion?				
-the Building Questionnaire	✓			
-the Field Data Air Sampling Form	✓			
-the Indoor Air Quality Building Survey	✓			
-the Air Sampling Log, including barometric pressure	✓			
14. Were samples collected according to the Work Plan?	✓			
15. Was each of the following tested?				
-each sub-slab port leak tested?				✓
-each sample transfer line vacuum tested?				✓
-purging of the sample line from the sub-slab port?				✓
16. Were sampling port and canister valves open and closed in correct sequence?	✓			

Building Q and Indoor Air Survey not completed for Unit 001

Corrective Actions:

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/15/10

Packing, Storing, and Shipment of Samples Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number(s): PLA10, NBG12, NBG13, NBG14, NBG15

Surface Soil Sample Number(s):

Sampling Date: 9/15/10

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Packing, Storing, and Shipment of Samples	Yes	No	N/O	N/A
1. Were the samples handled according to the Work Plan and QAPP?	✓			
2. Did the samples remain in ice from collection until cooler was taped for shipment?	✓			
3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?	✓			
4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?	✓			
5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?	✓			
6. Was a shipping label attached to the cooler?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/15/10

Decontamination Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Boring/Monitoring Well Number(s): PLA10, NBG-12, NBG-13, NBG-14, NBG-15

Date: 9/15/10

Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If "no" is checked, provide an explanation on the form.

Equipment	Yes	No	N/O	N/A
1. Was all sampling equipment decontaminated properly prior to use and between sample intervals?	✓			
2. Was each decontamination event recorded in the logbook?	✓			
3. Was IDW (decontamination water) handled in accordance with the approved work plan?	✓			

Corrective Actions:

None

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/15/10

Investigation-Derived Waste Management Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number: PLA01 - NBG20

Date: 9/16/10

Complete weekly for each site. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Investigation-Derived Waste Management	Yes	No	N/O	N/A
1. Was all IDW managed according to the Waste Management Plan?	✓			
2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized in 55-gallon drums?	✓			
3. Were all containers properly labeled and stored?	✓			
4. Were all containers in satisfactory condition?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/16/10

Health and Safety Checklist (Page 1 of 2)

Date: 9/16/10

Project Name/Number: Mead 2

Site: former NOP

Briefed on-site Personnel and Work Locations: ICR, GEO, OCR, SAIC

Complete weekly for each site. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Documentation	Yes	No	N/O	N/A
1. Is the Site Health and Safely Plan (SSHP) on the Site?	✓			
2. Has the SSHP been reviewed, dated, and signed within the last year?	✓			
3. Are the tasks being completed reflected in the hazard task analysis?	✓			
4. Is there a written acknowledgement that all employees, including subcontractors, have been briefed and read the SSHP?	✓			
5. Are the following training records current and available:				
-40-hour HAZWOPER/8-hour refresher for ALL employees and subcontractors?	✓			
-24-hour Supervised Field Experience?	✓			
-CPR/First Aid?	✓			
-8-hour Hazardous Waste Site Supervisor, and refresher?	✓			
-Initial Site Health and Safety Briefing?	✓			
-Site Health and Safety Briefing for each location or site?	✓			
6. Are emergency maps posted at the site and maintained in vehicles?	✓			
7. Were daily safety checklists completed and fire extinguishers checked?		✓		
8. Were applicable Material Safety Data Sheets at the Site?	✓			
9. Are documents that indicate employees and subcontractors are medically fit to work and wear the required personal protective equipment current and available?	✓			
10. Were daily air monitoring equipment calibrations recorded?	✓			
11. Are respirator fit test records available and current?	✓			

Health and Safety Checklist (Page 1 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones adequately marked?				✓
13. Is required personal protective equipment available and correctly used, maintained, and stored?	✓			
14. Is the following emergency equipment located at each site:				
-Fire extinguisher?	✓			
-Eyewash (15 minutes fresh water)?	✓			
-Communications (walkie-talkie or phone)?	✓			
-First aid kit?	✓			
15. Is the buddy system in use?	✓			
16. Are personnel refraining from drinking, chewing, smoking, taking medications, or other hand-to-mouth contact while working in the exclusion zone?	✓			
17. Is air monitoring equipment being used appropriately?	✓			
18. Is the site organized to allow the use of lifting equipment, and avoid tripping hazards and spreading contamination?	✓			
19. Was a random employee asked if he/she knew site hazard and emergency procedures?	✓			
20. Is the drill rig kill switch clearly marked and easily accessible?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Mogill

Date: 9/16/10

Mobilization/Demobilization Checklist (Page 1 of 3)

Project Name/Number: Mead

Site: Former NOP

Date: 9/17/10

Complete as indicated. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Complete 4 weeks prior to start of field activities.

Site Access and Security	Yes	No	N/O	N/A
1. Has a copy of the Right of Entry Permit(s) been received?				✓
2. Are the time frames of the Right of Entry Permit(s) adequate for the entire job including IDW disposal?				✓

Permits and Licenses	Yes	No	N/O	N/A
3. Are all subcontractors licensed to operate in the state?	✓			
4. Are license numbers of subcontractors recorded in the project files?	✓			
5. Have subcontractors provided proof of insurance?	✓			
6. Have variances been obtained from the state?				✓
If yes, provide a lists of variances obtained:				

Coordination with Property Owners and Tenants	Yes	No	N/O	N/A
7. Has the property owner been contacted?	✓			
8. Did the property owner designate a contractor staging area?	✓			
9. Did the property owner designate a contractor IDW staging area?	✓			
10. Did the property owner approve a source for water?				✓

Coordination with Environmental Authorities	Yes	No	N/O	N/A
11. Has the State approved the Work Plan?	✓			
12. Has the State been informed of planned sampling events?	✓			
13. Has USEPA approved the Work Plan?	✓			
14. Has USEPA been informed of planned sampling events?	✓			

Mobilization/Demobilization Checklist (Page 2 of 3)

Complete 1 week prior to start of field activities.

Safety Planning and Equipment	Yes	No	N/O	N/A
15. Has the SSHP been submitted to the subcontractors for review?	✓			
16. Have all personnel read and signed the SSHP?				
17. Was the local hospital contacted to verify the phone number and address?	✓			
18. Can the hospital treat anticipated chemical exposures?	✓			
19. Have all field personnel been fit-tested for respirator use?				✓
20. Were all training certificates, including subcontractors, in a file to take to the field?				
21. Are all training certificates current?				
22. Are all MSDSs in a file to take to the field?				
23. Are all required instruments reserved and complete with calibration standards and manuals?	✓			
24. Do the instruments meet manufacture maintenance and calibration standards?	✓			
25. Does the PID have the correct lamp?	✓			
26. Does the LEL meter have the correct sensors?				✓
27. Are the detector tubes current and stored properly?				✓

Complete within 1 week of Notice to Proceed.

Logistical Planning	Yes	No	N/O	N/A
28. Have the Work Plan documents been approved by USACE?	✓			
29. Has the SSHP been approved by Health and Safety Services?	✓			
30. Has Notice to Proceed from USACE been received?	✓			
31. Are the project personnel available and scheduled?	✓			
32. Are subcontractors available?	✓			
33. Do subcontractors' SOWs correspond to the approved Work Plan?	✓			
34. Has the laboratory agreed to the planned sample volume load?	✓			
35. Has the bottle order been placed?	✓			
36. Have the correct sample containers been received?				
37. Has USACE been notified of schedule?	✓			

Complete not less than 1 week before fieldwork is scheduled to begin.

Utility Clearances	Yes	No	N/O	N/A
38. Has the State or Local utility clearance agency been contacted and a meeting scheduled?	✓			
39. Has a representative from each notified utility agency been called to confirm the utility meeting?				✓
40. Was a utility work authorization number recorded?				✓
41. Was the property owner asked about the existence of any underground utilities or tanks?	✓			
42. Has a UXO survey been conducted at the site?	✓			
43. If yes to Question 42, is a report available?	✓			

Mobilization/Demobilization Checklist (Page 3 of 3)

Environmental Site Protection	Yes	No	N/O	N/A
44. Are drilling and sampling locations accessible without property damage?	✓			
45. Is work area limited to prevent property damage?	✓			
46. Is IDW area greater than 100 feet away from a major stream, tributary, or drinking water well?	✓			
47. If field activities damage property, will measures be taken to restore the Site (explain below)?				✓

Demobilization	Yes	No	N/O	N/A
48. Was the site returned, as much as possible, to its original condition?	✓			
49. Was each work area policed for trash?	✓			
50. Did the site point of contact inspect the site?		✓		
51. Was the integrity of each drum of IDW inspected?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Mozill

Date: 9/16/10

GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Site: Former NOP

Sampler: Mike Miller

Date: 9/14/10

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Sample #	U001-0910-AIR-001-01-IA	U001-0910-AIR-002-01-IA	U001-0910-AIR-002-02-IA	U001-0910-AIR-001-01-SG	U001-0910-AIR-001-02-SG
Location				Storage Room	Storage Room
Summa #	2948	2669	2787	4383	5108
Orifice Used?	Y / (N)	Y / (N)	Y / (N)	(Y) / N	(Y) / N
Orifice #					
Analysis/Method	TO-15	TO-15	TO-15	TO-15	TO-15
Time/Counter (Start)	1027 09/14	0951 9/14	0951 9/14	0947 9/14	0947 9/15
Time/Counter (Stop)	1027 09/15	0951 9/15	0951 9/15	0947 9/15	0947 9/15
Total Time	24 hr	24 hr	24 hr	24 hr	24 hr
Initial Pressure	29 in Hg	32 in Hg	30 in Hg	~~0 kPa~~ 29.7 in Hg	~~0 kPa~~ 30.1 in Hg
Post Pressure	6 in Hg	6 in Hg	7.5 in Hg	8 in Hg	12 in Hg
Flow Rate (Start)	~~ml/min~~	~~ml/min~~	~~ml/min~~	~~3.5 ml/min~~	~~3.5 ml/min~~
Flow Rate (End)	~~ml/min~~	~~ml/min~~	~~ml/min~~	~~ml/min~~	~~ml/min~~
Flow Rate Average	3.5 ml/min	3.5 ml/min	3.5 ml/min	3.5 ml/min	3.5 ml/min
Sample Volume	L	L	L	L	L

MET Station on Site?: Y / N	Atmospheric Pressure (Local):	Ambient Sampling Temperature:

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP Sampler: NM MM

Sample Identification: V001-0910-AIR-001-01-JA Date Sampled: 09/14/10

Sample Location(s): Office Area

Canister Serial #: 2948 / _____ Flow Regulator Serial #: 7205864 / 2932

Environmental Conditions

Outdoor Temperature: 63°F Barometric Pressure: 30.06 Relative Humidity: 93%

Wind Speed/Direction: Θ Comments: _____

Preliminary Screening

Instrumentation: PID Calibration Date: 9/14/10 Time: 0830 am/pm

Field Reading(s): 0.6 (ppm)/ 0.7 (ppm)/ 0.6 (ppm)/ 0.7 (ppm)

Location(s): _____

Mechanical Leak Test - NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test - NA

Leak Test Compound: _____

Field Reading(s): _____ (ppm)/ _____ (ppm)/ _____ (ppm)/ _____ (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1027 am/pm	29 "Hg	_____
Stop:	1027 am/pm	6 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP

Sampler: NM, MM

Sample Identification: U001-0910-AIR-~~001~~ 002-01-IA

Date Sampled: 9/14/10

Sample Location(s): U001 basement

Canister Serial #: can # 2669

Flow Regulator Serial #: 7339447 4725

Environmental Conditions

Outdoor Temperature: 63

Barometric Pressure: 30.06 inHg

Relative Humidity: 93%

Wind Speed/Direction: 0

Comments:

Preliminary Screening

Instrumentation: PID

Calibration Date: 9/14/10

Time: 0830 am/pm

Field Reading(s): 0.6 (ppm)/ 0.7 (ppm)/ _____ (ppm)/ _____ (ppm)

Location(s): main room of basement, south wall, outside storage room

Mechanical Leak Test - NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test - NA

Leak Test Compound: _____

Field Reading(s): _____ (ppm)/ _____ (ppm)/ _____ (ppm)/ _____ (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	0951 am/pm	32 "Hg	_____
Stop:	0951 am/pm	6 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP

Sampler: NM, MM

Sample Identification: V001-0910-AIR-~~003-03~~ 002-02-IA

Date Sampled: 9/14/10

Sample Location(s): V001 basement

Canister Serial #: Can # 2787

Flow Regulator Serial #: 7298232 ~~3630~~ 3650

Environmental Conditions

Outdoor Temperature: 63

Barometric Pressure: 30.06 inHg

Relative Humidity: 93%

Wind Speed/Direction: 0

Comments:

Preliminary Screening

Instrumentation: PID

Calibration Date: 9/14/10

Time: 0830 am/pm

Field Reading(s): 0.6 (ppm)/ 0.7 (ppm)/_____(ppm)/_____(ppm)

Location(s): main room of basement, south wall, outside storage room

Mechanical Leak Test - NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test - NA

Leak Test Compound: _____

Field Reading(s): _____(ppm)/_____(ppm)/

_____(ppm)/_____(ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	0951 am/pm	30 "Hg	
Stop:	0951 am/pm	7.5 "Hg	
Start:	_____ am/pm	_____ "Hg	
Stop:	_____ am/pm	_____ "Hg	

FIELD DATA AIR SAMPLING FORM

Site Name: Farmer NOP

Sampler: Natalie Magill, Mike Miller

Sample Identification: U001-0916-AIR-001-01-SG

Date Sampled: 9/14/10

Sample Location(s): Unit 001 - sub slab storage room

Canister Serial #: Can # / 4383

Flow Regulator Serial #: 7343019 / 5252

Environmental Conditions

Outdoor Temperature: 63°F

Barometric Pressure: 30.06 in Hg

Relative Humidity: ~~83%~~ NM 83%

Wind Speed/Direction: 0

Comments:

Preliminary Screening

Instrumentation: PID

Calibration Date: 9/14/10

Time: 0830 am/pm

Field Reading(s): 0.6 (ppm)/ 0.7 (ppm)/ 0.6 (ppm)/ 0.7 (ppm)

Location(s): area around sub slab port

Mechanical Leak Test

	Time	Pressure
Start:	0922 am/pm	6 kPa "Hg
Stop:	0927 am/pm	6 kPa "Hg

Chemical Leak Test

Leak Test Compound: Helium

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Instrumentation Calibration Date & Time:

Air Sampling

	Time	Pressure	Controller Flow
Start:	0947 am/pm 9/14	29 "Hg	
Stop:	0947 am/pm 9/15	8 "Hg	
Start:	am/pm	"Hg	
Stop:	am/pm	"Hg	

Note: had to leave fitting in sub slab port. Slip cap put over fitting. Could not be removed w/o damaging port.

FIELD DATA AIR SAMPLING FORM

Site Name: Tomer NOP Sampler: NM, MM

Sample Identification: U001-09V0-AIR-001-03-SG Date Sampled: 9/14/10

Sample Location(s): Unit 001 sub-slab - storage room

Canister Serial #: Can # / 5108 Flow Regulator Serial #: 73398886 / 4750

Environmental Conditions

Outdoor Temperature: 63°F Barometric Pressure: 30.06 inHg Relative Humidity: 93%

Wind Speed/Direction: 6 Comments:

Preliminary Screening

Instrumentation: PID Calibration Date: 9/14/10 Time: 0830 am/pm

Field Reading(s): 0.6 (ppm)/ 0.7 (ppm)/ 0.6 (ppm)/ 0.7 (ppm)

Location(s): area around sub slab port

Mechanical Leak Test

	Time	Pressure
Start:	0927 am/pm	6kPa "Hg
Stop:	0927 am/pm	6kPa "Hg

Chemical Leak Test

Leak Test Compound: Helium

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Instrumentation Calibration Date & Time:

Air Sampling

	Time	Pressure	Controller Flow
Start:	0947 am/pm 9/14	30 "Hg	
Stop:	0947 am/pm 9/15	12 "Hg	
Start:	am/pm	"Hg	
Stop:	am/pm	"Hg	

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Kevil, Kentucky

Site: Former NOP

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Sampler: Mike Miller, Natalie Magill

Date: 9/14/10

	U003-0910-AIR-		U003-0910-AIR		U003-0910-AIR
Sample #	001-01-IA		002-01-IA		001-01-SG
Location	Basement		Upstairs		
Summa #	5111		3660		
Orifice Used?	Y / N	Y / N	Y / N	Y / N	Y / N
Orifice #					
Analysis/Method	TO-15	9/14/10 NM	TO-15	9/14/10 NM	Bad port No sample
Time/Counter (Start)	1420		1434		
Time/Counter (Stop)	1420		1434		
Total Time	24 hrs		24 hrs		
Initial Pressure	29 in Hg	in Hg	29.5 in Hg	in Hg	in Hg
Post Pressure	9 in Hg	in Hg	9.5 in Hg	in Hg	in Hg
Flow Rate (Start)	~~ml/min~~	ml/min	~~ml/min~~	ml/min	ml/min
Flow Rate (End)	~~ml/min~~	ml/min	~~ml/min~~	ml/min	ml/min
Flow Rate Average	ml/min	ml/min	ml/min	ml/min	ml/min
Sample Volume	L	L	L	L	L

MET Station on Site?: Y / N	Atmospheric Pressure (Local):	Ambient Sampling Temperature:
	30.02 in Hg	outdoor temp 81°F

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP

Sampler: N.M., M.M.

Sample Identification: U003-0910-AIR-001-01-IA

Date Sampled: 9/14/10

Sample Location(s): ~~10~~ 1M-Basement

Canister Serial #: 5111 / _____

Flow Regulator Serial #: 7329212 / 4938

Environmental Conditions

Outdoor Temperature: 81°F

Barometric Pressure: 30.02

Relative Humidity: _____

Wind Speed/Direction: _____

Comments: _____

Preliminary Screening

Instrumentation: PID

Calibration Date: 9/14/10

Time: 1400 am/pm

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Location(s): _____

Mechanical Leak Test - NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test - NA

Leak Test Compound: _____

Field Reading(s): _____ (ppm)/ _____ (ppm)/ _____ (ppm)/ _____ (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1420 am/pm	29 "Hg	_____
Stop:	1420 am/pm	7 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP

Sampler: N.M. M.M.

Sample Identification: V003-910-AIR-002-01 IA

Date Sampled: 9/14/10

Sample Location(s): Upstairs, Office

Canister Serial #: 3660 /

Flow Regulator Serial #: 73068901 / 3989

Environmental Conditions

Outdoor Temperature: 81°F

Barometric Pressure: 30.02

Relative Humidity:

Wind Speed/Direction:

Comments:

Preliminary Screening

Instrumentation: PID

Calibration Date: 9/14/10

Time: 1430 am/pm

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Location(s):

Mechanical Leak Test – NA

	Time	Pressure
Start:	am/pm	"Hg
Stop:	am/pm	"Hg

Chemical Leak Test – NA

Leak Test Compound:

Field Reading(s): (ppm)/ (ppm)/

(ppm)/ (ppm)

Instrumentation Calibration Date & Time:

Air Sampling

	Time	Pressure	Controller Flow
Start:	1434 am/pm	29.5 "Hg	
Stop:	1434 am/pm	9.5 "Hg	
Start:	am/pm	"Hg	
Stop:	am/pm	"Hg	

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP Sampler: NM MM

Sample Identification: U003-0910-AIR-001-01-SG Date Sampled: 9/14/10

Sample Location(s): Basement

Canister Serial #: _____/_____ Flow Regulator Serial #: _____/_____

Environmental Conditions

Outdoor Temperature: 81°F Barometric Pressure: 30.02 Relative Humidity: _____

Wind Speed/Direction: _____ Comments: _____

Preliminary Screening

Instrumentation: PID Calibration Date: 9/14/10 Time: 1400 am/pm

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Location(s): _____

Mechanical Leak Test

Time	Pressure
Start: _____ am/pm	_____ "Hg
Stop: _____ am/pm	_____ "Hg

Chemical Leak Test - Port bad - no sample taken

Leak Test Compound: _____

Field Reading(s): _____(ppm)/_____(ppm)/

_____(ppm)/_____(ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

Time	Pressure	Controller Flow
~~Start: 1430 am/pm~~ NM 9/15	~~29.~~ "Hg NM 9/15	_____
~~Stop: 1430 am/pm~~ NM 9/15	~~T~~ "Hg NM 9/15	_____
Start: _____ am/pm	_____ "Hg	_____
Stop: _____ am/pm	_____ "Hg	_____

— No Sample Taken —

BUILDING QUESTIONNAIRE

Building Type: Residential/Commercial/Multi-Use

Owner/Tenant: UNL

Address: Unit 003 Feed Mill

Describe Building Uses: produce feed for livestock

Smoker(s): Y/N Product (Cigars, Pipe, Cigarettes):_____ Number Smoked/Day:___

Basement/Crawl Space: Y/N Ventilated: Y/N Living Quarters: Y/N

Basement Acitivities:_____

Private Well: Y/N Sump: Y/N Cistern: Y/N In Use/Plugged: Y/N Public water system

Recent Remodeling: Y/N Activities (painting, new carpet, new cabinets): Y/N

_____

VOC sources (hobbies, paints, solvents, gasoline, etc): No

Cleaning Products and Storage: Yes

Attached Garage: Y/N Garage Storage (cars, lawn mower, etc): feed truck

Furnace Type (Oil, Natural Gas, Propane):_____ Furnace Intake: Inside/Outside

Addidtional Heating Sources (space heater, etc): boiler Fuel Type: N.G.

Comments:_____

BUILDING QUESTIONNAIRE (cont.)

CHEMICAL INVENTORY

CHEMICAL NAME	DESCRIPTION	MSDS OBTAINED
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N

Indoor Air Quality Building Survey

Date: 9/15/10

Address: Unit 003

Residential Contact: _____

Phone: Home: ( ) - Work: ( ) -

List of Current Occupants/Occupation: 2

Age (If under 18)	Sex (M/F)	Occupation

Building Construction Characteristics:

What type of building do you have? (Circle appropriate response)

Single Family	Multiple Family	School	Commercial
Ranch	2-Family		
Raised Ranch	Duplex		
Cape	Apartment House		
Colonial	#of units_____		
Split Level	Condominium		
Mobile Home	#of units_____		
Other_____	Other_____ Metal + Concrete building		

3

Address: Unit 003
Date:_____

Sources of Chemical Contaminants:

Which of these items are present in the building? (Check all that apply)

Potential VOC Source	Location of Source	Used 48 hours prior to sampling (Yes/No/NA)	Use During Sampling (Yes/No/NA)
Paints or paint thinners			
Gas-powered equipment	✓ Throughout building	No	No
Gasoline storage cans	not in office		
Cleaning solvents	✓ office	No	No
Air fresheners			
Oven cleaners			
Carpet/upholstery cleaners			
Hairspray			
Nail polish/polish remover			
Bathroom cleaner			
Appliance cleaner			
Furniture/floor polish			
Moth balls			
Fuel tank			
Wood Stove			
Fireplace			
Perfume/colognes			
Hobby supplies (e g., solvents, paints, lacquers, glues, photographic darkroom chemicals)			
Scented trees, wreaths, potpourri,etc			
Other	fly strips		
Other			

Drinking Water Usage During Sampling(check all that apply)

Showering_____ Cooking_____ Dishwashing_____ Laundry_____
Other:_____

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Kevil, Kentucky

Site: Former NOP

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Sampler: Mike Miller, Natalie Magill

Date: 9/14/10

	U006-0910-AIR		U006-0910-AIR		U006-0910-AIR
Sample #	001-01-IA		002-01-IA		001-01-SG
Location					
Summa #	3415		4349		4322
Orifice Used?	Y / N	Y / N	Y / N	Y / N	Y / N
Orifice #					
Analysis/Method	TO-15		TO-15		TO-15
Time/Counter (Start)	1211 9/14		1208 9/14		1201 9/14
Time/Counter (Stop)	1211 9/15		1051 9/15		1201 9/15
Total Time	24 hrs		22 hr 43 min		24 hrs
Initial Pressure	30 in Hg	in Hg	24 in Hg	in Hg	34 in Hg
Post Pressure	9 in Hg	in Hg	5 4 in Hg	in Hg	11 in Hg
Flow Rate (Start)	~~ml/min~~	ml/min	~~ml/min~~	ml/min	~~ml/min~~
Flow Rate (End)	~~ml/min~~	ml/min	~~ml/min~~	ml/min	~~ml/min~~
Flow Rate Average	ml/min	ml/min	ml/min	ml/min	ml/min
Sample Volume	L	L	L	L	L

MET Station on Site?: Y / N	Atmospheric Pressure (Local):	Ambient Sampling Temperature:
	30.02 in Hg	outdoor temp 81°F

FIELD DATA AIR SAMPLING FORM

Site Name: Former NGP Sampler: N.M, M.M.

Sample Identification: U006-0910-AIR-002-01-IA Date Sampled: 9/14/10

Sample Location(s): _____

Canister Serial #: 4349 / _____ Flow Regulator Serial #: 7074965 / 3130

Environmental Conditions

Outdoor Temperature: 81°F Barometric Pressure: 30.02 Relative Humidity: _____

Wind Speed/Direction: _____ Comments: _____

Preliminary Screening

Instrumentation: PID Calibration Date: 9/14/10 Time: 1200 am/pm

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Location(s): _____

Mechanical Leak Test - NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test - NA

Leak Test Compound: _____

Field Reading(s): _____ (ppm)/ _____ (ppm)/ _____ (ppm)/ _____ (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1208 am/pm	24 "Hg	_____
Stop:	1051 am/pm	4 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP Sampler: N. M., M. M

Sample Identification: U006-0910-AIR-001 - 01-5G Date Sampled: 9/14/10

Sample Location(s): _____

Canister Serial #: 4328 / _____ Flow Regulator Serial #: 7301367 / 3437

Environmental Conditions

Outdoor Temperature: 81 °F Barometric Pressure: 30.02 Relative Humidity: _____

Wind Speed/Direction: _____ Comments: _____

Preliminary Screening

Instrumentation: PID Calibration Date: 9/14/10 Time: 1200 am/pm

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Location(s): _____

Mechanical Leak Test - NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test

Leak Test Compound: Helium

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1201 am/pm	34 "Hg	_____
Stop:	1201 am/pm	11 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP Sampler: N.M., M.M.

Sample Identification: U006-0910-AIL-001-01-IA Date Sampled: 9/14/10

Sample Location(s): _____

Canister Serial #: 3415 / _____ Flow Regulator Serial #: 7036435 / 3022

Environmental Conditions

Outdoor Temperature: 81°F Barometric Pressure: 30.02 Relative Humidity: _____

Wind Speed/Direction: _____ Comments: _____

Preliminary Screening

Instrumentation: PID Calibration Date: 9/14/10 Time: 1200 am/pm

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Location(s): _____

Mechanical Leak Test - N/A

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test - NA

Leak Test Compound: _____

Field Reading(s): _____ (ppm)/ _____ (ppm)/ _____ (ppm)/ _____ (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1211 am/pm	30 "Hg	_____
Stop:	1211 am/pm	9 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

BUILDING QUESTIONNAIRE

Building Type: Residential/Commercial/Multi-Use

Owner/Tenant: UNL

Address: Unit 006

Describe Building Uses: storage

Smoker(s): Y/N Product (Cigars, Pipe, Cigarettes):_____ Number Smoked/Day:___

Basement/Crawl Space: Y/N Ventilated: Y/N Living Quarters: Y/N
Basement Acitivities:_____

Private Well: Y/N Sump: Y/N Cistern: Y/N In Use/Plugged: Y/N

Recent Remodeling: Y/N Activities (painting, new carpet, new cabinets): Y/N

VOC sources (hobbies, paints, solvents, gasoline, etc): yes, gasoline, diesal, turbine oil, hydraulic oil

Cleaning Products and Storage: no

Attached Garage: Y/N Garage Storage (cars, lawn mower, etc): yes, vehicles forklift

Furnace Type (Oil, Natural Gas, Propane): No Furnace Intake: Inside/Outside

Addidtional Heating Sources (space heater, etc): No Fuel Type: No

Comments:_____

BUILDING QUESTIONNAIRE (cont.)

CHEMICAL INVENTORY

CHEMICAL NAME	DESCRIPTION	MSDS OBTAINED
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N

Indoor Air Quality Building Survey

Date: 9/15/10

Address: Unit 006

Residential Contact: _____

Phone: Home: ( ) NA. Work: ( ) N/A.

List of Current Occupants/Occupation: 0

Age (If under 18)	Sex (M/F)	Occupation

Building Construction Characteristics:

What type of building do you have? (Circle appropriate response)

Single Family	Multiple Family	School	Commercial
Ranch	2-Family		
Raised Ranch	Duplex		
Cape	Apartment House		
Colonial	#of units_____		
Split Level	Condominium		
Mobile Home	#of units_____		
Other_____	Other_____ metal storage building brick interior on several sides		

Address:_____
Date:_____

Sources of Chemical Contaminants:

Which of these items are present in the building? (Check all that apply)

Potential VOC Source	Location of Source	Used 48 hours prior to sampling (Yes/No/NA)	Use During Sampling (Yes/No/NA)
Paints or paint thinners			
Gas-powered equipment	✓	No	No
Gasoline storage cans	✓	No	No
Cleaning solvents	✓	No	No
Air fresheners			
Oven cleaners			
Carpet/upholstery cleaners			
Hairspray			
Nail polish/polish remover			
Bathroom cleaner			
Appliance cleaner			
Furniture/floor polish			
Moth balls			
Fuel tank	✓	No	No
Wood Stove			
Fireplace			
Perfume/colognes			
Hobby supplies (e g., solvents, paints, lacquers, glues, photographic darkroom chemicals)			
Scented trees, wreaths, potpourri,etc			
Other			
Other			

Drinking Water Usage During Sampling(check all that apply) No water

Showering_____ Cooking_____ Dishwashing_____ Laundry_____
Other:_____

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Kevil, Kentucky

Site: Former NOP

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Sampler: Mike Miller, Natalie Magill

Date: 9/14/10

Sample #	U011-0910-AIR-001-01-IA	U011-0910-AIR-002-01-IA	U011-0910-AIR-001-01-SG		
Location	Office	Break Room	Bathroom		
Summa #	4566	2953	4371		
Orifice Used?	Y / N	Y / N	Y / N	Y / N	Y / N
Orifice #					
Analysis/Method	TO-15	TO-15	TO-15		
Time/Counter (Start)	1530 ~~1530~~ ok	1528 ~~1525~~	1525 ~~1528~~		
Time/Counter (Stop)	1530	1443	1525		
Total Time	24 hr	23hr 15min	24 hr		
Initial Pressure	28 in Hg	28 in Hg	30 in Hg	in Hg	in Hg
Post Pressure	6 in Hg	4 in Hg	6 in Hg	in Hg	in Hg
Flow Rate (Start)	~~ml/min~~	~~ml/min~~	ml/min	ml/min	ml/min
Flow Rate (End)	~~ml/min~~	~~ml/min~~	~~ml/min~~	ml/min	ml/min
Flow Rate Average	ml/min	ml/min	3.5 ml/min	ml/min	ml/min
Sample Volume	L	L	L	L	L

MET Station on Site?: Y / N	Atmospheric Pressure (Local):	Ambient Sampling Temperature:

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP Sampler: NM MM

Sample Identification: U011-0910-AIR-001-01-IA Date Sampled: 091410

Sample Location(s): office

Canister Serial #: 4566 / _____ Flow Regulator Serial #: 7332031 / 5003

Environmental Conditions

Outdoor Temperature:_____ Barometric Pressure:_____ Relative Humidity:_____

Wind Speed/Direction:_____ Comments:_____

Preliminary Screening

Instrumentation:_____ Calibration Date:_____ Time:_____am/pm

Field Reading(s):_____(ppm)/_____(ppm)/_____(ppm)/_____(ppm)

Location(s):_____

Mechanical Leak Test – NA

	Time	Pressure
Start:	_____am/pm	_____"Hg
Stop:	_____am/pm	_____"Hg

Chemical Leak Test – NA

Leak Test Compound:_____

Field Reading(s):_____(ppm)/_____(ppm)/

_____(ppm)/_____(ppm)

Instrumentation Calibration Date & Time:_____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1530 am/pm	28 "Hg	_____
Stop:	1530 am/pm	6 "Hg	_____
Start:	_____am/pm	_____"Hg	_____
Stop:	_____am/pm	_____"Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP

Sampler: NM MM

Sample Identification: U01-0910-AIR-002-04IA

Date Sampled: 04/4/10

Sample Location(s): Break Room

Canister Serial #: 2953 /

Flow Regulator Serial #: 7280622 / 3439

Environmental Conditions

Outdoor Temperature:_____ Barometric Pressure:_____ Relative Humidity:_____

Wind Speed/Direction:_____ Comments:_____

Preliminary Screening

Instrumentation:_____ Calibration Date:_____ Time:_____am/pm

Field Reading(s):_____(ppm)/_____(ppm)/_____(ppm)/_____(ppm)

Location(s):_____

Mechanical Leak Test - NA

	Time	Pressure
Start:	_____am/pm	_____"Hg
Stop:	_____am/pm	_____"Hg

Chemical Leak Test - NA

Leak Test Compound:_____

Field Reading(s):_____(ppm)/_____(ppm)/

_____(ppm)/_____(ppm)

Instrumentation Calibration Date & Time:_____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1528 am/pm	28 "Hg	_____
Stop:	1443 am/pm	4 "Hg	_____
Start:	_____am/pm	_____"Hg	_____
Stop:	_____am/pm	_____"Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP Sampler: NM MM

Sample Identification: U011-0910-AIR-001-01-SG Date Sampled: 091410

Sample Location(s): Bathroom / Locker Room

Canister Serial #: 4371 / _____ Flow Regulator Serial #: 7385976 / 3954

Environmental Conditions

Outdoor Temperature: _____ Barometric Pressure: _____ Relative Humidity: _____

Wind Speed/Direction: _____ Comments: _____

Preliminary Screening

Instrumentation: PID Calibration Date: 9/14/10 Time: _____ am/pm

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Location(s): surrounding port, around bathroom

Mechanical Leak Test – NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test

Leak Test Compound: Helium

Field Reading(s): 0 (ppm)/ 0 (ppm)/ 0 (ppm)/ 0 (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1525 am/pm	30 "Hg	_____
Stop:	1525 am/pm	6 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

BUILDING QUESTIONNAIRE

Building Type: Residential/Commercial/Multi-Use

Owner/Tenant: UNL

Address: Unit 011, Feed Lot Office

Describe Building Uses: Office, Breakroom, Restroom, Cattle area

Smoker(s): Y/N Product (Cigars, Pipe, Cigarettes): _____ Number Smoked/Day: ___

Basement/Crawl Space: Y/N Ventilated: Y/N Living Quarters: Y/N

Basement Acitivities: _____

Private Well: Y/N Sump: Y/N Cistern: Y/N In Use/Plugged: Y/N

Recent Remodeling: Y/N Activities (painting, new carpet, new cabinets): Y/N

VOC sources (hobbies, paints, solvents, gasoline, etc): No

Cleaning Products and Storage: yes

Attached Garage: Y/N Garage Storage (cars, lawn mower, etc): No

Furnace Type (Oil, Natural Gas, Propane): _____ Furnace Intake: Inside/Outside

Addidtional Heating Sources (space heater, etc): _____ Fuel Type: _____

Comments: _____

BUILDING QUESTIONNAIRE (cont.)

CHEMICAL INVENTORY

CHEMICAL NAME	DESCRIPTION	MSDS OBTAINED
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N

Indoor Air Quality Building Survey

Date: 9/15/10

Address: Unit 011

Residential Contact: _____

Phone: Home: ( ) - Work: ( ) -

List of Current Occupants/Occupation: Temporary 4 to 8 people

Age (If under 18)	Sex (M/F)	Occupation

Building Construction Characteristics:

What type of building do you have? (Circle appropriate response)

Single Family	Multiple Family	School	Commercial
Ranch	2-Family		
Raised Ranch	Duplex		
Cape	Apartment House		
Colonial	#of units_____		
Split Level	Condominium		
Mobile Home	#of units_____		
Other_____	Other metal building, wood frame		

Address:_____
Date:_____

Sources of Chemical Contaminants:

Which of these items are present in the building? (Check all that apply)

Potential VOC Source	Location of Source	Used 48 hours prior to sampling (Yes/No/NA)	Use During Sampling (Yes/No/NA)
Paints or paint thinners			
Gas-powered equipment			
Gasoline storage cans			
Cleaning solvents	✓ Bathroom	No	No
Air fresheners			
Oven cleaners			
Carpet/upholstery cleaners			
Hairspray			
Nail polish/polish remover			
Bathroom cleaner	✓ Bathroom	No	No
Appliance cleaner			
Furniture/floor polish			
Moth balls			
Fuel tank			
Wood Stove			
Fireplace			
Perfume/colognes			
Hobby supplies (e g., solvents, paints, lacquers, glues, photographic darkroom chemicals)			
Scented trees, wreaths, potpourri,etc			
Other	boot protector		
Other			

Drinking Water Usage During Sampling(check all that apply)

Showering_____ Cooking_____ Dishwashing ✓ Laundry_____
Other:_____

GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Site: Former NOP

Sampler: Mike Miller

Date: 9/14/10

Page__ of __

Sample #	UBKG-0910-AIR-001-01-AA	UBKG-0910-AIR-002-01-AA			
Location	V001	V002			
Summa #	4019	3733			
Orifice Used?	Y / N	Y / N	Y / N	Y / N	Y / N
Orifice #					
Analysis/Method	TO-15	TO-15			
Time/Counter (Start)	1032 9/14	1220 9/14			
Time/Counter (Stop)	1032 9/15	1220 9/15			
Total Time					
Initial Pressure	29.5 in Hg	30 in Hg	in Hg	in Hg	in Hg
Post Pressure	9 in Hg	7 in Hg	in Hg	in Hg	in Hg
Flow Rate (Start)	~~ml/min~~	~~ml/min~~	ml/min	ml/min	ml/min
Flow Rate (End)	~~ml/min~~	~~ml/min~~	ml/min	ml/min	ml/min
Flow Rate Average	3.5 ml/min	3.5 ml/min	ml/min	ml/min	ml/min
Sample Volume	L	L	L	L	L

MET Station on Site?: Y / N	Atmospheric Pressure (Local):	Ambient Sampling Temperature:

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP Sampler: DM MM

Sample Identification: UBKG-0910-AIR-001-01-AA Date Sampled: 09/14/10

Sample Location(s): _____

Canister Serial #: 4019 / _____ Flow Regulator Serial #: 550006 / 5251

Environmental Conditions

Outdoor Temperature: _____ Barometric Pressure: _____ Relative Humidity: _____

Wind Speed/Direction: _____ Comments: _____

Preliminary Screening

Instrumentation: _____ Calibration Date: _____ Time: _____ am/pm

Field Reading(s): _____(ppm)/_____(ppm)/_____(ppm)/_____(ppm)

Location(s): _____

Mechanical Leak Test

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test

Leak Test Compound: _____

Field Reading(s): _____(ppm)/_____(ppm)/ _____(ppm)/_____(ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1032 am/pm	29.5 "Hg	_____
Stop:	1032 am/pm	9 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP Sampler: NM MM

Sample Identification: UBKG-0910-AIR-002-01-AA Date Sampled: 09/14/10

Sample Location(s): Unit 006

Canister Serial #: 3733 / _____

Flow Regulator Serial #: 7305962 / 3938

Environmental Conditions

Outdoor Temperature:_____ Barometric Pressure:_____ Relative Humidity:_____

Wind Speed/Direction:_____ Comments:_____

Preliminary Screening

Instrumentation:_____ Calibration Date:_____ Time:_____am/pm

Field Reading(s):_____(ppm)/_____(ppm)/_____(ppm)/_____(ppm)

Location(s):_____

Mechanical Leak Test ~NA

	Time	Pressure
Start:	_____am/pm	_____"Hg
Stop:	_____am/pm	_____"Hg

Chemical Leak Test -NA

Leak Test Compound:_____

Field Reading(s):_____(ppm)/_____(ppm)/

_____(ppm)/_____(ppm)

Instrumentation Calibration Date & Time:_____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1220 am/pm	30 "Hg	_____
Stop:	1220 am/pm	7 "Hg	_____
Start:	_____am/pm	_____"Hg	_____
Stop:	_____am/pm	_____"Hg	_____

Daily Quality Control Report (Page 1 of 2)

Project Name/Number: Mead

Site: Former NOP

Date: 11/2/10

Weather: ☑ Clear, ☐ Overcast, ☐ Rain, ☐ Thunderstorm, ☐ Snow

Temperature: ☐ <32°F, ☑ 32-50 °F, ☑ 50-70 °F, ☐ 70-85 °F, ☐ 85+ °F

Wind: ☐ Still, ☑ Gusty, ☐ Moderate, ☐ High; Direction:

Humidity: ☑ Dry, ☐ Moderate, ☐ Humid

Activity	Contractor/ Subcontractor	Equipment	Number of Workers	Total Hours Worked
Setting up Summa canisters begin 24-hr sample time.	GEO/SAIC	NA	2	6.0

Problems Encountered	Corrective Action Taken
None	None

Summary of Work Performed: Set up canisters at Unit 003, 1 ambient air west of building, 1 indoor in upstairs office, 1 downstairs in basement, 1 sub-slab in basement.

Total Daily Hours Worked by all Personnel: 12.0

Daily Quality Control Report (Page 2 of 2)

Safety: Activity Safety Inspection

Safety Deficiencies Observed	Corrective Action Taken
None	None

Remarks:

Safety Statistics

Number of First Aid Incidents:	0
Number of Recordable Incidents:	0
Number of Lost Time Days:	0

Forms completed:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form				✓
Surveying Checklist				✓
Borehole and Core Logging Checklist				✓
Decontamination Checklist				✓
Instrument Calibration Checklist	✓			
Sample Collection Checklist	✓			
Packing, Storing, and Shipment of Samples Checklist				✓
Field Documentation Checklist	✓			
Health and Safety Checklist				✓
IDW Management Checklist				✓
Mobilization/demobilization Checklist				✓
Building Questionnaire				✓
Field Data Air Sampling Form	✓			
Indoor Air Quality Building Survey				✓
Air Sampling Log	✓			
HTRW Drilling Log Form				✓
Field Data Sheet				✓
Chain of Custody Forms				✓

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

FOM Signature: Natalie Magill

Date: 11/2/10

Instrument Calibration Checklist (Page 1 of 1)

Project Name/Number: Mead

Site: Former NOP

Date: 11/2/10

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Instrumental Calibration	Yes	No	N/O	N/A
1. Were all field instruments calibrated properly?	✓			
2. Were all field instruments calibrated on the schedule in the Work Plan/SSHP?	✓			
3. Did the Field Calibration Forms list all calibration events?				✓

List instruments used at the site:

Fresh air calibration

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 11/2/10

Field Documentation Checklist (Page 1 of 1)

Project Name/Number: Mead

Site: Former NOP

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Field Documentation	Yes	No	N/O	N/A
1. Was all original field data, except boring logs, recorded in black indelible ink?	✓			
2. Were logbooks filled out properly, accurately recounting the day's events?	✓			
3. Were all field forms completed and information accurately recorded:				
-Daily Quality Control Report?	✓			
-Daily Tailgate Meeting Form?				✓
-HTRW Drilling Log Form?				✓
-Air Sampling Log?	✓			
-Building Questionnaire?				✓
-Field Data Air Sampling Form?	✓			
-Indoor Air Quality Building Survey?				✓
-Field Log Books?	✓			
-Project Photograph Log (in Log Book)?				✓
-Field Data Sheet?				✓
-Chain of Custody Forms?				✓

List additional field forms completed:

4. Was field documentation forwarded to office for peer review and QC?				✓

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 11/2/10

Sample Collection Checklist (Page 1 of 1)

Project Name/Number: Mead

Sampling Date: 11/2/10 - 11/3/10

Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If "no" is checked, provide an explanation on the form.

General	Yes	No	N/O	N/A
1. Were new protective gloves worn between sampling locations and/or intervals?	✓			
2. Were samples collected using methods described in the Work Plan?	✓			
3. Were sample containers filled in the correct order?	✓			
4. Was sampling equipment appropriate for the purpose and site conditions?	✓			
5. Was sampling equipment decontaminated or disposable/dedicated equipment used between each sample?				✓
6. Were procedures for collecting QA/QC samples followed as per the Work Plan?				✓
7. Were sampling locations properly identified by land survey or GPS locator?				✓
8. Were bottles adequately protected from contamination prior to sample identification?	✓			

Soil samples for chemical analysis	Yes	No	N/O	N/A
9. Were samples collected according to the Work Plan?				✓
10. Was a field sampling form completed?				✓
11. Were the analytical parameters and QA/QC samples recorded on the Field Data Sheet?				✓
12. Was headspace in sample containers for volatiles eliminated?				✓

Indoor air for chemical analysis	Yes	No	N/O	N/A
13. Were the following forms filled out completely for each building sampled for Vapor Intrusion?				
-the Building Questionnaire				✓
-the Field Data Air Sampling Form	✓			
-the Indoor Air Quality Building Survey				✓
-the Air Sampling Log, including barometric pressure	✓			
14. Were samples collected according to the Work Plan?	✓			
15. Was each of the following tested?				
-each sub-slab port leak tested?	✓			
-each sample transfer line vacuum tested?	✓			
-purging of the sample line from the sub-slab port?	✓			
16. Were sampling port and canister valves open and closed in correct sequence?	✓			

Corrective Actions:

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 11/2/10

Daily Quality Control Report (Page 1 of 2)

Project Name/Number: Mead

Site: Former NOP

Date: 11/3/10

Weather: ☑ Clear, ☐ Overcast, ☐ Rain, ☐ Thunderstorm, ☐ Snow

Temperature: ☐ <32°F, ☑ 32-50 °F, ☑ 50-70 °F, ☐ 70-85 °F, ☐ 85+ °F

Wind: ☐ Still, ☑ Gusty, ☑ Moderate, ☑ High; Direction: various

Humidity: ☑ Dry, ☐ Moderate, ☐ Humid

Activity	Contractor/ Subcontractor	Equipment	Number of Workers	Total Hours Worked
Retrieve Summa Canisters	GEO/SAIC	N/A	2	5.0
Obtain GPS coords for ambient	GEO/SAIC	N/A	2	0.5
sampling points				

Problems Encountered	Corrective Action Taken

Summary of Work Performed: Retrieve Summa Canisters, check progress of all canisters approximately 2 hours before 24-hr time limit for progress. Box and ship Summa Canisters to laboratory. All field work completed as planned.

Total Daily Hours Worked by all Personnel: 11.0

Daily Quality Control Report (Page 2 of 2)

Safety: Activity Safety Inspection

Safety Deficiencies Observed	Corrective Action Taken
None	None

Remarks:

Safety Statistics

Number of First Aid Incidents:	0
Number of Recordable Incidents:	0
Number of Lost Time Days:	0

Forms completed:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form				✓
Surveying Checklist				✓
Borehole and Core Logging Checklist				✓
Decontamination Checklist				✓
Instrument Calibration Checklist	✓			
Sample Collection Checklist	✓			
Packing, Storing, and Shipment of Samples Checklist	✓			
Field Documentation Checklist	✓			
Health and Safety Checklist	✓			
IDW Management Checklist				✓
Mobilization/demobilization Checklist				✓
Building Questionnaire				✓
Field Data Air Sampling Form	✓			
Indoor Air Quality Building Survey				✓
Air Sampling Log	✓			
HTRW Drilling Log Form				✓
Field Data Sheet				✓
Chain of Custody Forms	✓			

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

FOM Signature: Natalie Magill

Date: 11/3/10

Instrument Calibration Checklist (Page 1 of 1)

Project Name/Number: Mead

Site: Former NOP

Date: 11/3/10

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Instrumental Calibration	Yes	No	N/O	N/A
1. Were all field instruments calibrated properly?	✓			
2. Were all field instruments calibrated on the schedule in the Work Plan/SSHP?	✓			
3. Did the Field Calibration Forms list all calibration events?	✓			

List instruments used at the site:

PID, Multi-Rae, Fresh Air Calibration

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 11/3/10

Field Documentation Checklist (Page 1 of 1)

Project Name/Number: Former NOP

Site: Mead

Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Field Documentation	Yes	No	N/O	N/A
1. Was all original field data, except boring logs, recorded in black indelible ink?	✓			
2. Were logbooks filled out properly, accurately recounting the day's events?	✓			
3. Were all field forms completed and information accurately recorded:				
-Daily Quality Control Report?	✓			
-Daily Tailgate Meeting Form?				✓
-HTRW Drilling Log Form?				✓
-Air Sampling Log?	✓			
-Building Questionnaire?				✓
-Field Data Air Sampling Form?	✓			
-Indoor Air Quality Building Survey?				✓
-Field Log Books?	✓			
-Project Photograph Log (in Log Book)?				✓
-Field Data Sheet?				✓
-Chain of Custody Forms?	✓			

List additional field forms completed:

4. Was field documentation forwarded to office for peer review and QC?				✓

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 11/3/10

Sample Collection Checklist (Page 1 of 1)

Project Name/Number: Former NOP

Sampling Date: 11/3/10

Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If "no" is checked, provide an explanation on the form.

General	Yes	No	N/O	N/A
1. Were new protective gloves worn between sampling locations and/or intervals?	✓			
2. Were samples collected using methods described in the Work Plan?	✓			
3. Were sample containers filled in the correct order?	✓			
4. Was sampling equipment appropriate for the purpose and site conditions?	✓			
5. Was sampling equipment decontaminated or disposable/dedicated equipment used between each sample?	✓			
6. Were procedures for collecting QA/QC samples followed as per the Work Plan?	✓			
7. Were sampling locations properly identified by land survey or GPS locator?				✓
8. Were bottles adequately protected from contamination prior to sample identification?	✓			

Soil samples for chemical analysis	Yes	No	N/O	N/A
9. Were samples collected according to the Work Plan?				✓
10. Was a field sampling form completed?				✓
11. Were the analytical parameters and QA/QC samples recorded on the Field Data Sheet?				✓
12. Was headspace in sample containers for volatiles eliminated?				✓

Indoor air for chemical analysis	Yes	No	N/O	N/A
13. Were the following forms filled out completely for each building sampled for Vapor Intrusion?				
-the Building Questionnaire				✓
-the Field Data Air Sampling Form	✓			
-the Indoor Air Quality Building Survey				✓
-the Air Sampling Log, including barometric pressure	✓			
14. Were samples collected according to the Work Plan?	✓			
15. Was each of the following tested?				
-each sub-slab port leak tested?				✓
-each sample transfer line vacuum tested?				✓
-purging of the sample line from the sub-slab port?				✓
16. Were sampling port and canister valves open and closed in correct sequence?	✓			

Corrective Actions:

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 11/3/10

Health and Safety Checklist (Page 1 of 2)

Date: 11/1/10 through 11/3/10

Project Name/Number: Mead

Site: FNOP

Briefed on-site Personnel and Work Locations: Natalie Magill + Mike Miller
Unit 003, Feed Mill

Complete weekly for each site. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Documentation	Yes	No	N/O	N/A
1. Is the Site Health and Safely Plan (SSHP) on the Site?	✓			
2. Has the SSHP been reviewed, dated, and signed within the last year?	✓			
3. Are the tasks being completed reflected in the hazard task analysis?	✓			
4. Is there a written acknowledgement that all employees, including subcontractors, have been briefed and read the SSHP?	✓			
5. Are the following training records current and available:				
-40-hour HAZWOPER/8-hour refresher for ALL employees and subcontractors?	✓			
-24-hour Supervised Field Experience?				✓
-CPR/First Aid?	✓			
-8-hour Hazardous Waste Site Supervisor, and refresher?	✓			
-Initial Site Health and Safety Briefing?	✓			
-Site Health and Safety Briefing for each location or site?	✓			
6. Are emergency maps posted at the site and maintained in vehicles?	✓			
7. Were daily safety checklists completed and fire extinguishers checked?	✓			
8. Were applicable Material Safety Data Sheets at the Site?	✓			
9. Are documents that indicate employees and subcontractors are medically fit to work and wear the required personal protective equipment current and available?				✓
10. Were daily air monitoring equipment calibrations recorded?	✓			
11. Are respirator fit test records available and current?				✓

Health and Safety Checklist (Page ~~1~~ 2 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones adequately marked?				✓
13. Is required personal protective equipment available and correctly used, maintained, and stored?	✓			
14. Is the following emergency equipment located at each site:				
-Fire extinguisher?	✓			
-Eyewash (15 minutes fresh water)?	✓			
-Communications (walkie-talkie or phone)?	✓			
-First aid kit?	✓			
15. Is the buddy system in use?	✓			
16. Are personnel refraining from drinking, chewing, smoking, taking medications, or other hand-to-mouth contact while working in the exclusion zone?	✓			
17. Is air monitoring equipment being used appropriately?	✓			
18. Is the site organized to allow the use of lifting equipment, and avoid tripping hazards and spreading contamination?	✓			
19. Was a random employee asked if he/she knew site hazard and emergency procedures?	✓			
20. Is the drill rig kill switch clearly marked and easily accessible?				✓

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 11/3/10

FIELD DATA AIR SAMPLING FORM

3/10

Environmental Conditions

Relative Humidity:

Preliminary Screening

Time: am/pm

_____"Hg Field Reading(s):_____(ppm)/_____(ppm)/

"Hg _____(ppm)/_____(ppm)

Instrumentation Calibration Date & Time:

FIELD DATA AIR SAMPLING FORM

Site Name: FNOP

Sampler: NM, MM

Sample Identification: U003-1110-AIR-001-01-JA

Date Sampled: 11/2/10 - 11/3/10

Sample Location(s): Office

Canister Serial #: Q672 / _____

Flow Regulator Serial #: 7329585 / 4937

Environmental Conditions

Outdoor Temperature: 45.2°F Barometric Pressure: 30.46in Relative Humidity: 70%

Wind Speed/Direction: SE 2mph Comments: _____

Preliminary Screening

Instrumentation: PID Calibration Date: 11/2/10 Time: 1058 am/pm

Field Reading(s): 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)

Location(s): surrounding canister

Mechanical Leak Test - NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test - NA

Leak Test Compound: _____

Field Reading(s): _____ (ppm)/ _____ (ppm)/ _____ (ppm)/ _____ (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1056 am/pm	30 "Hg	_____
Stop:	1102 am/pm	7 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: FNOP

Sampler: NM, MM

Sample Identification: V003-1110-AIR-002-01-IA

Date Sampled: 11/2/10 - 11/3/10

Sample Location(s): Basement

Canister Serial #: ~~352~~ 3532

Flow Regulator Serial #: 7297512 / 3698

Environmental Conditions

Outdoor Temperature: 45.2°F

Barometric Pressure: 30.46 in

Relative Humidity: 70%

Wind Speed/Direction: SE 2mph

Comments:

Preliminary Screening

Instrumentation: PID

Calibration Date: 11/2/10

Time: 1110 am/pm

Field Reading(s): 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)

Location(s): Sampling area

Mechanical Leak Test - NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test - NA

~~Leak Test Compound: Helium~~

~~Field Reading(s): 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)~~

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1122 am/pm	30 "Hg	_____
Stop:	1125 am/pm	5.5 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP

Sampler: NM, MM

Sample Identification: V003-1110-AIR-~~001-01~~ 001-01-SG

Date Sampled: 11/2/10 - 11/3/10

Sample Location(s): New port

Canister Serial #: 2946 / _____

Flow Regulator Serial #: 7306045 / 3962

Environmental Conditions

Outdoor Temperature: 45.2F Barometric Pressure: 30.46 in Relative Humidity: 70%

Wind Speed/Direction: SE 2mph Comments: _____

Preliminary Screening

Instrumentation: PID Calibration Date: 11/2/10 Time: 1110 am/pm

Field Reading(s): 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)

Location(s): Surrounding port.

Mechanical Leak Test -NA

	Time	Pressure
Start:	_____ am/pm	_____ "Hg
Stop:	_____ am/pm	_____ "Hg

Chemical Leak Test

Leak Test Compound: Helium

Field Reading(s): 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

	Time	Pressure	Controller Flow
Start:	1125 am/pm	30 "Hg	_____
Stop:	1127 am/pm	16 "Hg	_____
Start:	_____ am/pm	_____ "Hg	_____
Stop:	_____ am/pm	_____ "Hg	_____

Sample not analyzed

FIELD DATA AIR SAMPLING FORM

Site Name: Former NOP

Sampler: NM MM

Sample Identification: V003-1110 7AIR-001 ~~0056~~ 01-SG

Date Sampled: 11/2/10 - 11/3/10

Sample Location(s): Old Port

Canister Serial #: 3488 / _____

Flow Regulator Serial #: 7297540 / 3113

Environmental Conditions

1436

Outdoor Temperature: 58 F Barometric Pressure: 30.36 in Relative Humidity: 38%

Wind Speed/Direction: S @ 4mph Comments: _____

Preliminary Screening

Instrumentation: PID Calibration Date: 11/2/10 Time: 1110 am/pm

Field Reading(s): 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)

Location(s): Surrounding port

Mechanical Leak Test - NA

Time	Pressure
Start: _____ am/pm	_____ "Hg
Stop: _____ am/pm	_____ "Hg

Chemical Leak Test

Leak Test Compound: helium

Field Reading(s): 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)/ 0.0 (ppm)

Instrumentation Calibration Date & Time: _____

Air Sampling

Time	Pressure	Controller Flow
Start: 1431 am/pm	31 "Hg	_____
Stop: 1431 am/pm	8 "Hg	_____
Start: _____ am/pm	_____ "Hg	_____
Stop: _____ am/pm	_____ "Hg	_____

GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Site: Mead

Page__ of __

Sampler: NM, MM

Date: 11/2/10 - 11/3/10

	U003-1110-AIR-	U003-1110-AIR-	U003-1110-AIR-	UBKG-1110-AIR ~~U003-1110-AIR~~	
Sample #	001-01-IA	002-01-IA	001-01-SG	001-01-AA	
Location	Office	Basement	Basement	W of UM3	
Summa #	2672	3532	3488	5095	
Orifice Used?	Y / (N)	Y / (N)	(Y) / N	Y (N)	Y / N
Orifice #	NA	NA	~~NA~~ Old	NA	
Analysis/Method	TO-15	TO-15	TO-15	TO-15	
Time/Counter (Start)	11/02/10 1058	11/02/10 1122	11/02/10 1431	11/02/10 1053	
Time/Counter (Stop)	11/03/10 1108	11/03/10 1125	11/03/10 1431	11/03/10 1020	
Total Time	24hr	24hr	24hr	23.5hr	
Initial Pressure	30 in Hg	30 in Hg	31 in Hg	30 in Hg	in Hg
Post Pressure	7 in Hg	5.5 in Hg	8 in Hg	4 in Hg	in Hg
Flow Rate (Start)	ml/min	ml/min	ml/min	ml/min	ml/min
Flow Rate (End)	ml/min	ml/min	ml/min	ml/min	ml/min
Flow Rate Average	ml/min	ml/min	ml/min	ml/min	ml/min
Sample Volume	L	L	L	L	L

MET Station on Site?: Y / N	Atmospheric Pressure (Local):	Ambient Sampling Temperature:
	30 in	45-58°F

Investigation-Derived Waste Management Checklist (Page 1 of 1)

Project Name/Number: Mead 2

Site: former NOP

Boring/Monitoring Well Number: PLA01 - NBG20

Date: 9/16/10

Complete weekly for each site. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Investigation-Derived Waste Management	Yes	No	N/O	N/A
1. Was all IDW managed according to the Waste Management Plan?	✓			
2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized in 55-gallon drums?	✓			
3. Were all containers properly labeled and stored?	✓			
4. Were all containers in satisfactory condition?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/16/10

Health and Safety Checklist (Page 1 of 2)

Date: 9/16/10

Project Name/Number: Mead 2

Site: former NOP

Briefed on-site Personnel and Work Locations: ICR, GEO, OCR, SAIC

Complete weekly for each site. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.

Documentation	Yes	No	N/O	N/A
1. Is the Site Health and Safely Plan (SSHP) on the Site?	✓			
2. Has the SSHP been reviewed, dated, and signed within the last year?	✓			
3. Are the tasks being completed reflected in the hazard task analysis?	✓			
4. Is there a written acknowledgement that all employees, including subcontractors, have been briefed and read the SSHP?	✓			
5. Are the following training records current and available:				
-40-hour HAZWOPER/8-hour refresher for ALL employees and subcontractors?	✓			
-24-hour Supervised Field Experience?	✓			
-CPR/First Aid?	✓			
-8-hour Hazardous Waste Site Supervisor, and refresher?	✓			
-Initial Site Health and Safety Briefing?	✓			
-Site Health and Safety Briefing for each location or site?	✓			
6. Are emergency maps posted at the site and maintained in vehicles?	✓			
7. Were daily safety checklists completed and fire extinguishers checked?		✓		
8. Were applicable Material Safety Data Sheets at the Site?	✓			
9. Are documents that indicate employees and subcontractors are medically fit to work and wear the required personal protective equipment current and available?	✓			
10. Were daily air monitoring equipment calibrations recorded?	✓			
11. Are respirator fit test records available and current?	✓			

Health and Safety Checklist (Page 1 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones adequately marked?				✓
13. Is required personal protective equipment available and correctly used, maintained, and stored?	✓			
14. Is the following emergency equipment located at each site:				
-Fire extinguisher?	✓			
-Eyewash (15 minutes fresh water)?	✓			
-Communications (walkie-talkie or phone)?	✓			
-First aid kit?	✓			
15. Is the buddy system in use?	✓			
16. Are personnel refraining from drinking, chewing, smoking, taking medications, or other hand-to-mouth contact while working in the exclusion zone?	✓			
17. Is air monitoring equipment being used appropriately?	✓			
18. Is the site organized to allow the use of lifting equipment, and avoid tripping hazards and spreading contamination?	✓			
19. Was a random employee asked if he/she knew site hazard and emergency procedures?	✓			
20. Is the drill rig kill switch clearly marked and easily accessible?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Magill

Date: 9/16/10

Mobilization/Demobilization Checklist (Page 1 of 3)

Project Name/Number: Mead

Site: Former NOP

Date:

Complete as indicated. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Complete 4 weeks prior to start of field activities.

Site Access and Security	Yes	No	N/O	N/A
1. Has a copy of the Right of Entry Permit(s) been received?				✓
2. Are the time frames of the Right of Entry Permit(s) adequate for the entire job including IDW disposal?				✓

Permits and Licenses	Yes	No	N/O	N/A
3. Are all subcontractors licensed to operate in the state?	✓			
4. Are license numbers of subcontractors recorded in the project files?	✓			
5. Have subcontractors provided proof of insurance?	✓			
6. Have variances been obtained from the state?				✓
If yes, provide a lists of variances obtained:				

Coordination with Property Owners and Tenants	Yes	No	N/O	N/A
7. Has the property owner been contacted?	✓			
8. Did the property owner designate a contractor staging area?	✓			
9. Did the property owner designate a contractor IDW staging area?	✓			
10. Did the property owner approve a source for water?				✓

Coordination with Environmental Authorities	Yes	No	N/O	N/A
11. Has the State approved the Work Plan?	✓			
12. Has the State been informed of planned sampling events?	✓			
13. Has USEPA approved the Work Plan?	✓			
14. Has USEPA been informed of planned sampling events?	✓			

Mobilization/Demobilization Checklist (Page 2 of 3)

Complete 1 week prior to start of field activities.

Safety Planning and Equipment	Yes	No	N/O	N/A
15. Has the SSHP been submitted to the subcontractors for review?	✓			
16. Have all personnel read and signed the SSHP?				
17. Was the local hospital contacted to verify the phone number and address?	✓			
18. Can the hospital treat anticipated chemical exposures?	✓			
19. Have all field personnel been fit-tested for respirator use?				✓
20. Were all training certificates, including subcontractors, in a file to take to the field?				
21. Are all training certificates current?				
22. Are all MSDSs in a file to take to the field?				
23. Are all required instruments reserved and complete with calibration standards and manuals?	✓			
24. Do the instruments meet manufacture maintenance and calibration standards?	✓			
25. Does the PID have the correct lamp?	✓			
26. Does the LEL meter have the correct sensors?				✓
27. Are the detector tubes current and stored properly?				✓

Complete within 1 week of Notice to Proceed.

Logistical Planning	Yes	No	N/O	N/A
28. Have the Work Plan documents been approved by USACE?	✓			
29. Has the SSHP been approved by Health and Safety Services?	✓			
30. Has Notice to Proceed from USACE been received?	✓			
31. Are the project personnel available and scheduled?	✓			
32. Are subcontractors available?	✓			
33. Do subcontractors' SOWs correspond to the approved Work Plan?	✓			
34. Has the laboratory agreed to the planned sample volume load?	✓			
35. Has the bottle order been placed?	✓			
36. Have the correct sample containers been received?				
37. Has USACE been notified of schedule?	✓			

Complete not less than 1 week before fieldwork is scheduled to begin.

Utility Clearances	Yes	No	N/O	N/A
38. Has the State or Local utility clearance agency been contacted and a meeting scheduled?	✓			
39. Has a representative from each notified utility agency been called to confirm the utility meeting?				✓
40. Was a utility work authorization number recorded?				✓
41. Was the property owner asked about the existence of any underground utilities or tanks?	✓			
42. Has a *UXO* survey been conducted at the site?	✓			
43. If yes to Question 42, is a report available?	✓			

Mobilization/Demobilization Checklist (Page 3 of 3)

Environmental Site Protection	Yes	No	N/O	N/A
44. Are drilling and sampling locations accessible without property damage?	✓			
45. Is work area limited to prevent property damage?	✓			
46. Is IDW area greater than 100 feet away from a major stream, tributary, or drinking water well?	✓			
47. If field activities damage property, will measures be taken to restore the Site (explain below)?				✓

Demobilization	Yes	No	N/O	N/A
48. Was the site returned, as much as possible, to its original condition?	✓			
49. Was each work area policed for trash?	✓			
50. Did the site point of contact inspect the site?		✓		
51. Was the integrity of each drum of IDW inspected?	✓			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature: Natalie Mazill

Date: 9/16/10

Contractor Acknowledgement of Safety Requirements

GEO Consultants, LLC (GEO) completed the Final Site-Specific Safety and Health Plan (SSHP)/Accident Prevention Plan (APP) for the Former Nebraska Ordnance Plant Operable Unit (OU)-3 Mead, Saunders County, Nebraska. A signature on this form indicates that this SSHP/APP has been read and an acknowledgement of the safety requirements of the appropriate contractor personnel. This form will be filled out by all field personnel and will be kept on file as a quality record.

Printed Name	Signature	Date
Daniel Stout		9/8/10
Natalie Magill	Natalie Magill	9/8/10
Bret Watkins		9-10-10
Brad Gough		9/10/10
Jack Kristensen		9/13/10
Percy Long Elk		9/13/10
Ray Biere	Ray Biere	9/13/10
Daryl Biere		9/13/10
Joseph Remington		9/13/10
Mike Miller		9/13/10

PLA

HTRW DRILLING LOG

HOLE NUMBER 01

PROJECT: FNOP

INSPECTOR BW

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		dk Topsoil CL			PLA 01 SS 05 01 0910	start 8:58
	0.5		0.0			
	1.0	dk brn organic med plasticity CL				
	1.5		0.0	4'/5'	PLA01SB 5401 0910	
	2.0	med brn CL low plasticity some sand low moisture				
	2.5		0.0			increasing sand w/ depth
	3.0					
	3.5	increasing sand	0.0			
	4.0					
	4.5	lt tan sand SP	0.0			
	5.0					some coarser sand layers
	5.5	lt. tan to gray SP some coarser sand	0.0	4.5'/5'	PLA 01SB 48 01 0910	
	6.0					
	6.5		0.0			
	7.0					
	7.5		0.0			(fill)
	8.0					~~fluvial/aeolian~~
					X	
						end 9:10

TD 10'

PLA

HTRW DRILLING LOG

HOLE NUMBER 02

PROJECT:

INSPECTOR

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		dk brn CL Topsoil moist			PLA02SS 050109ID	start 9:35
	0.5		0.0			yellow staining
	1.0					
	1.5	very loose low recovery	0.0		PLA02SB 540109ID DUP	
	2.0			2.5'/5'		
	2.5		0.0			
	3.0	dark brn CL w/ lots of metal & rust evident low moisture				broken glass
	3.5		0.0			metallic staining/ rust
	4.0					
	4.5		0.0			
	5.0					pc of sheet metal at end of core
	5.5		0.0		PLA02SB 480109ID	
	6.0					
	6.5	last foot recovered lt tan/gray sand sp fine dry	0.0	2'/5'		
	7.0					
	7.5		0.0			
	8.0					(landfill ~~flowed/sediment~~)
					X	
						end 9:50

BOH 9.0'

PLA

HTRW DRILLING LOG

HOLE NUMBER 03

PROJECT: FNOP

INSPECTOR JBW

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		5" topsoil/mat CL			PLA 03SS 0501 0910	Start 10:12
	0.5	grades to	0.0			
	1.0	dk brown CL med plasticity moist				
	1.5	interlayered w/	0.0	2'/5'	PLA03SB 5401 0910	
	2.0	med brown low moisture sandy CL				
	2.5		0.0			
	3.0					
	3.5					
	4.0					metallic debris/rust at very bottom of core
	4.5					
	5.0					
	5.5	dk brn CL w/ iron & glass debris moist	0.0		PLA03SB 48 01 0910	
	6.0					
	6.5		0.0	5'/5'		
	7.0	very moist light brown CL w/silt				
	7.5		0.0			
	8.0					(landfill) ~~fluvial/gorhan~~
			0.0		X	

BOH 10'ft

HTRW DRILLING LOG

HOLE NUMBER 04

PROJECT: a/14/10 | INSPECTOR RW | SHEET OF

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0.5	dk brown CL moist	0.0		PLA 04SS 05 01 0910	glass splinters
	1.0	med to dk brown CL w/ some sand moist				
	1.5		0.0	2/5'	PLA 04SB 54 01 0910	
	2.0					
	2.5		0.0			
	3.0					
	3.5		0.0			
	4.0					
	4.5	end of sample possible ash / asphalt dry	0.0		PLA 04 SB	possible ash layer
	5.0					
	5.5	no recovery	n/a		sample is from top 1' of first push	0% recovery, moved hole over to get deep sample
	6.0			0'/5'		
	6.5					
	7.0					0% recovery on 2nd push
	7.5					
	8.0				X	(fill)

PLA

HTRW DRILLING LOG

HOLE NUMBER 05

PROJECT: FNOP | INSPECTOR BW | SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		5" topsoil med brown CL	0.2		PLA 05 SS 0501 0910	start 11:10
	0.5					
	1.0	med to lite brn CL low moisture content some silt & sand	0.0	3'/5'		
	1.5				PLA 05 SB 5401 0910	
	2.0					
	2.5		0.0			
	3.0					
	3.5		0.0			
	4.0	dk brn CL w/ reddish staining				
	4.5		0.0			debris iron staining broken glass
	5.0					
	5.5					jar lids ceramics
	6.0		0.0		PLA 05 SD 4801 0910	
	6.5	dk brown, dry, sandy CL		0.5'/5'		
	7.0	very poor recovery				
	7.5					
	8.0				X	(landfill)
		Open space to 16'				11:40 end

NO BOH

PLA

HTRW DRILLING LOG

HOLE NUMBER 06

PROJECT: FUSP

INSPECTOR

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		Topsoil 6-8" silty CL w/ organics	0.0		PLA 06 SS 05010910	start 15:49
	0.5					
	1.0					
	1.5	brown silty clay (CL)	0.0		PLA 06 SB 5401 0910	low moisture content
	2.0			4'/5'		
	2.5		0.0			
	3.0	sandy clay / (SP) med brown				slight dark staining
	3.5		0.0			
	4.0	grading into tan sand (SP) fine				
	4.5		0.0		PLA 06 SB 48 01 0910	
	5.0					
	5.5	tan sand med fine (SP)	0.0			
	6.0			4.5'/5.0'		
	6.5		0.0			
	7.0	light gray fine sand (SP)	0.0			
	7.5					
	8.0				X	(fill) ~~floodplain~~
						16:00 stop

Both 9.4'

PLA

HTRW DRILLING LOG

HOLE NUMBER 07

PROJECT: FNOP | INSPECTOR BW | SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		TOPSOIL → 0-6"			PLA07 SS0501	START → 1515
	0.5	→ BRN - MED DK BRN SILTY	0.0			
	1.0	CLAY, LOW PLASTICITY, MOS CL	0.0			
	1.5		0.0	4.0' / 5.0'		
	2.0		0.0		PLA07 SB5401	
	2.5		0.0			
	3.0	→ METALLIC FRAG.	0.0			
	3.5					
	4.0	→ 3.75' DK BRN - TSLK ASH LAYER	0.0			air
	4.5	→ 4.75' → BRN SILTY CLAY, SAA	0.0			
	5.0		0.0			
	5.5		0.0			
	6.0		0.0		PLA07 SB4801	
	6.5		0.0	5.0' / 5.0'		
	7.0		0.0			
	7.5	→ 7.25' LT. TAN - GRAY SILTY SAND, WELL SORTED, V. FINE GRAINED, DRY	0.0			
	8.0	SUB-ANG., (SP)	0.0			(fill)
			0.0		X	
			0.0			
			0.0			
		BOH MEASURED @ 9'0"	0.0			1520 STOP

HTRW DRILLING LOG

HOLE NUMBER PLA08

PROJECT: FUOP | INSPECTOR BW | SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		Top soil				start 13:55 root zone
		organic, moist silty CL	0.0			
	0.5					
	1.0		0.0			
	1.5	med brn silty CL		4'/5'		
	2.0		0.0			
		Brown silty clay (BSC)				
	2.5		0.0			
	3.0					70 C 30 ML
	3.5					
			0.0			
	4.0					
	4.5		0.0			Moist plastic w/depth
	5.0					
	5.5		0.0			scattered, few nodules
		med brn silty CL BSC w/ scattered black nodules				
	6.0					
	6.5		0.0	5'/5'		nodules layer
	7.0					
	7.5					
	8.0					(Fill) ~~Fluvial/Aeolian~~
	8.5				X	
	9.0					
						end 14:22

PLA

HTRW DRILLING LOG

HOLE NUMBER 09

PROJECT: FNDP

INSPECTOR BW

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		Top soil / moist dk brn silt CL	0.0			organic
	0.5					
	1.0					
	1.5		0.0	4'/5'		4/5 ft recovery
	2.0					
	2.5		0.0			70 Clay 30 silt
	3.0					
	3.5	Brown silt clay (BSC)				CL
	4.0		0.0			moist o/ w/ depth
	4.5					
	5.0		0.0			1/2 ft recovery
	5.5		0.0			
	6.0	BSC	0.0	2'/3'		
	6.5		0.0			
	7.0	tan sand to white				
	7.5		0.0			
	8.0					(fill) ~~fluvial & alluvium~~
					X	

PLA

HTRW DRILLING LOG

HOLE NUMBER 10

PROJECT: FNOI

INSPECTOR BW

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		6" topsoil dk brown organic CL moist			PLA 10 SS 05 01 0910	start 8:56
	0.5	interlayered med brown & dark brown CL w/silt low moisture	0.0			
	1.0					some sand @ 1'
	1.5			4.5'/5.0'		
	2.0		0.0		PLA 10 SB 54 0109 10	
	2.5					
	3.0		0.0			
	3.5					
	4.0		0.0			
	4.5	low moisture med brn CL w/silts some red mottling				
	5.0		0.0			
	5.5		0.0		PLA 10 SD 48 01 0910	
	6.0					
	6.5	incr moisture w/depth	0.0	5'/5'		more plastic w/ inc. moisture
	7.0					
	7.5		0.0			
	8.0					(landfill)
					X	
						stop 9:10

BOH 10'

PLA

HTRW DRILLING LOG

HOLE NUMBER 11

PROJECT: FNOP | INSPECTOR BW | SHEET OF

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0.5	CL w/ gravel	0.0		PLA 11 SS0501 0910	start 16:10 (asphalt?)
	1.0	dark brown		3.5'/5'		
	1.5	organic (CL)	0.0			
	2.0	med brown			PLASB 5401 0910	all same
	2.5	non organic (CL)	0.0			
	3.0					
	3.5		0.0			
	4.0	(CL)				
	4.5		0.0			
	5.0					
	5.5		0.0			
	6.0	med brn (CL)			PLA 11 SB 48 01 0910	
	6.5		0.0	4.5'/5.0		
	7.0					
	7.5		0.0			
	8.0				X	(fill)
						stop 16:30

Bottom 9.1'

NB6

HTRW DRILLING LOG

HOLE NUMBER 12

PROJECT: FNDP | INSPECTOR BW | SHEET OF

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		6" topsoil dk brown CL w/silt moist			NBG 12SS 0501090	
	0.5		0.0			
	1.0					
	1.5	med brn low moisture CL w/ silt, Interspersed gravel.	0.0	5'/5'		gravel @ 6", 1', 2'
	2.0				NBG 12SB 54 01 0910	
	2.5		0.0			
	3.0					
	3.5		0.0			
	4.0					
	4.5		0.0			
	5.0					
	5.5					
	6.0	dk brn, dry CL w/ silt & sand, some red mottling (fill)		2'/4'	NBG 12 SB 48 01 0910	decayed wood in core
	6.5					
	7.0					
	7.5					
	8.0					(aluminum) sheet metal at bottom hit refusal @ 9' (landfill)
		BOH 9'			X	

NB6

HTRW DRILLING LOG

HOLE NUMBER 13

PROJECT: FNOP

INSPECTOR BW

SHEET OF

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		8" top soil dark brown organic CL w/silt ½ some sand moist			NB6 1355 0501 0910	start 9:18
	0.5		0.0			
	1.0					
	1.5	dk brn CL w/silt low moisture	0.0	4.5'/5.0'	NB6135B SB 5401 0910	slight red motting (rare)
	2.0					
	2.5		0.0			
	3.0					
	3.5		0.0			
	4.0	med brown CL w/silt increasing moisture w/ depth				
	4.5		0.0			
	5.0					
	5.5		0.0			
	6.0					
	6.5		0.0	5'/5'	NB6135B 4801 0910	
	7.0					
	7.5		0.0			
	8.0					(landfill)
					X	
						end 9:30

BOH 10'

NBG

HTRW DRILLING LOG

HOLE NUMBER 14

PROJECT: FNOP | INSPECTOR BW | SHEET OF

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		6" topsoil dk brown moist CL w/ silt			NBG 14 SS 0501 0910	start 10:00
	0.5		0.0			
	1.0	dk brown CL w/ silt, dry				gravel @ 6"
	1.5		0.0			
	2.0			4'/5'	NBG 14 SB 5401 0910	
	2.5		0.0			
	3.0					
	3.5		0.0			
	4.0					
	4.5		0.0			
	5.0					
	5.5	med brn CL w/ silt some sand incr. moisture w/ depth	0.0			
	6.0					some red mottling
	6.5		0.0	5'/5'	NBG 14 SB 48 01 0910	
	7.0					
	7.5		0.0			
	8.0					
					X	(fill)
		moist				

BOH 10'

NB6

HTRW DRILLING LOG

HOLE NUMBER 15

PROJECT: FVOP | INSPECTOR BU | SHEET OF

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		6" topsoil dk brn CL w/silt moist			NB6 15SS 0501 0910	start 10:00 roots
	0.5	low moist	0.0			
	1.0	lt brn CL w/silt dry				
	1.5		0.0	4.5'/5.0'	NB6 15SB 5401 0910	
	2.0	dk brn CL w/silt low moisture				
	2.5		0.0			
	3.0					
	3.5		0.0			
	4.0					some sand
	4.5		0.0			
	5.0					
	5.5	med brn CL w/silt increasing moisture w/depth	0.0			
	6.0				NB6 15SB 4801 0910	
	6.5		0.0	5'/5'		
	7.0					
	7.5		0.0			
	8.0				X	(fill)
						end 10:40

Bott 10'

NB6

HTRW DRILLING LOG

HOLE NUMBER 16

PROJECT: FNOP

INSPECTOR BW

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		6" topsoil CL moist med. brown			NB6 16 SS 0501 0910	start 13:55
	0.5		0.0			
	1.0					thin gravel layers at 1' & 2' of recovery
		lighter in color w/ angular gravel to 3' dry & crumbly				
	1.5		0.0			
	2.0			3.5'/5.0'	NB6 16SB 5401 0910	
	2.5		0.0			
	3.0					
	3.5		0.0			
	4.0	silty med brn CL low moisture				
	4.5		0.0			
	5.0					
	5.5	silty med brn CL, increasing moisture w/ depth	0.0			
	6.0			5'/5'	NB6/6SB 4801 0910	
	6.5		0.0			
	7.0					
	7.5		0.0			
	8.0				X	(alluvial/aeolian)
						stop 14:12

BOH 10'

NB6

HTRW DRILLING LOG

HOLE NUMBER 17

PROJECT: FNOP | INSPECTOR BW | SHEET OF

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		4" dk brn topsoil moist, plastic			NB6 17 SS 0501 0910	Start 11:19
	0.5		0.0			
	1.0					
	1.5	iron staining @ 2'	0.0	3.5'/5.0'		
	2.0				NB6 17 SB 5401 0910	
	2.5	silty CL red brown low moisture	0.0			
	3.0					
	3.5		0.0			
	4.0					
	4.5		0.0			
	5.0					
	5.5		0.0			
	6.0			5'/5'		
	6.5		0.0		NB6SB 4801 0910	
	7.0					
	7.5		0.0			
	8.0	incr. moisture w/depth				(alluvial/aeolian)

BOH 10'

HTRW DRILLING LOG

HOLE NUMBER 18

PROJECT: FIVOP | INSPECTOR BW | SHEET OF

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		8" topsoil med plastic			NBG 18 SS 0501 0910	start 14:43
	0.5	silty CL organic moist	0.0			
	1.0			2'/5'		large angular gravel between topsoil & subsoil
			0.0		NBG18 SB 5410	
	1.5					
	2.0				0910	
			0.0			
	2.5					
	3.0	low moisture lt brown CL, non plastic silty				
	3.5		0.0			
	4.0					
			0.0			
	4.5					
	5.0				NBG18 SB 48 01 0910	
	5.5	inc. moisture w/ depth	0.0			
	6.0					
	6.5		0.0	5'/5'		
	7.0					
	7.5		0.0			
	8.0					
					X	(alluvial/aeolian)
						end 14:55

BOH 9.5'

NBG

HTRW DRILLING LOG

HOLE NUMBER 19

PROJECT: FNDP

INSPECTOR BW

SHEET OF

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
					NBG19SS 0501 0910	start 15:10
	0.5	1' dark organic topsoil (CL w) silt & some sand	0.0			
	1.0					
	1.5	decreasing moisture	0.0	4.5' / 5'	NBG19SB 5401 0910	
	2.0	med brown silty CL low plasticity	0.0			
	2.5					
	3.0					
	3.5		0.0			
	4.0					
	4.5		0.0			
	5.0	inc. moisture				some Fe mottling
	5.5		0.0			
	6.0				NBG19SB 4801 0910	
	6.5		0.0			
	7.0					
	7.5		0.0			
	8.0				X	
						end 15:21

NB6

HTRW DRILLING LOG

HOLE NUMBER 2D

PROJECT: FUOP

INSPECTOR BW

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	HEADSPACE SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		6" topsoil moist CL med brown silty	0.0		NB6 2DSS 05 01 0910	15:30 start
	0.5					gravel layer at 8"
	1.0	grades to lt brown				
	1.5	CL w/ silt & sand	0.0			
	2.0			4.5'/5.0	NB6 2D SB 5401 0910	
	2.5		0.0			
	3.0					
	3.5	less sand	0.0			
	4.0					
	4.5		0.0			
	5.0	sandier layer				
	5.5		0.0			
	6.0	light brown moist			NB6 2D SB 4801 0910	
	6.5	CL w/ silt	0.0	5'/5'		
	7.0					
	7.5					
	8.0					alluvial/aeolian
					X	
						end 15:50

BOH 8'

HTRW DRILLING LOG

DISTRICT: CENWK		HOLE NUMBER PLA - 01
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

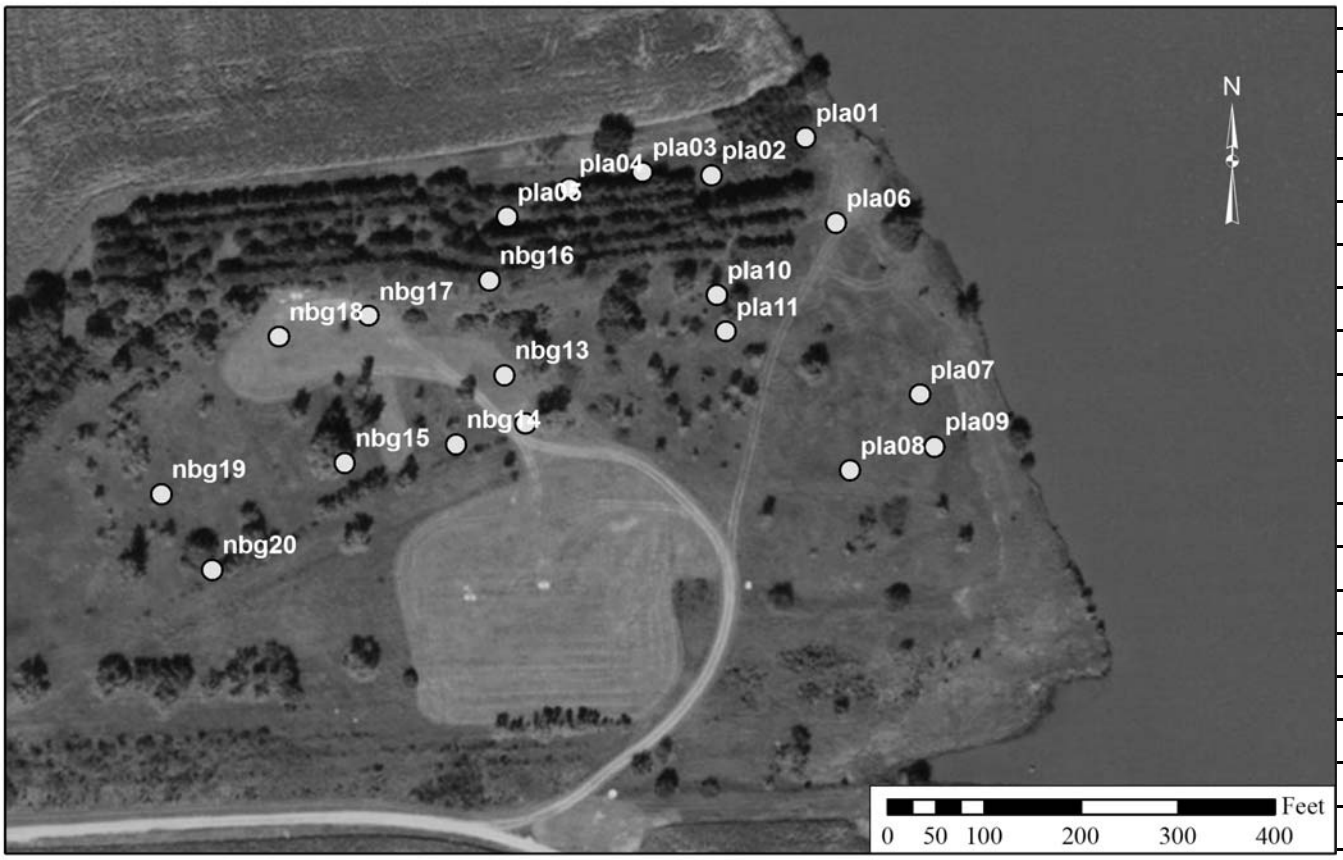
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626325.036 ft N 509838.550 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%90

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-01**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity		PLA 01 SS 05 01 0910		Start: 9/14/2010, 8:58
	0.5’				0.0	
		-- Dark brown silty clay (CL) Moist, medium plasticity				
	1.0’					
		--				
	1.5’				0.0	
	2.0’	Medium brown silty clay (CL) Moist, medium plasticity				
	2.5’		4.5’/5’	PLA 01 SB 54 01 0910	0.0	*Increasing sand with depth*
	3.0’					
	3.5’				0.0	
	4.0’					
	4.5’				0.0	
						Coarser sand laminations
	5.0’					
		--				
	5.5’				0.0	
		Light tan silty sand (SP) Moist Subangular, fine-medium grains		PLA 01 SB 48 01 0910		
	6.0’					
		--				
	6.5				0.0	
		Transitions to light gray silty sand (SP) Coarsens with depth				
	7.0’					
	7.5		4.5’/5’		0.0	
	8.0’					
	8.5’				0.0	
						ENVIRONMENT: FILL
	9.0’					
	9.5’				0.0	
		Boring terminated at 10’ bgs				
	10.0’					End: 9:10

HTRW DRILLING LOG

DISTRICT: CENWK		HOLE NUMBER PLA - 02
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

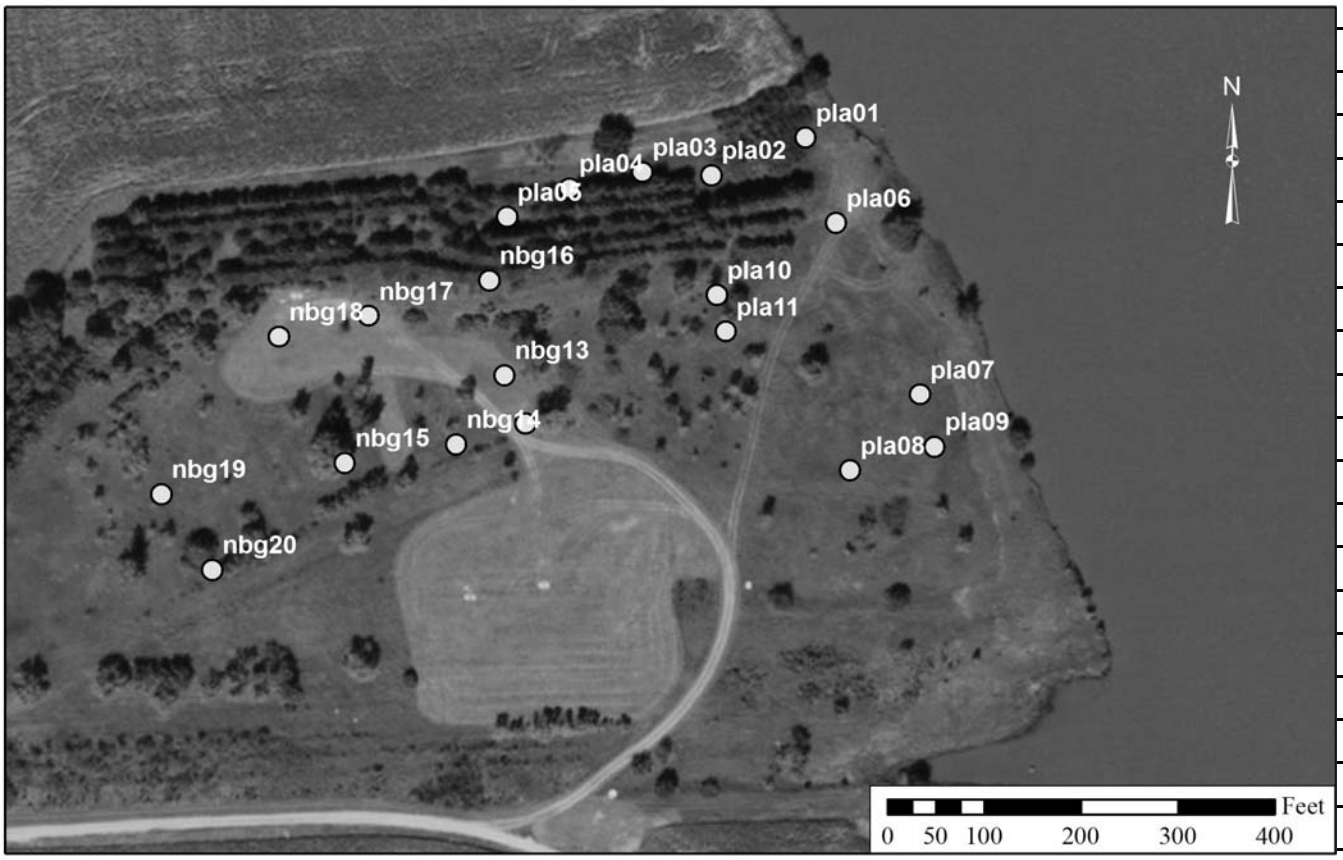
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626517.801 ft N 510099.963 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 9'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%60

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-02**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity		PLA 02 SS 05 01 0910		Start: 9/14/2010, 9:35
	0.5’				0.0	
		--				
	1.0’	Dark brown silty clay (CL) Low moisture, low plasticity				*Very loose, low recovery*
	1.5’				0.0	
		--				
	2.0’					*Yellow staining*
	2.5’		4’/5’	PLA 02 SB 54 01 0910	0.0	
	3.0’	Dark brown silty clay (CL) Low moisture, low plasticity				*Broken glass* *Metal and rust evident*
	3.5’				0.0	
	4.0’					
	4.5’				0.0	
	5.0’					
		--				
	5.5’				0.0	
	6.0’			PLA 02 SB 48 01 0910		ENVIRONMENT: FILL
	6.5	No Sample			0.0	
	7.0’					
	7.5		2’/5’		0.0	
	8.0’					
	8.5’	--			0.0	
	9.0’	Light tan silty sand (SP) Dry Subangular, fine grains				*Hit piece of sheet metal (Al) at end of core*
	9.5’				0.0	
	10.0’					End: 9:50

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER PLA - 03
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

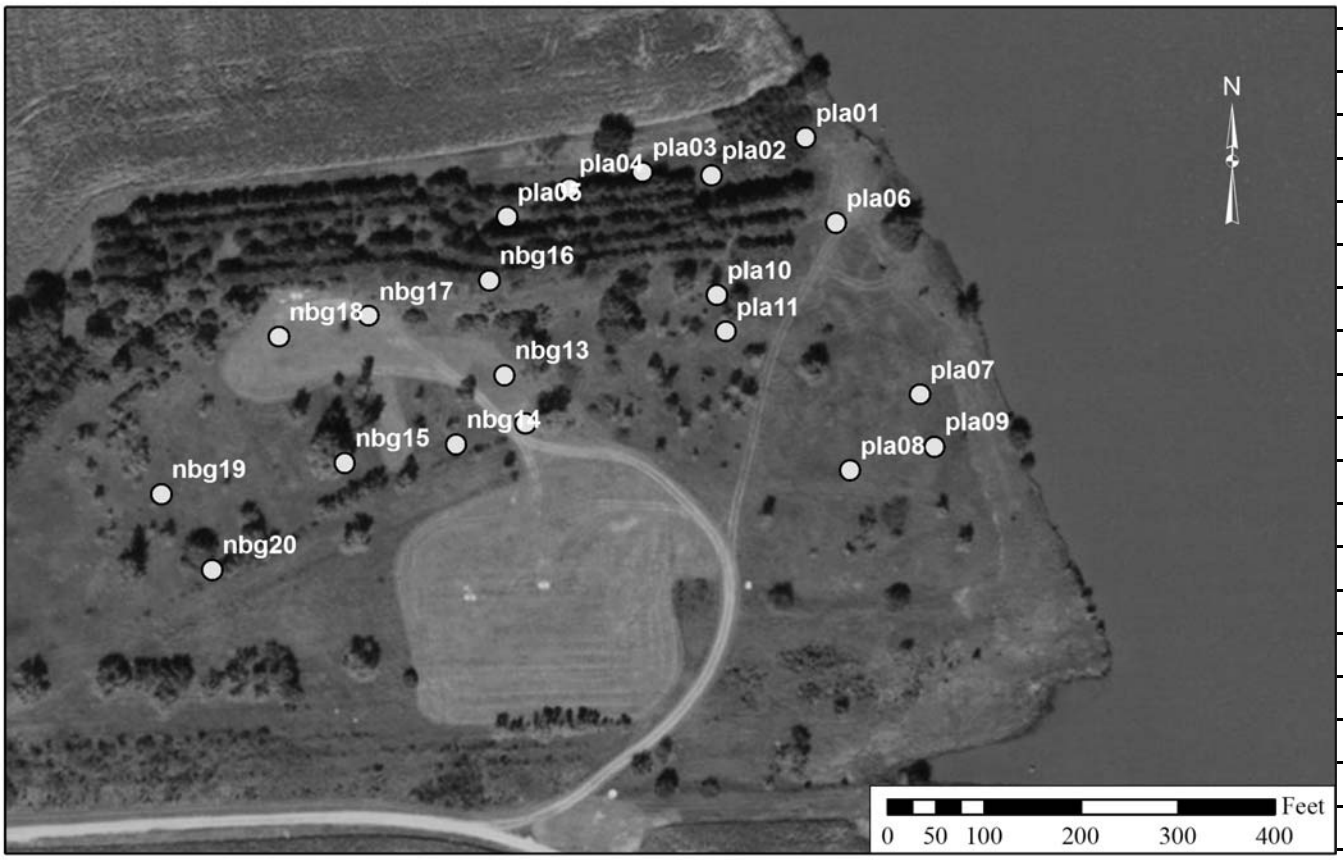
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626445.687 ft N 510103.430 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%70

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-03**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity		PLA 03 SS 05 01 0910		Start: 9/14/2010, 10:12
	0.5’				0.0	
	1.0’					
	1.5’				0.0	
	2.0’	Dark brown silty clay (CL) Moist, medium plasticity Interlayered with Medium brown silty, sandy clay (CL) Low moisture, low plasticity		PLA 03 SB 54 01 0910		
	2.5’		2’/5’		0.0	
	3.0’					
	3.5’				0.0	
	4.0’					*Metallic debris*
	4.5’				0.0	
	5.0’					
	5.5’	Dark brown silty clay (CL) with iron staining moist, medium plasticity		PLA 03 SB 48 01 0910	0.0	
	6.0’					
	6.5				0.0	
	7.0’	Light brown silty clay (CL) Very moist, medium plasticity				
	7.5		5’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					ENVIRONMENT: FILL
	9.5’				0.0	
		Boring terminated at 10’ bgs				
	10.0’					End: 10:20

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER PLA - 04
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

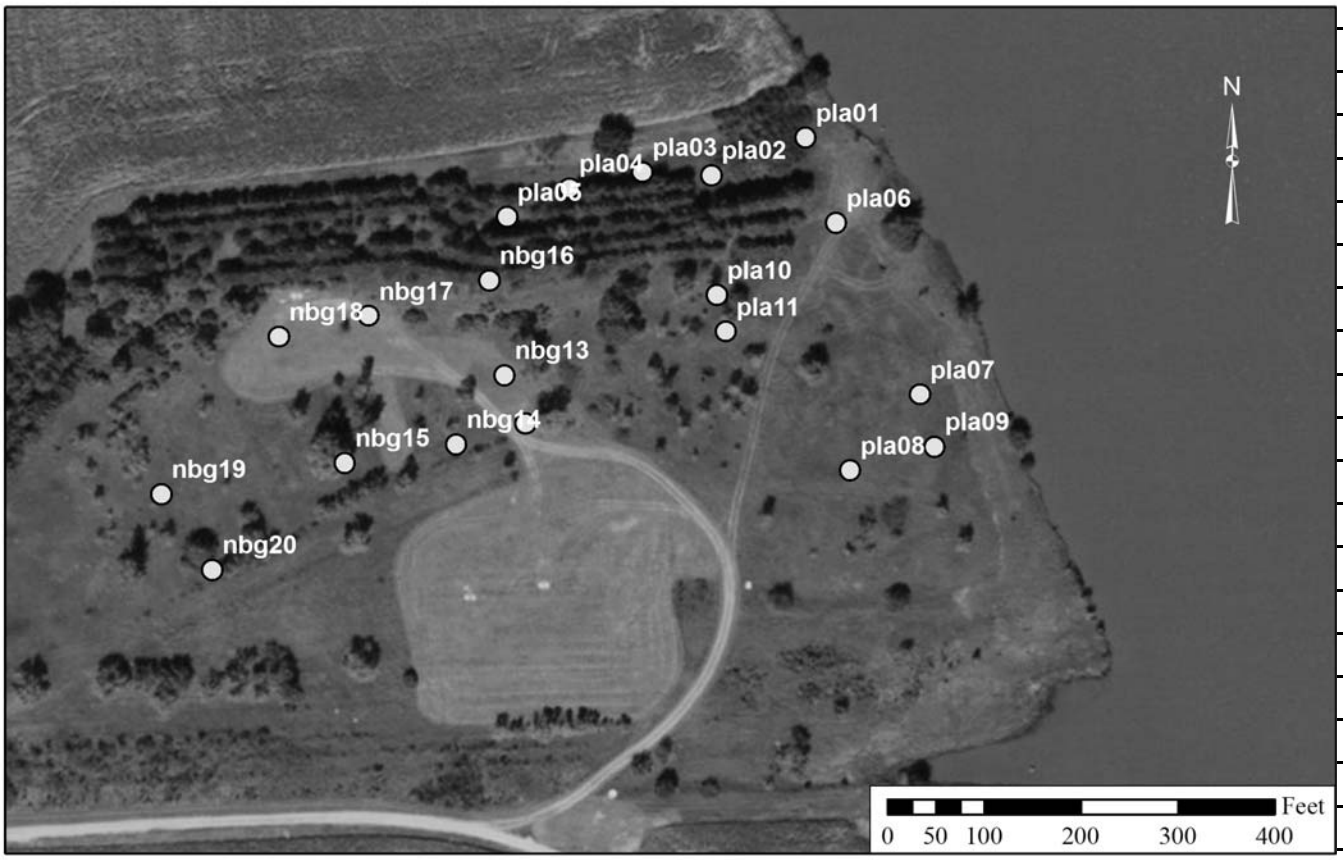
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626370.800 ft N 510087.481 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%20

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-04**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

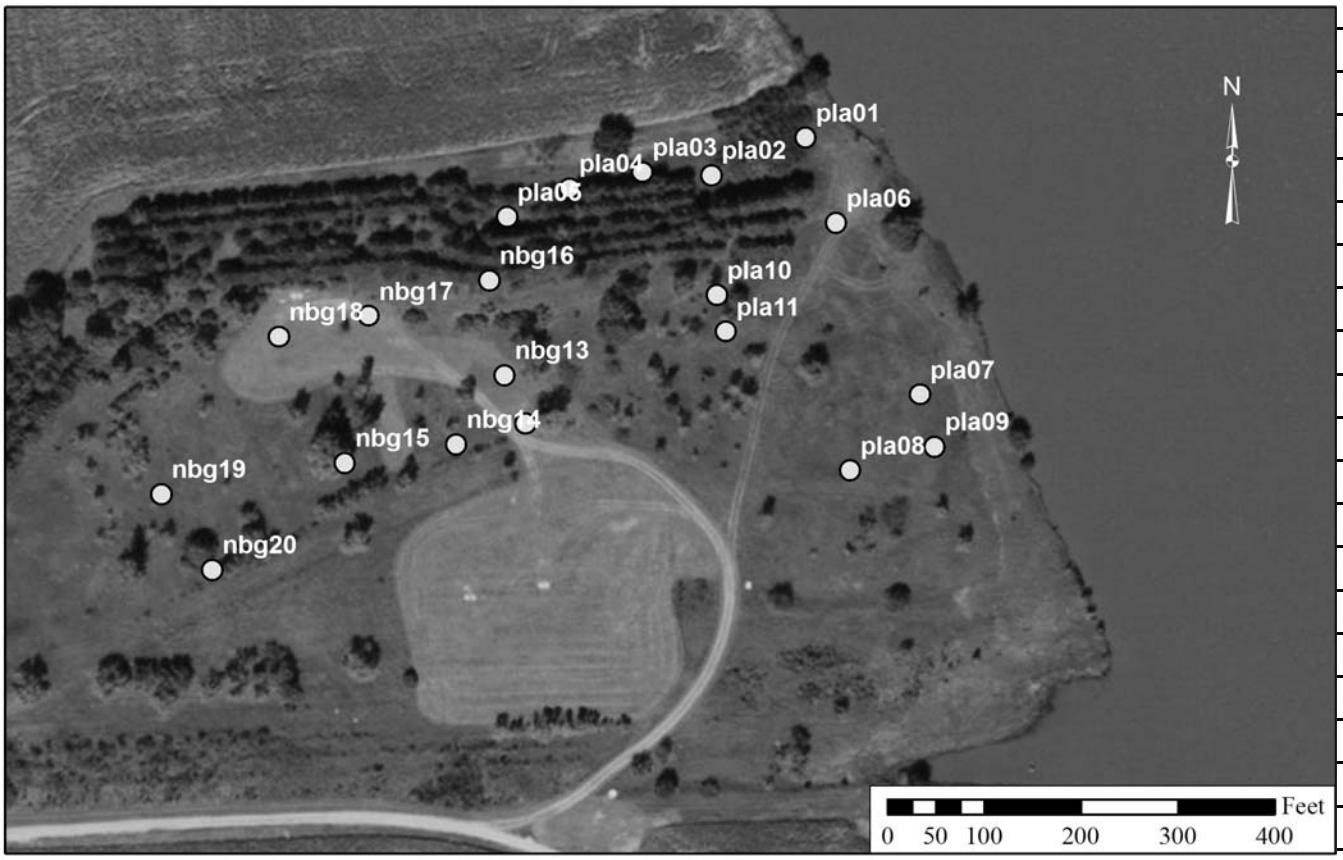
ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity		PLA 04 SS 05 01 0910		Start: 9/14/2010, 10:42 *Glass debris*
	0.5'				0.0	
		Medium to dark brown silty clay (CL) With some sand Moist, medium plasticity				
	1.0'					
	1.5'				0.0	
	2.0'					*Possible ash layer at end of 2'*
	2.5'		2'/5'	PLA 04 SB 54 01 0910	N/A	*No recovery past 2'*
	3.0'					*Moved hole over 1', 0% recovery on 2nd push*
	3.5'				N/A	
	4.0'					
	4.5'				N/A	
	5.0'					
	5.5'				N/A	
	6.0'			PLA 04 SB 48 01 0910		*Sample collected 4-5ft bgs*
	6.5				N/A	
	7.0'					
	7.5		0'/5'		N/A	
	8.0'					
	8.5'				N/A	
	9.0'					ENVIRONMENT: FILL
	9.5'				N/A	
	10.0'					End: 11:07

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER PLA - 05
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626306.314 ft N 510056.972 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10' (16' with open space)	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%35
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR		
	Bentonite	N/A				

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-05**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity		PLA 05 SS 05 01 0910		Start: 9/14/2010, 11:10
	0.5’				0.2	
		Medium to light brown silty clay (CL) With some sand Low moisture, low plasticity				
	1.0’					
	1.5’				0.0	
	2.0’	Dark Brown silty clay (CL)				
	2.5’		3’/5’	PLA 05 SB 54 01 0910	0.0	*Reddish mottling*
	3.0’					
	3.5’				0.0	
	4.0’					*Possible ash layer*
	4.5’	Dark Brown silty, sandy clay (CL)			0.0	*Iron staining and debris Including broken glass, jar lids, and ceramics*
	5.0’					
	5.5’				0.0	
	6.0’			PLA 05 SB 48 01 0910		
	6.5				0.0	
	7.0’					ENVIRONMENT: FILL
	7.5		0.5’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’	Boring terminated at 10’ bgs Open space to 16’			0.0	*Voids below surface*
	10.0’					End: 11:40

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER PLA - 06
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

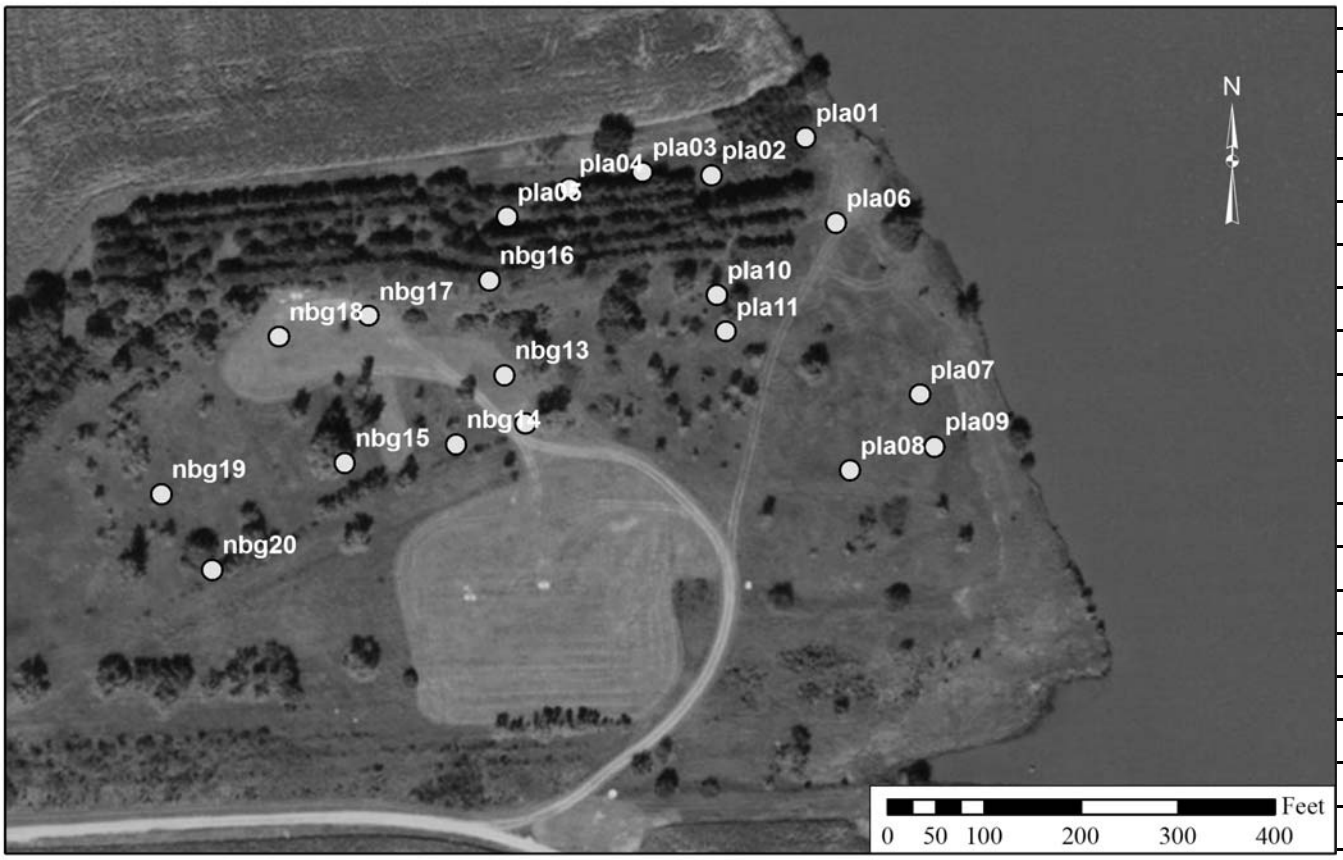
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626646.080 ft N 510050.731 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/13/2010 / 11. DATE COMPLETED: 9/13/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%95

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-06**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity		PLA 06 SS 05 01 0910		Start: 9/13/2010, 15:49
	0.5’				0.0	
	1.0’	Medium brown silty clay (CL) Low moisture, medium plasticity				
	1.5’				0.0	
	2.0’					
	2.5’	Medium brown clayey sand (SP) Low moisture	4’/5’	PLA 06 SB 54 01 0910	0.0	
	3.0’					*Dark staining from 3’ to 3.25’*
	3.5’				0.0	
	4.0’					
	4.5’	Tan sand (SP) Fine grained, low moisture			0.0	
	5.0’					
	5.5’				0.0	
	6.0’			PLA 06 SB 48 01 0910		
	6.5				0.0	
	7.0’					ENVIRONMENT: FILL
	7.5	Light gray sand (SP) Fine to medium grained Low moisture	5’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’				0.0	
	10.0’	Boring terminated at 9.4’ bgs				End: 16:00

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER PLA - 07
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

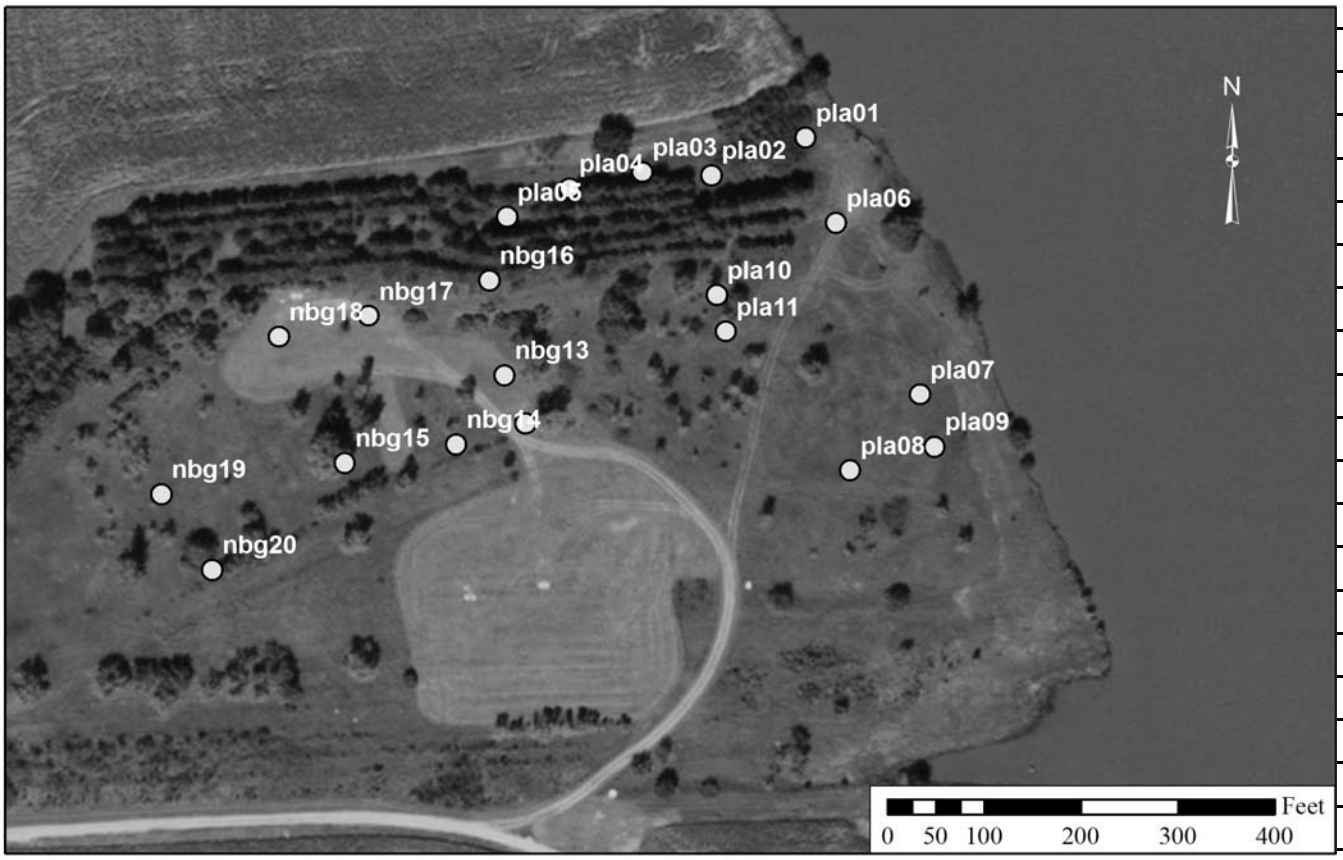
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626733.449 ft N 509870.447 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/13/2010 / 11. DATE COMPLETED: 9/13/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%90

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-07**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity		PLA 07 SS 05 01 0910		Start: 9/13/2010, 15:15
	0.5’				0.0	
	1.0’					
	1.5’	Medium to dark brown silty clay (CL) Low moisture, low plasticity			0.0	
	2.0’					
	2.5’		4’/5’	PLA 07 SB 54 01 0910	0.0	
	3.0’					
	3.5’				0.0	
		3.75’: Dark brown to black ash layer				*Ash layer*
	4.0’	Medium brown silty clay (CL)				
	4.5’	*3.75’: Dark brown to black ash layer*			0.0	*Ash layer*
	5.0’	Medium brown silty clay (CL)				
	5.5’				0.0	
	6.0’			PLA 07 SB 48 01 0910		
	6.5				0.0	
	7.0’					ENVIRONMENT: FILL
	7.5	Light tan to gray silty sand (SP) Very fine grained, dry, subangular	5’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’				0.0	
		Boring terminated at 9.0’ bgs				
	10.0’					End: 15:20

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER PLA - 08
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

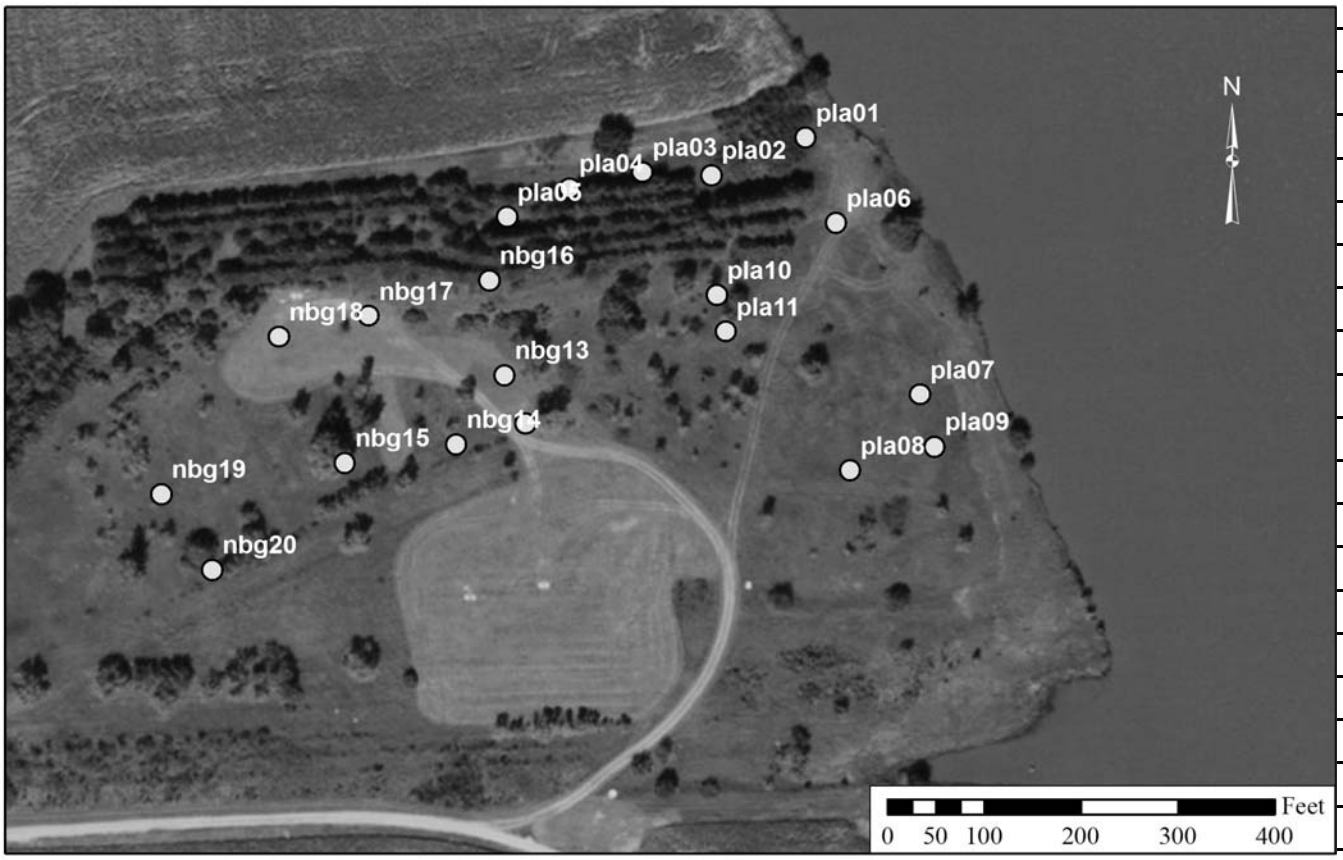
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626660.642 ft N 509790.706 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/13/2010 / 11. DATE COMPLETED: 9/13/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%90

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-08**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity		PLA 08 SS 05 01 0910		Start: 9/13/2010, 13:55
	0.5’				0.0	
	1.0’					
	1.5’	Medium brown silty clay (CL) Low moisture, low plasticity			0.0	
	2.0’					*Increasing moisture with depth*
	2.5’		4’/5’	PLA 08 SB 54 01 0910	0.0	
	3.0’					
	3.5’				0.0	
	4.0’					
	4.5’				0.0	
	5.0’					
	5.5’				0.0	
	6.0’			PLA 08 SB 48 01 0910		
	6.5	Light brown silty clay (CL) Scattered black nodules			0.0	
	7.0’					ENVIRONMENT: FILL
	7.5		5’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’				0.0	
	10.0’	Boring terminated at 10.0’ bgs				End: 14:22

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER PLA - 09
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

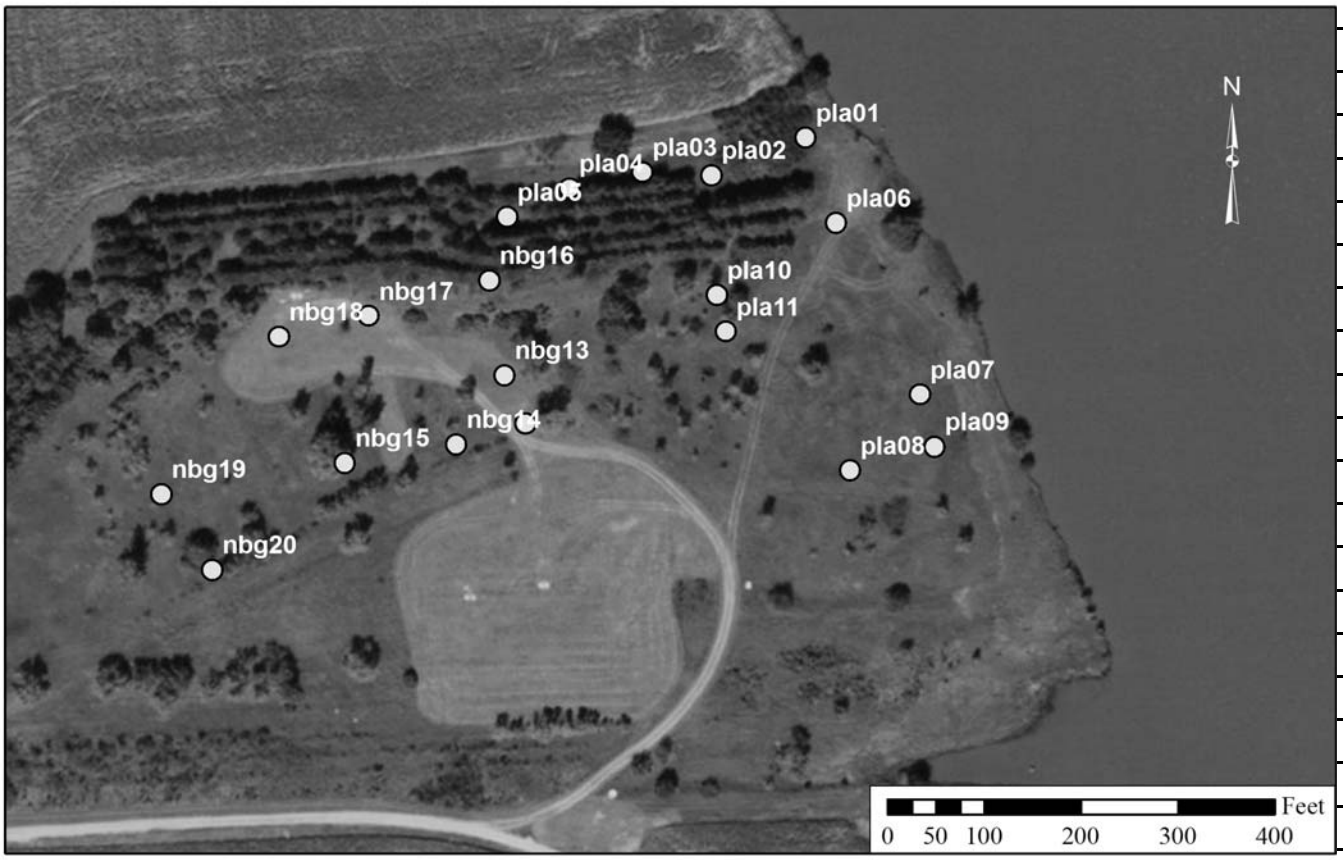
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626748.704 ft N 509816.010 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/13/2010 / 11. DATE COMPLETED: 9/13/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%60

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-09**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity				Start: 9/13/2010, 14:25
	0.5’			PLA 09 SS 05 01 0910	0.0	
	1.0’					
	1.5’	Medium brown silty clay (CL) Low moisture, low plasticity			0.0	
	2.0’					*Increasing moisture with depth*
	2.5’		4’/5’	PLA 09 SB 54 01 0910	0.0	
	3.0’					
	3.5’				0.0	
	4.0’					
	4.5’				0.0	
	5.0’					
	5.5’				0.0	
	6.0’			PLA 09 SB 48 01 0910		
	6.5				0.0	
	7.0’					ENVIRONMENT: FILL
	7.5	Tan to white sand (SP) Fine grained, dry	2’/5’		0.0	*Iron stain banding for top 1’*
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’				0.0	
	10.0’	Boring terminated at 10.0’ bgs				End: 14:48

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER PLA - 10
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

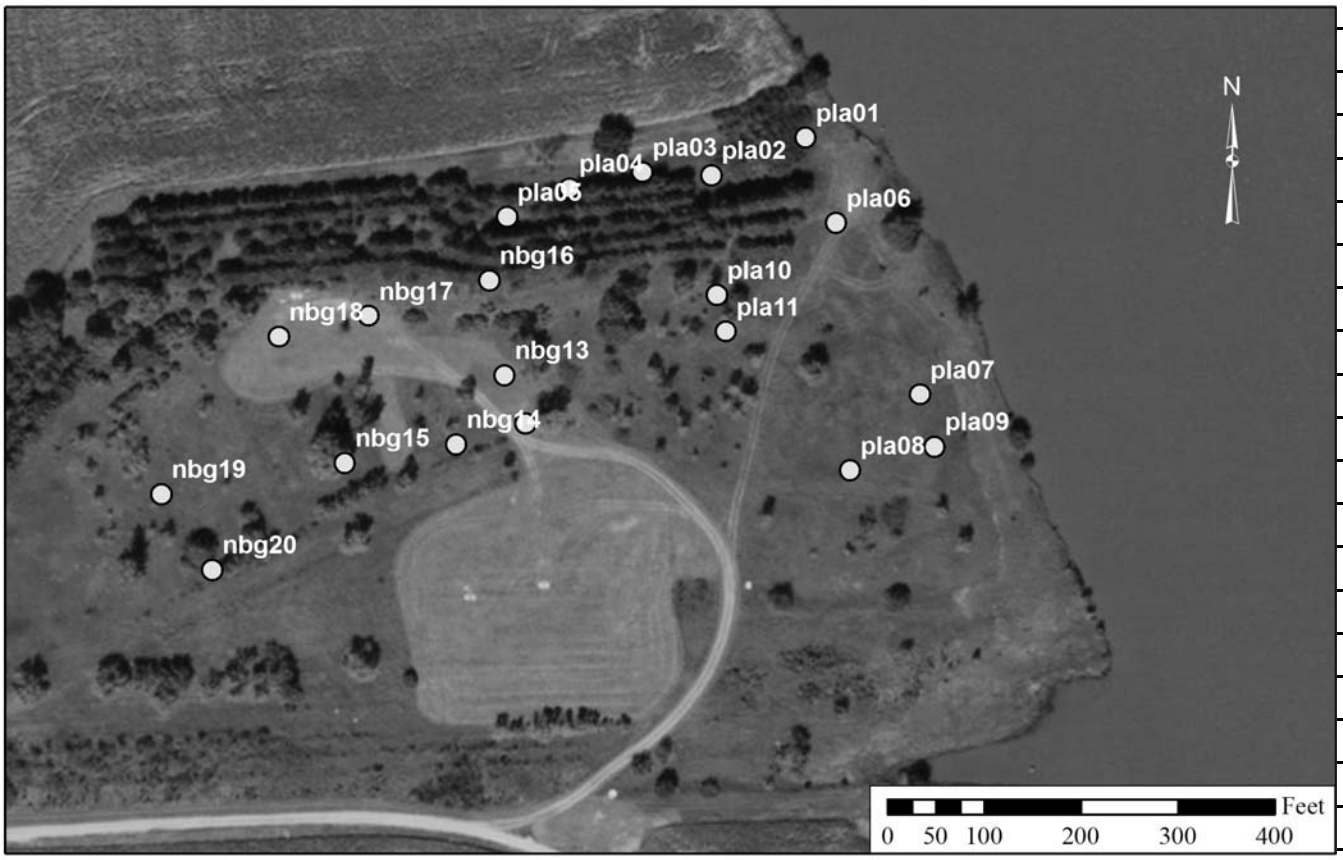
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626523.348 ft N 509975.150 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/15/2010 / 11. DATE COMPLETED: 9/15/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%95

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-10**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and Silt (CL) Moist, low plasticity		PLA 10 SS 05 01 0910		Start: 9/15/2010, 8:56
	0.5’				0.0	
	1.0’					*Some sand at 1’*
	1.5’	Interlayered medium brown and dark brown silty clay (CL) Low moisture, low plasticity			0.0	
	2.0’					
	2.5’		4.5’/5’	PLA 10 SB 54 01 0910	0.0	
	3.0’	Medium brown silty clay (CL) Low moisture, low plasticity Some reddish mottling				
	3.5’				0.0	*Increasing moisture with depth*
	4.0’					
	4.5’				0.0	
	5.0’					
	5.5’				0.0	
	6.0’			PLA 10 SB 48 01 0910		ENVIRONMENT: FILL
	6.5				0.0	
	7.0’					
	7.5		5’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’				0.0	
	10.0’					End: 9:12

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER PLA - 11
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

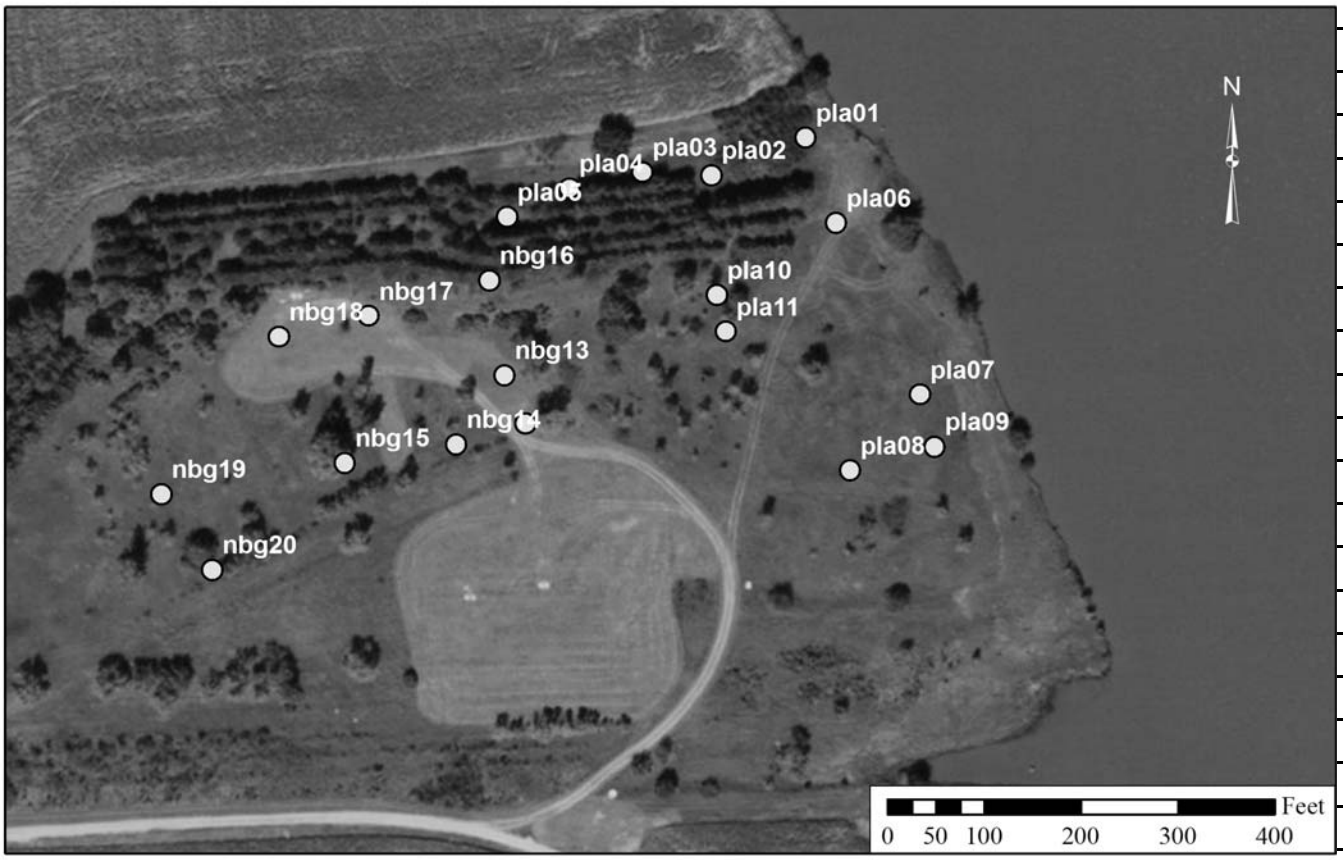
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626532.363 ft N 509937.013 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/13/2010 / 11. DATE COMPLETED: 9/13/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%80

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **PLA-11**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass Roots and silty, gravelly clay (CL) Moist, low plasticity				Start: 9/15/2010, 8:56
	0.5’			PLA 11 SS 05 01 0910	0.0	*Possible remnants of asphalt?*
	1.0’					
	1.5’	Dark brown silty clay (CL) Low moisture, low plasticity			0.0	
	2.0’					
	2.5’		3.5’/5’	PLA 11 SB 54 01 0910	0.0	
		Medium brown silty clay (CL) Low moisture, low plasticity				
	3.0’					
	3.5’				0.0	
	4.0’					
	4.5’				0.0	
	5.0’					ENVIRONMENT: FILL
	5.5’				0.0	
	6.0’			PLA 11 SB 48 01 0910		
	6.5				0.0	
	7.0’					
	7.5		4.5’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’				0.0	
		Boring terminated at 9.1’ bgs				End: 9:12
	10.0’					

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER NBG - 12
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

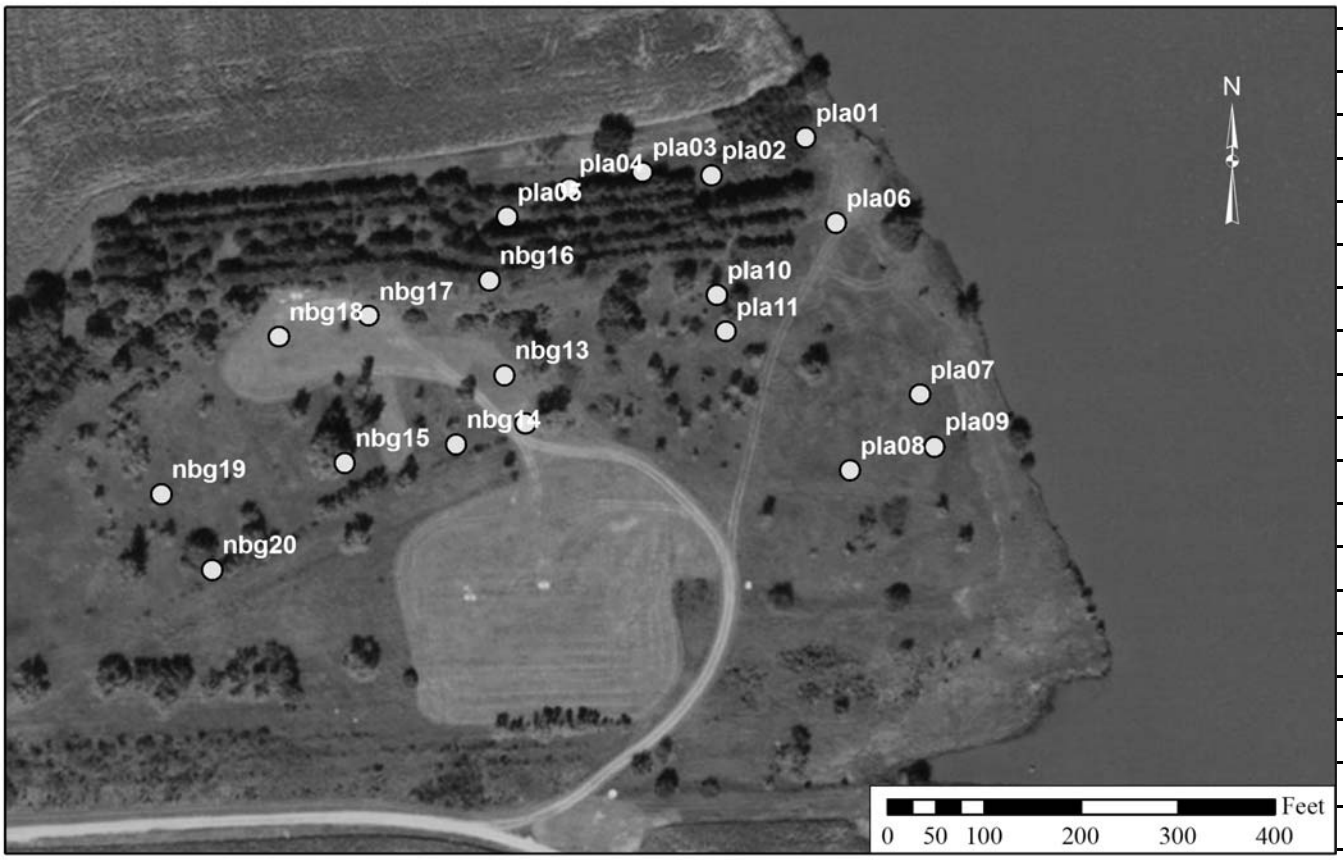
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626325.036 ft N 509838.550 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/15/2010 / 11. DATE COMPLETED: 9/15/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%77.7

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **NGB-12**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass roots and silty clay (CL) Moist, low plasticity				Start: 9/15/2010, 8:56
	0.5’			NBG 12 SS 05 01 0910	0.0	*Interspersed gravel at 6”, 1’, and 2’*
	1.0’					
	1.5’	Medium brown silty clay (CL) Low moisture, low plasticity			0.0	
	2.0’					
	2.5’		5’/5’	NBG 12 SB 54 01 0910	0.0	
	3.0’					
	3.5’				0.0	
	4.0’					
	4.5’				0.0	
	5.0’					
	5.5’				0.0	
	6.0’	Dark brown silty, sandy clay (CL) Low moisture, low plasticity		NBG 12 SB 48 01 0910		
	6.5				0.0	
	7.0’					
	7.5		2/4’		0.0	*Hit Aluminum sheet metal, caused refusal*
	8.0’					ENVIRONMENT: FILL
	8.5’				0.0	
	9.0’	Boring terminated at 9.1’ bgs				
	9.5’				0.0	
	10.0’					End: 9:12

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER NBG - 13
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

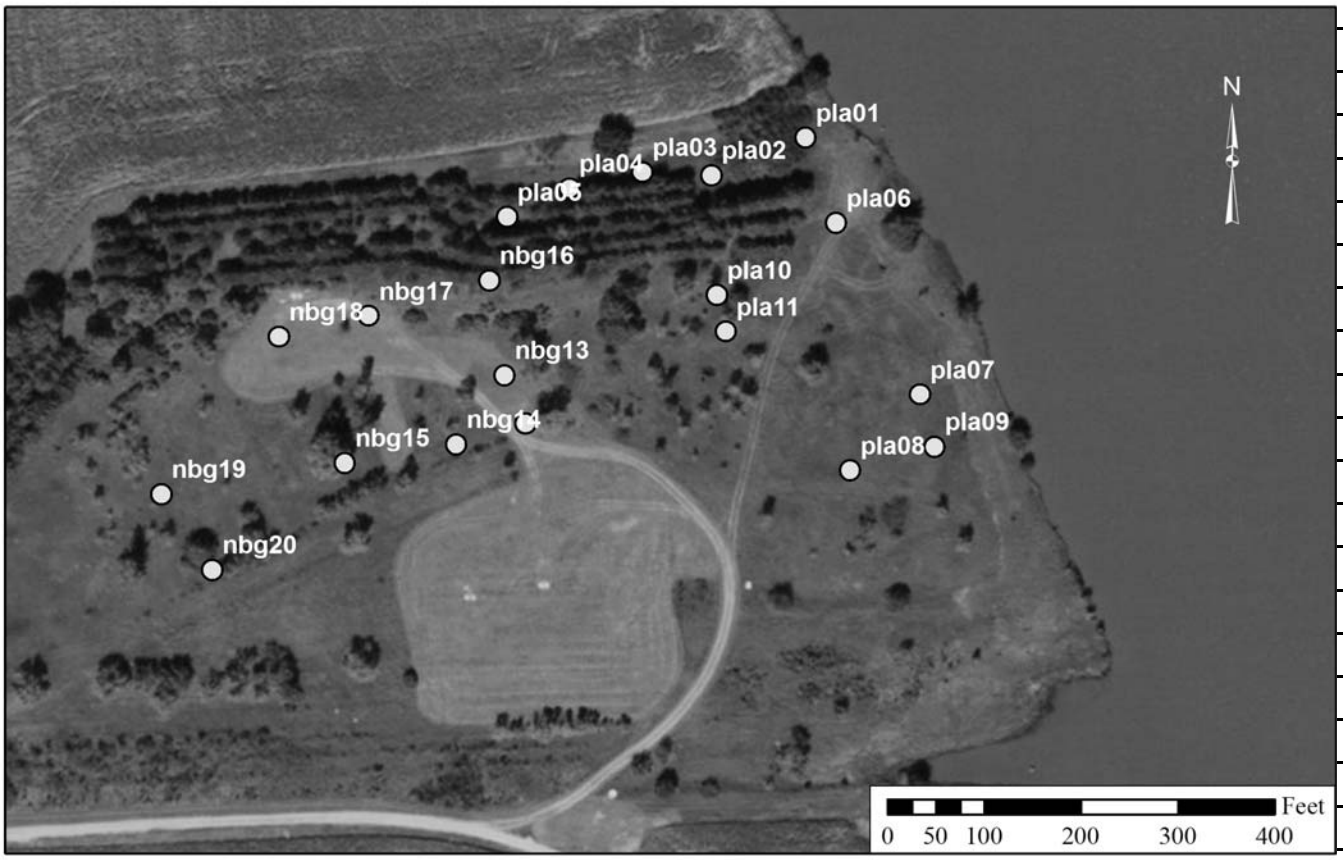
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626304.234 ft N 509889.169 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/15/2010 / 11. DATE COMPLETED: 9/15/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%95

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **NGB-13**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass roots and silty clay (CL) With some sand Moist, low plasticity				Start: 9/15/2010, 9:15
	0.5'			NBG 13 SS 05 01 0910	0.0	
	1.0'					
	1.5'	Dark brown silty clay (CL) Low moisture, low plasticity			0.0	*Slight red mottling*
	2.0'					
	2.5'		4.5'/5'	NBG 13 SB 54 01 0910	0.0	
	3.0'					
	3.5'				0.0	
	4.0'	Medium brown silty clay (CL) Low moisture, low plasticity				
	4.5'				0.0	
	5.0'					*Increasing moisture with depth*
	5.5'				0.0	
	6.0'			NBG 13 SB 48 01 0910		
	6.5				0.0	
	7.0'					
	7.5		5'/5'		0.0	
	8.0'					
	8.5'				0.0	
	9.0'					ENVIRONMENT: FILL
	9.5'				0.0	
		Boring terminated at 10' bgs				
	10.0'					End: 9:30

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER NBG - 14
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

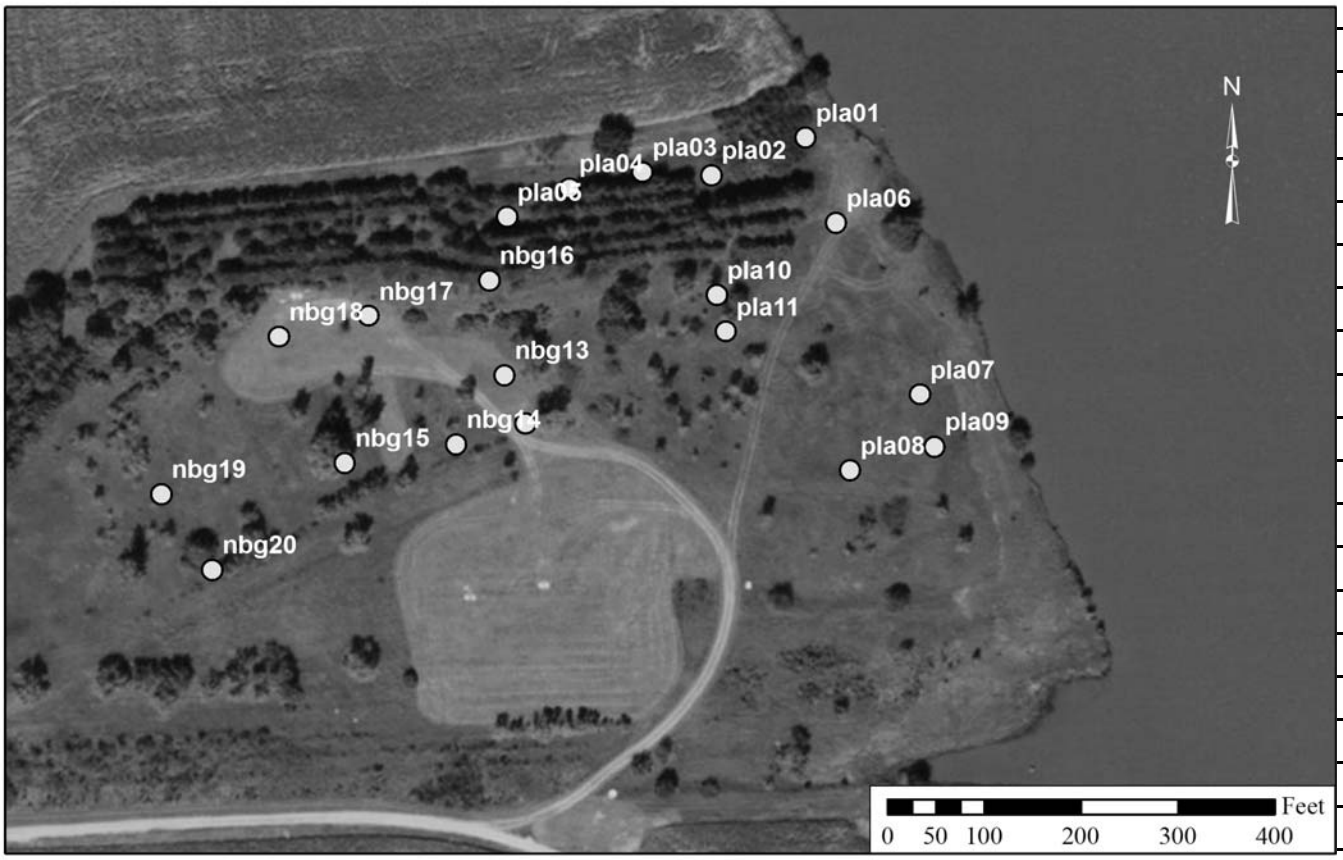
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626253.615 ft N 509816.361 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/15/2010 / 11. DATE COMPLETED: 9/15/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%95

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **NGB-14**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass roots and silty clay (CL) With some sand Moist, low plasticity		NBG 14 SS 05 01 0910		Start: 9/15/2010, 10:00
	0.5’				0.0	*Gravel at 6”*
	1.0’					
	1.5’	Dark brown silty clay (CL) Low moisture, low plasticity			0.0	
	2.0’					
	2.5’		4.5’/5’	NBG 14 SB 54 01 0910	0.0	
	3.0’					
	3.5’				0.0	
	4.0’					
	4.5’				0.0	
		Medium brown silty, sandy clay (CL) Low moisture, low plasticity				
	5.0’					
	5.5’				0.0	
	6.0’			NBG 14 SB 48 01 0910		*Some red mottling*
	6.5				0.0	*Increasing moisture with depth*
	7.0’					
	7.5		5’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’				0.0	
		Boring terminated at 10’ bgs				
	10.0’					End: 10:20

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER NBG - 15
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

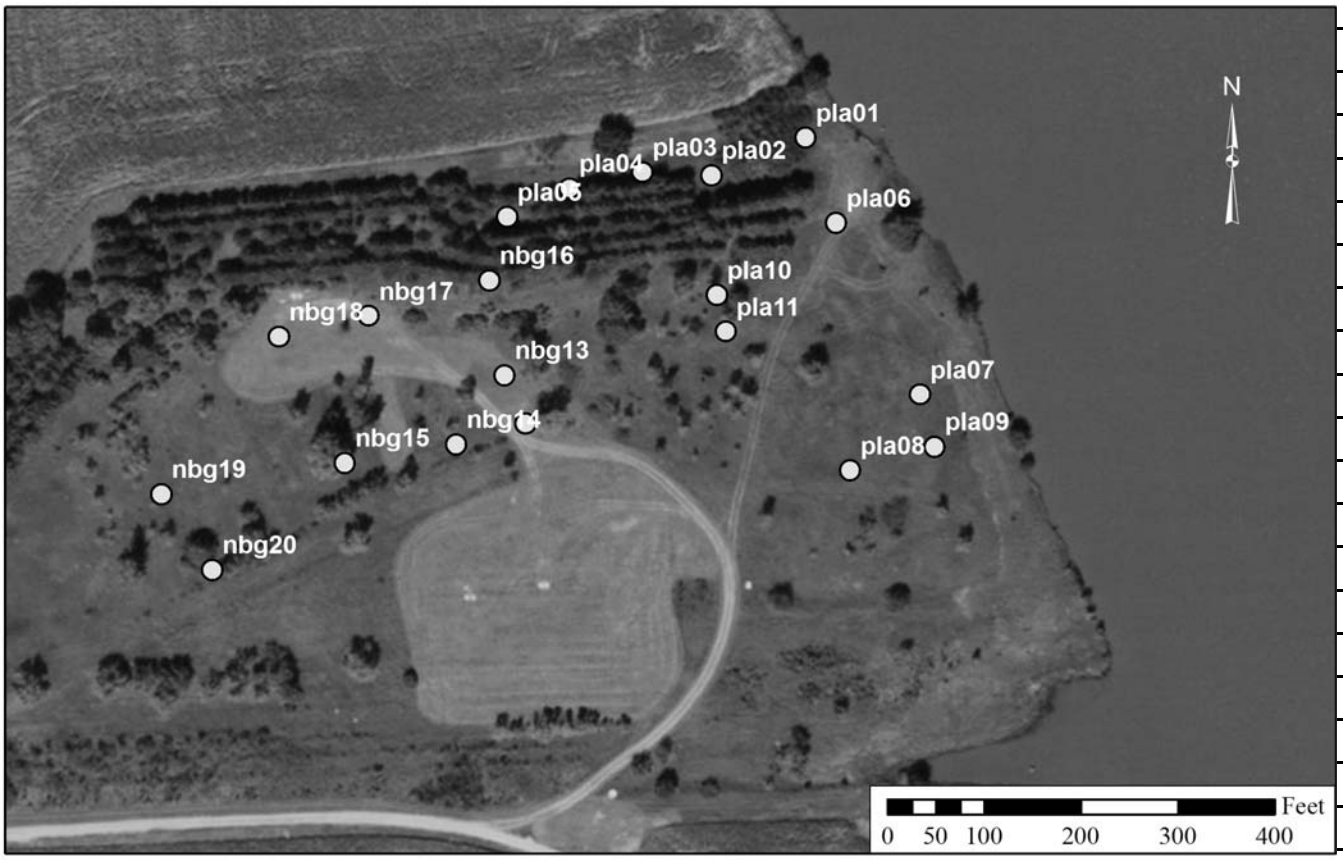
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626139.897 ft N 509797.640 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/15/2010 / 11. DATE COMPLETED: 9/15/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%95

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **NGB-15**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass roots and silty clay (CL) Moist, low plasticity		NBG 15 SS 05 01 0910		Start: 9/15/2010, 10:30
	0.5’				0.0	*Gravel at 6”*
		Light brown silty clay (CL) Low moisture				
	1.0’					
	1.5’				0.0	
		Medium brown silty clay (CL) Low moisture, low plasticity				
	2.0’					
	2.5’		4.5’/5’	NBG 15 SB 54 01 0910	0.0	
	3.0’					
	3.5’				0.0	
	4.0’					
	4.5’				0.0	*Some sand*
	5.0’					
	5.5’				0.0	
		Medium brown silty, sandy clay (CL) Low moisture, low plasticity		NBG 15 SB 48 01 0910		
	6.0’					*Increasing moisture with depth*
	6.5				0.0	
	7.0’					
	7.5		5’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’				0.0	
		Boring terminated at 10’ bgs				
	10.0’					End: 10:40

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER NBG - 16
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

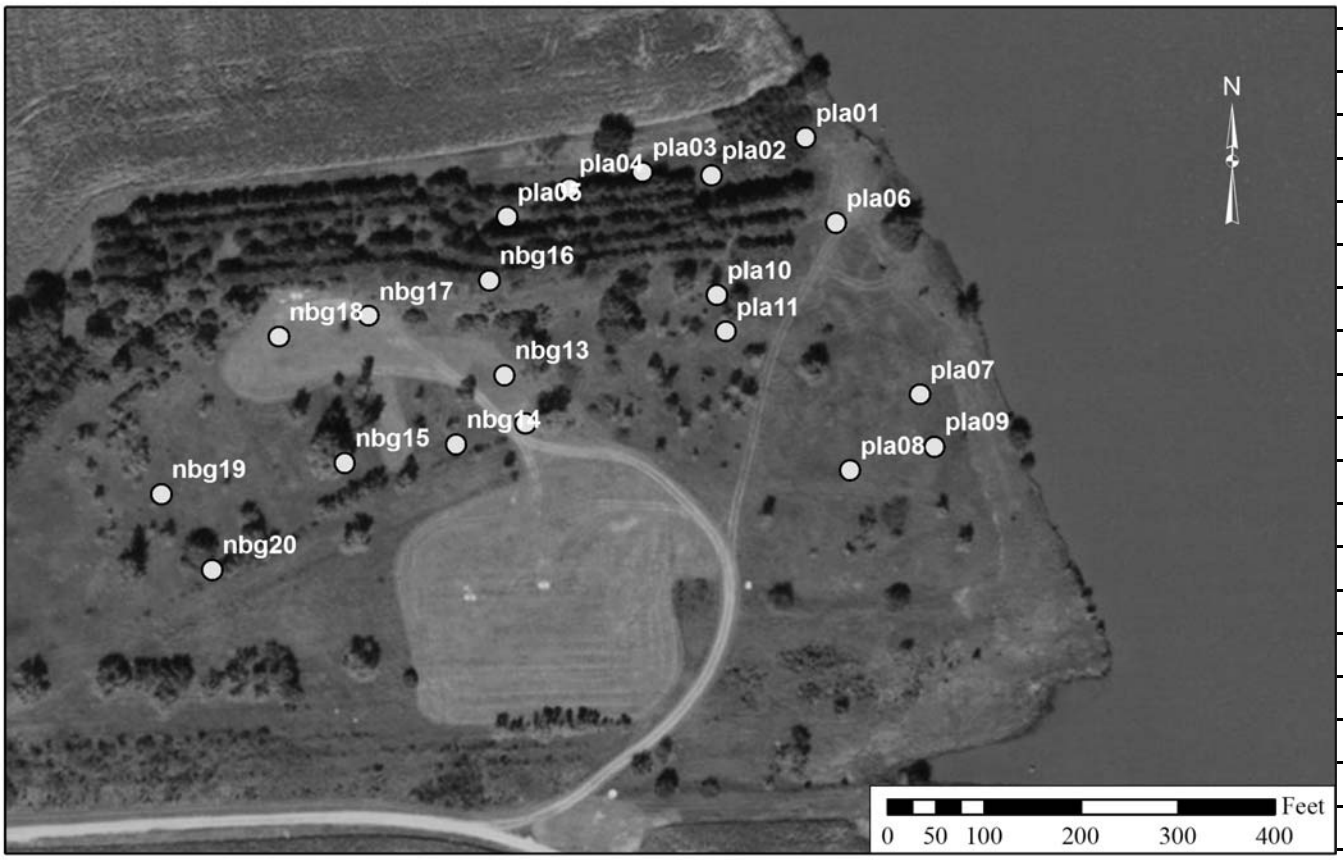
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626287.592 ft N 509990.405 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%85

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **NGB-16**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: medium brown with organics Grass roots and silty clay (CL) Moist, low plasticity		NBG 16 SS 05 01 0910		Start: 9/14/2010, 13:55
	0.5'				0.0	
	1.0'					*Thin gravel layers at 2' and 3' of recovered core*
	1.5'				0.0	
	2.0'	Light brown silty, gravelly clay (CL) Gravel is angular Dry, low plasticity		NBG 16 SB 54 01 0910		
	2.5'		3.5'/5'		0.0	
	3.0'					
	3.5'				0.0	
	4.0'					
	4.5'				0.0	
	5.0'					
	5.5'				0.0	
	6.0'	Medium brown silty clay (CL) Moist, low plasticity		NBG 16 SB 48 01 0910		
	6.5				0.0	*Increasing moisture with depth*
	7.0'					
	7.5		5'/5'		0.0	
	8.0'					
	8.5'				0.0	
	9.0'					
	9.5'				0.0	
		Boring terminated at 10' bgs				
	10.0'					End: 14:12

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER NBG - 17
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

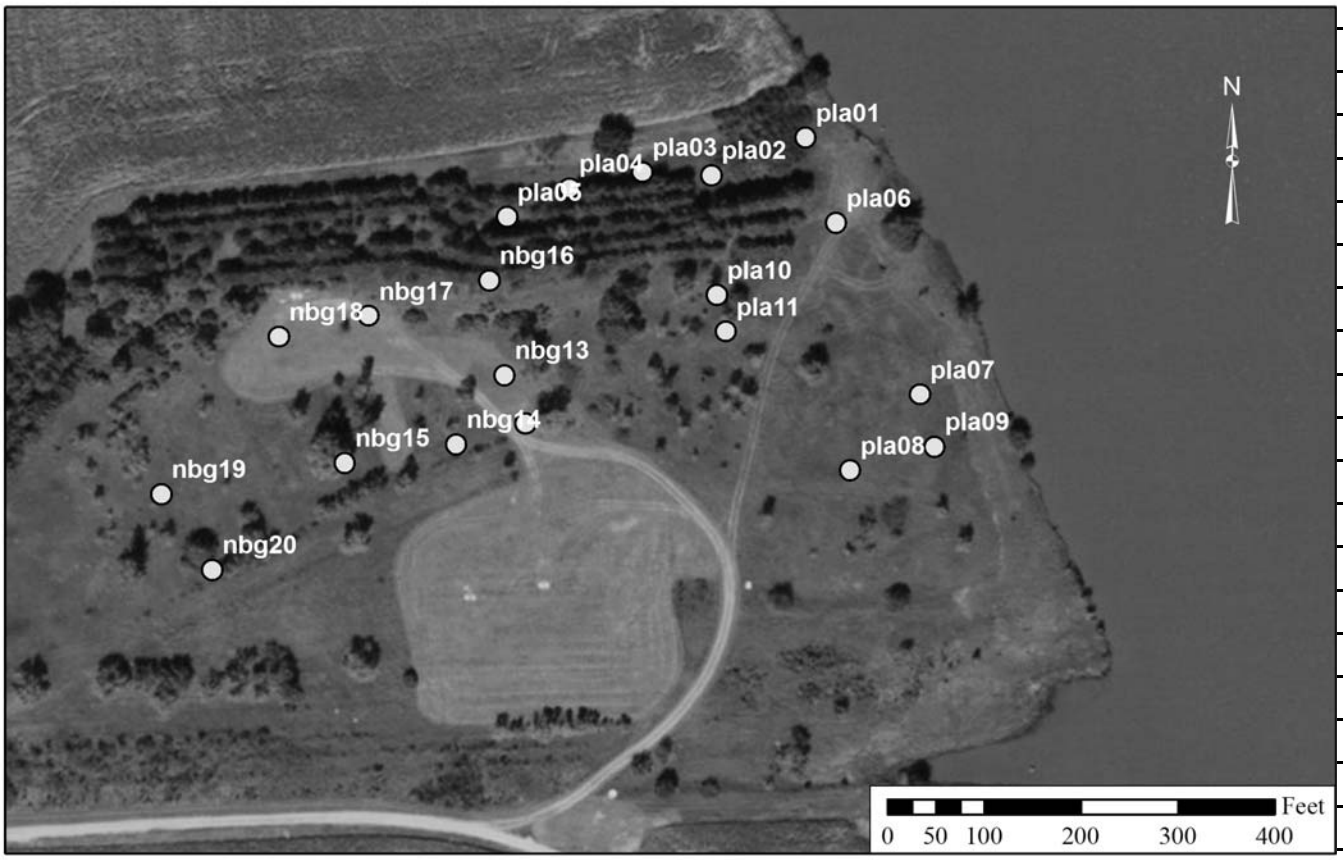
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626163.473 ft N 509952.268 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%75

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **NGB-17**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: dark brown with organics Grass roots and silty clay (CL) Moist, medium plasticity				Start: 9/14/2010, 14:19
	0.5’			NBG 17 SS 05 01 0910	0.0	
	1.0’					
	1.5’				0.0	
	2.0’					
	2.5’	Medium brown silty clay (CL) Low moisture, medium plasticity	3.5’/5’	NBG 17 SB 54 01 0910	0.0	
	3.0’					
	3.5’				0.0	
	4.0’					
	4.5’				0.0	
	5.0’					
	5.5’				0.0	*Increasing moisture with depth*
	6.0’			NBG 17 SB 48 01 0910		
	6.5				0.0	
	7.0’					
	7.5		4’/5’		0.0	
	8.0’					
	8.5’				0.0	
	9.0’					
	9.5’				0.0	ENVIRONMENT: FILL
	10.0’	Boring terminated at 10’ bgs				End: 14:30

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER NBG - 18
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

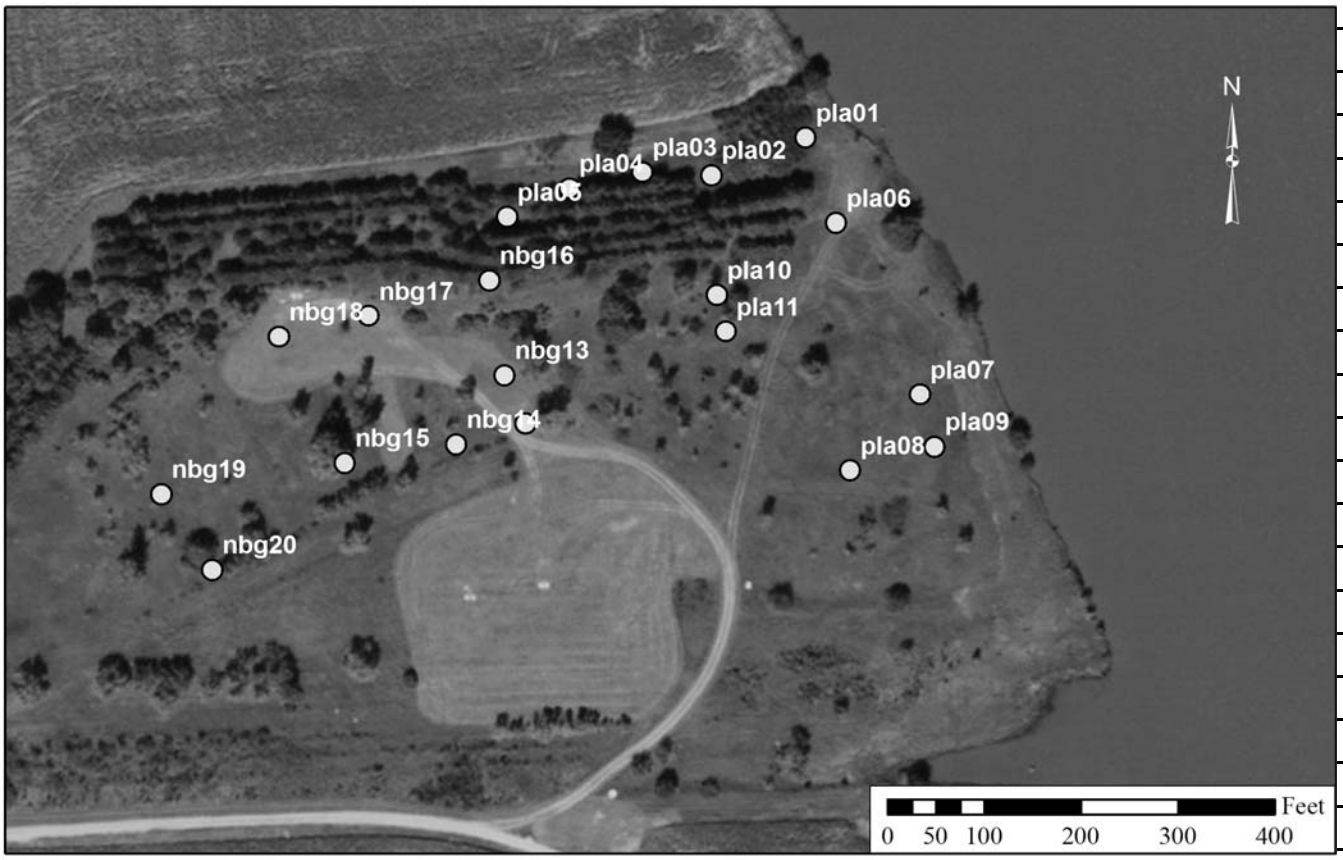
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626070.557 ft N 509930.079 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%85

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **NGB-18**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: medium brown with organics Grass roots and silty clay (CL) Moist, medium plasticity				Start: 9/14/2010, 14:43
	0.5'			NBG 18 SS 05 01 0910	0.0	
	1.0'					
	1.5'				0.0	
	2.0'					
	2.5'		3.5'/5'	NBG 18 SB 54 01 0910	0.0	
		Light brown silty clay (CL) Low moisture, low plasticity				
	3.0'					
	3.5'				0.0	
	4.0'					
	4.5'				0.0	
	5.0'					
	5.5'				0.0	*Increasing moisture with depth*
	6.0'			NBG 18 SB 48 01 0910		
	6.5				0.0	
	7.0'					
	7.5		5'/5'		0.0	
	8.0'					
	8.5'				0.0	
	9.0'					
	9.5'				0.0	ENVIRONMENT: FILL
		Boring terminated at 9.5' bgs				End: 14:55
	10.0'					

HTRW DRILLING LOG	DISTRICT: CENWK	HOLE NUMBER NBG - 19
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

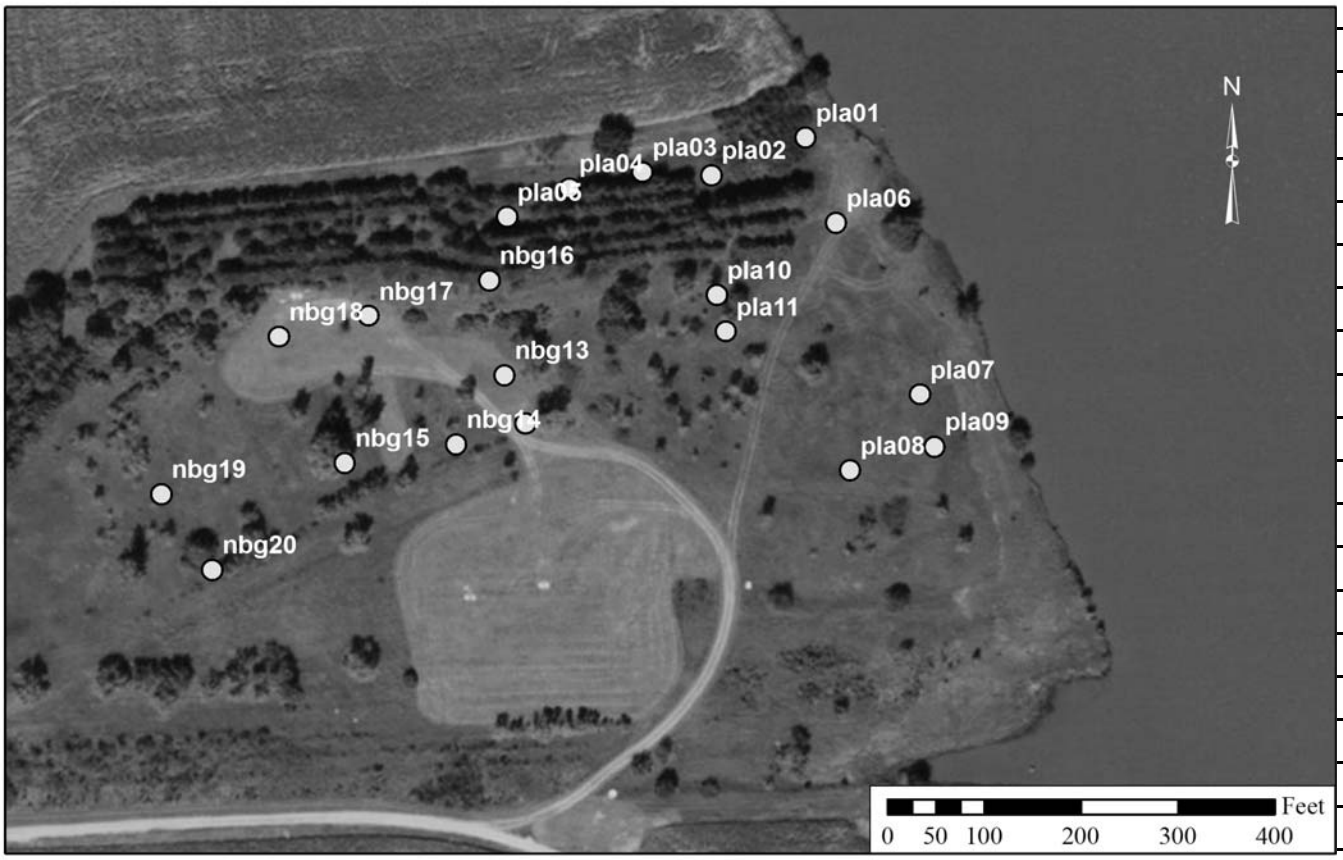
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2625949.212 ft N 509765.050 ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%85

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **NGB-19**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
						Start: 9/14/2010, 15:10
	0.5'	Topsoil: medium brown with organics Grass roots and silty, sandy clay (CL) Moist, medium plasticity		NBG 19 SS 05 01 0910	0.0	
	1.0'	----------				
	1.5'				0.0	
	2.0'					*Decreasing moisture to 5'*
	2.5'		3.5'/5'	NBG 19 SB 54 01 0910	0.0	
	3.0'	Medium brown silty clay (CL) Low moisture, low plasticity				
	3.5'				0.0	
	4.0'					
	4.5'				0.0	
	5.0'					
	5.5'				0.0	*Increasing moisture with depth after 5'*
	6.0'			NBG 19 SB 48 01 0910		
	6.5				0.0	
	7.0'					
	7.5		5'/5'		0.0	
	8.0'					
	8.5'				0.0	
	9.0'					
	9.5'				0.0	ENVIRONMENT: FILL
		Boring terminated at 9.5' bgs				
	10.0'					End: 15:21

HTRW DRILLING LOG

DISTRICT: CENWK		HOLE NUMBER NBG - 20
1. COMPANY NAME: GEO Consultants, LLC	2. DRILL SUBCONTRACTOR: ICR, Inc.	SHEET -1- OF -2-

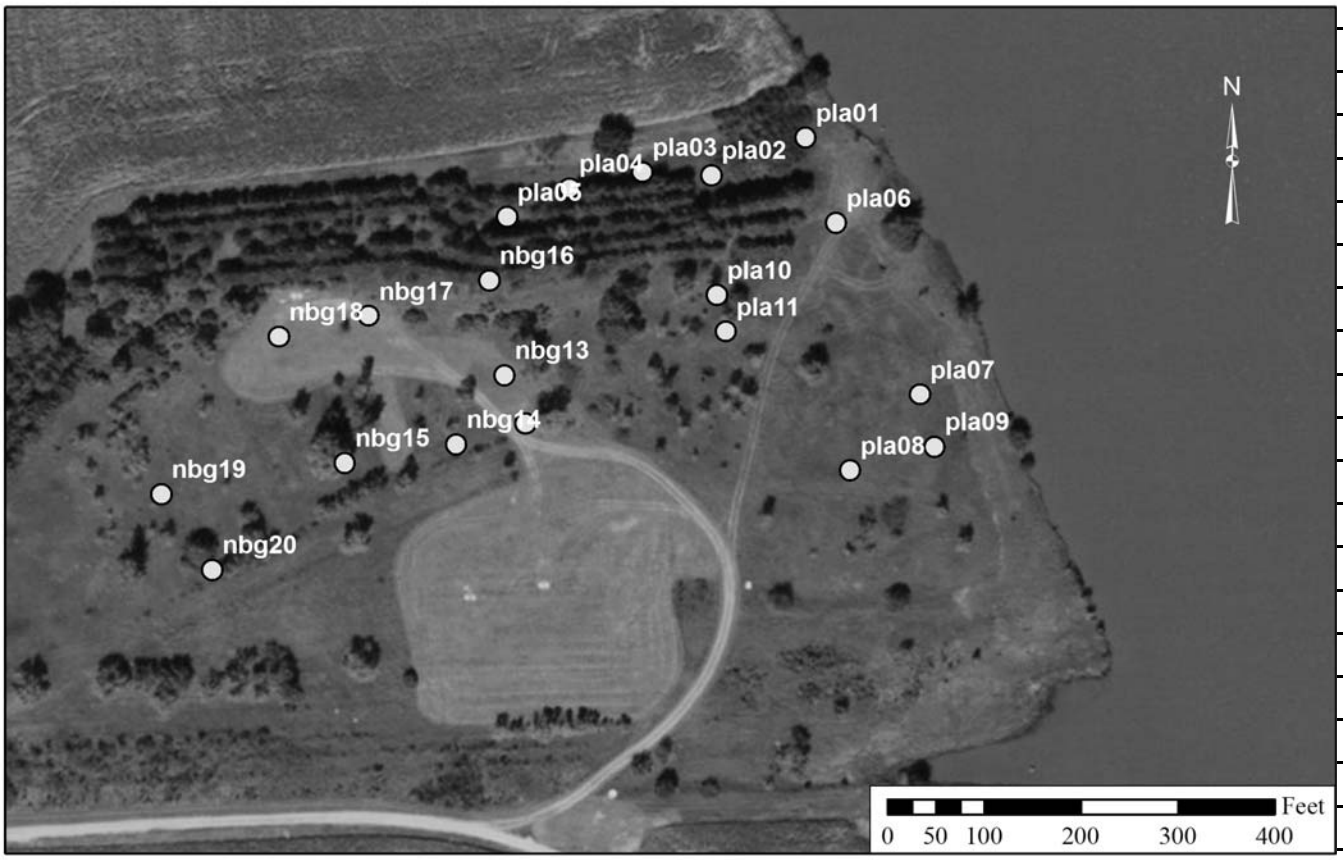
3. PROJECT: OU-3, FNOP	4. LOCATION: Mead, NE
5. NAME OF DRILLER: Daryl Biere	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 7710 DT (?)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5' Geoprobe DPT soil sampler with acetate liners	8. HOLE LOCATION: 2626002.604 ft N 509685.309ft E
	9. SURFACE ELEVATION: N/A
	10. DATE STARTED: 9/14/2010 / 11. DATE COMPLETED: 9/14/2010
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: N/A
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 10'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES N/A	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES: N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	Field Screen	X				%95

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	Bentonite	N/A		

LOCATION SKETCH/COMMENTS SCALE:



HTRW DRILLING LOG

HOLE N0: **NGB-20**

PROJECT: **OU-3, FNOP** | GEOLOGIST: **B. Watkins / D. Stout** | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	Recovery	Analytical Sample Number	PID Screening Results	REMARKS (G)
		Topsoil: medium brown with organics Grass roots and silty, sandy clay (CL) Moist, medium plasticity		NBG 20 SS 05 01 0910		Start: 9/14/2010, 15:30 *Gravel at 6”*
	0.5’				0.0	
	1.0’					
	1.5’	Grades to Light brown silty, sandy clay (CL) Low moisture, low plasticity			0.0	*Sand decreases with depth*
	2.0’					
	2.5’		4.5’/5’	NBG 20 SB 54 01 0910	0.0	
	3.0’					
	3.5’				0.0	
	4.0’					
	4.5’				0.0	
	5.0’					
	5.5’	Light brown silty, sandy clay (CL) Low moisture, low plasticity			0.0	*More sand in this layer*
	6.0’			NBG 20 SB 48 01 0910		
	6.5				0.0	
	7.0’					
	7.5	Light brown silty clay (CL) Moist, medium plasticity	5’/5’		0.0	
	8.0’					
	8.5’				0.0	ENVIRONMENT: FILL
	9.0’					
	9.5’				0.0	
	10.0’	Boring terminated at 10.0’ bgs				End: 15:21

Met w/ Joe & Jack (OER) in lobby of hotel. Mike Miller from SAIC came down. We left hotel around 7:45.

Arrived @ Water treatment plant at 8:45. Percy & Daryl from ICR were waiting for us there.

Checked in @ plant w/ ECC

Bret conducted daily safety tailgate meeting - Jack added a few details regarding UXO.

Group mobilized to Soil Sampling Area to GPS & stake boring locations.

ICR guys leaving while we stake boring locations. Meanwhile, Natalie & Mike returned to hotel to pick up package being delivered to Mike. They plan to visit Vapor Intrusion sites for walk over.

Bret started to located boring locations & realized coordinates entered in Trimble were ~~wrong~~ entered w/ wrong coordinate system. Had to re-enter coordinates. Went back to hotel to grab laptop.

Bret loaded correct coordinates, we broke for lunch, then returned to the Soil Sample Area @ 12:00pm

Marked 12 borehole locations that were in less dense areas. Called ICR to begin drilling.

Calibrated PID & prepared for boring sampling

Natalie & Mike purchased 40 lb tank of gas @ Airgas

Continued on Page

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Began first boring on PLA 08. ICR weed eated around the area, then set up GEO Probe. Set to take 5' cores.

OER scanned area prior to beginning drilling
Began drilling @ 1:55 pm.

Homogenized samples in galon bags, then placed in jars. Used samples 0-5', 5'-10'

Natalie & Mike moved on to Unit 110 to check site & air test sample ports.

Moved on to PLA 09. Used same intervals & procedure as PLA08.
Began sprinkling @ 2:40 pm

PLA 07 - OER determined something below the surface. Decided to dig w/ shovel to determine source of hit. Moved sample location over a few feet. Found two nails. Noticed a burn layer near bottom of 0-5' sample.

PLA 06 - No significant issues noted

PLA 11 - No significant issues.
Natalie & Mike Mills returned for vapor ~~cost~~ intrusion visits.

Began raining around 4:30 - 4:45. We finished PLA11, wrapped up & headed back to hotel.

Worked 7:30 - 5:30

Continued on Page

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Signed Date Signed Date

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325 Kentucky Avenue
Kevil, KY 42053
(270) 462-3882
Fax (270) 462-3887

Client: CENWK
Job #: Mead
Prepared by: Natalie Magill
Date: 9/13/10
Checked by: 9/13/10
Page: 1 of: 1

NOTES/CALCULATION WORKSHEET

1430
2:30 Arrive at Marotz Residence, Bldg 103, Unit 001
Confirm presence of sub-slab port in storage room
Discuss location of ambient locations w/ owner
Determined we should meet at 7:30 am to begin work.

1500
~~3:00~~ Meet w/ Jeff Stoehmer at Building 101
Confirm presence of sub-slab ports and determind prefered location for sampling.
Will need to talk to Rich Anderson b/c J.S. out of office on Tuesday.

~~X~~1530 Travel to Unit 001, AFF Fire Shop.
Cannot locate sub-slab ports, UNL believes this building not sampled previously, current usage has too many VOC sources.

1600 Travel to Unit 003, Feed Mill
Confirm presence of sub-slab port and will need to contact Rich Anderson for entry. Open until 5:00p.m.

1630 Travel to soil sampling location to meet with team.

NM 9/13/10

Signed Date Signed Date

Natalie & Mike ~~headed on site~~ left hotel at 7:20 to head to jobsite. Meanwhile Bret & Brad prepared paperwork for the day. Bret had previously packed samples this morning.

Had morning safety meeting in hotel, then headed to site.

Arrived on site at 8:20 & spoke w/ ICR guys. OER arrived shortly after. ICR began decon & prepping for the first borehole. Discussed plans for inclement weather.

Began sampling on PLA01 - OER scanned area prior to drilling - located something subsurface. Borehole location was moved clear of detected substance.
* Note: Pictures taken for the 0'-5' sample were mislabeled in picture as 5'-10' sample. Will try to correct pictures using photoshop or some similar program.

Moved on to PLA02 - First try @ a sample produced almost no recovery (~20%). ~~Tried~~ Attempted to resample ~~same~~ near area at 0'-5'.
Got similar results from second sample. (~50% recovery) Measured borehole & had 5' open. Likely the soil got compacted during drilling. A small piece of metal was found in sample.
Found glass in both samples 0-5, 5-10.
* Did not get picture for 5-10' sample. Mostly sand, little recovery.

Continued on Page

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PLA03 - No issues. 0-5 sample ~30%. Found glass in second sample (5-10').

PLA04 - Got 0% recovery on 5'-10' sample. Moving Geoprobe to try to get second sample. Got 0% on that too. Using only bottom portion of first 0-5' ~~sample~~ boring for 4'-8' sample.

PLA05 - Got only a few inches recovery on second boring. Switched out to Mini RAE on this sample since batteries were low on Multi RAE. Lots of glass in sample. Measured borehole & went down to 16'. Apparently lots of open space in subsurface.

Broke for lunch

Returned & set up on NBG16 - no significant issues.

NBG17 - No significant issues.
NBG18 - " " "
NBG19 " " "
NBG20 " " "

Finished sampling @ 4:00 pm.

Continued on Page

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Client: _____
Job #: _____
Prepared by: Natalie Mogill
Date: 9/14/10
Checked by: _____
Page: 1 of: 4

NOTES/CALCULATION WORKSHEET

0745 Arrive at Unit 001, call to E. Marotz
Home destroyed by hail, ~~basement~~ upstairs flooded.
Generator running all night.
Owner at work repairing damage, will meet us later to determine if sampling advised.

0810 Speaking w/ owner's wife. Lost power around 1700 Monday night. Power returned @ 0100 Tues. morning.
Survey area w/ PID for hits in proposed sampling locations.
Around sub-slab location PID reading 0.5 ppm
Around basement ambient " " 0.7 ppm
Around upstairs ambient " " 0.9 ppm
Will continue sampling ~~as planned~~, owner requested no sampling upstairs due to storm damage.

0830 PID calibrated to fresh air, readings taken again
In basement, readings range from 0.6 - 0.7 ppm
Upstairs, readings range from 0.4 - 0.9 ppm, 0.9 ppm around sampling location.

0850 Begin leak testing sub-slab port with helium
Test sub-slab for helium - 0×10^2 ppm. background value
0855 Fill VI box with helium to monitor for leaking.
0900 No reading of helium on port. No leak detected.
VI box reading 9×10^2 ppm at conclusion of test.
0905 Assemble sub-slab sampling system 4383 and 5108
0922 Begin leak test on sample manifold. 6 kPa
0927 Pass leak test.
0930 Prep ambient summa canisters 2787 and 2669
0935 ~~wind~~ Slight wind from East. - 4 mph from NW
0947 Begin 4383 + 5108 (30 in Hg)
(29 in Hg)

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Date: 9/14/10
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Page: 2 of: 4

NOTES/CALCULATION WORKSHEET

1000 Prep can #'s 4019, 2948
4019 - outdoor
2948 U001-0910-AIR-001-01-IA
West side of basement, laundry area
1027 start time 1027, begin Can # 2948, 29 in Hg
1032 begin Can # 2948 29.5 in Hg
NE corner on fence line
1035 Depart Unit 001
1129 Arrive at Unit ~~003~~ 006 Storage Bldg
Background VOCs via PID 0.0 ppm
1140 Begin leak test on sub-slab port - pass leak test
Concentration of helium in VI box 9×10^4 ppm.
1159 Can # 4322 - sub-slab canister U006-0910-AIR-001-01-SG
Man # 7301367, 3747 started 1201
1204 Can # 4349 U006-0910-AIR-002-01-IA
Man # 3130 sticker, 016-100 etched, 7074965 S/N start 1208
N side of wood beam, just N of sub-slab sample
1210 Can # 3415 U006-0910-AIR-001-01 IA
Man # SN/7036435, 3022
N side of wood beam, just S of sub-slab port
in center part of building, start time 1211
1218 Second outdoor sample, W of Unit 006
near fire hydrant, start time 1220
Can # 3733
Man # 7305962, 3938
1342 Arrive at Unit ~~U~~003 Feed Mill
Can # 2782, Man # 7248242 / 3017 U003-0910-AIR-001-01-SG
sub-slab - basement

Basement U003-0910-AIR-001-01-IA - Can # 5111, Man # 7329212/4938
Upstairs U003-0910-AIR-001-02-IA - Can # 3660, Man # 7248242/3989
1420 Sub-slab port bad, seal broken, cannot sample
Ambient air sample to be taken as planned start 1420

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Date: 9/14/10
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Page: 3 of: 4

NOTES/CALCULATION WORKSHEET

1420 cont. Sub-slab had rusted port in the plug and seal from port to concrete bad.

1434 ~~Place~~ Ambient air taken from east side of office space Can#3660 start time 1434, 29.5 mm Hg

1440 Arrive at Feed Lot Office, Unit 011
No VOCs detected in building w/ PID.
Sub-slab port found in bathroom - West wall
Can# 4371 Mon# 7305976 / 3954 - sub-slab
Office - South side Can# 4566, Mon# 7332031 / 5003
Break Room - North side Can# 2953, Mon# 7306[illegible] / 3439

1516 Leak testing on sub-slab port begins - No leak detected
Concentration in VI box - 6×10^5 ppm
U011-0910-AIR-001-01-SG installed start 1525, 30 in Hg

1528 Can# 3956 U011-0910-AIR-002-01-IA start 1528, 28 in Hg installed in break room
Can# 4566 U011-0910-AIR-001-01-IA start 1530, 28 in Hg installed in Office area
return to Unit 001

1545
Can# 5108 check time 1546 26 in Hg
Can# 4383 " " 1547 24 in Hg
Can# 2787 " " 1549 24 in Hg
Can# 2669 " " 1549 26 in Hg
Can# 2948 " " 1550 24.5 in Hg
Can# ~~5251~~ 4019 " " 1552 25 in Hg
- changed to add filter in case of rain

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Job #: _____
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Date: 9/14/10
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Page: 4 of: 4

NOTES/CALCULATION WORKSHEET

1600 Return to Unit 006
Can # 4322 Check time 1602 ~~30~~ 29 in Hg 30 in Hg
Can # 4349 " " 1602 20 in Hg
Can # 3415 " " 1604 27 in Hg
Can # 3733 " " 1609 26 in Hg
- added filter for rain to input port on outdoor

1620 Return to Unit 003
Can # 3660 Check time 1624 28.5 in Hg
Can # 5111 Check time 1626 27.5 in Hg

1629 Return to Unit 011
Can # 4566 Check time 1628 27.0 in Hg
Can # 4371 " " 1629 30.0 in Hg
Can # 2953 " " 1630 25.0 in Hg

NM 9/14/10

Signed Date Signed Date

Had safety meeting in hotel w/ GEO, SAIC & OER project team. Left hotel to get ice and water.

Arrived on site @ 8:30. ICR was on site waiting. We reviewed safety topics w/ them, then moved to first boring site.

PID's were calibrated. (DEET was sprayed during Mini RAE calibration)
Meanwhile Natalie & Mike were out completing the vapor intrusion portion of the project.

First boring was PCA10. No significant issues. Good recovery for both borings.

NBG 13 - No issues
NBG 12 - A small piece of aluminum was found in the bottom of the lower boring (5'-10'). Drilled through something. This also likely caused the lower recovery. OER determined it was not ordnance related.

NBG 14 - No issues
NBG 15 - No issues - Completed final boring around 10:45am. Wrapped up in field.

Continued on Page

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Client:
Job #:
Prepared by: Natalie Magill
Date: 9/15/10
Checked by:
Page: 1 of: 2

NOTES/CALCULATION WORKSHEET

0630 Arrive at Unit 001 to check pressure readings
Readings range from 8 to 12 PSI
0849 Arrive at Unit 006 to check pressure readings
outdoor unit 9 PSI, 3415 @ 12 psi, 4322 @ 14 psi
4349 @ 8 PSI, need to come back in ~1 hr
Speak with Jeff Stuehmer to complete building questionaire surveys
0930 Return to Unit 001 to remove canisters @ 24 hrs.
0947 Read sub-slab canisters, turn off valves and remove sampling equipment, Can #'s 4383 + 5108
Read 1st set of ambient canisters, turn off valves and remove, Can #'s 2669 + 2787
Prep COCs and package canisters
1027 Read 2nd ~~set~~ ambient Can # 2948, turn off valves and remove, prep COC and package container
1032 Read outdoor Can # 4019, turn off valves and remove prep COC and package canister
1046 Arrive at Unit 006 - door locked, waiting for SS.
1051 Remove Can # 4349, turn off, prep COC and package
1115 Meet at Wastewater treatment plant
1149 Arrive at Unit 006
1201 Read Can # 4322, turn off valves and remove, prep COC and package canister
Trouble removing fitting from port
1211 Read Can # 3415, turn off valves and remove, prep COC and package canister
1415 Arrive at Unit 011 to check readings
1418 Arrive at Unit 003 to check readings
1420 Remove can #5111, turn off valves and remove, prep COC and package container

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Client:
Job #:
Prepared by: Natalie Magill
Date: 9/15/10
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Page: 2 of: 2

NOTES/CALCULATION WORKSHEET

1434 Remove Can # 3660, turn off valve and remove, prep CoC and package container

1440 Arrive at Unit 011.
1443 Can # 2953 at 4psi. Valve closed and canister removed.
1456 Arrive at Unit 006, returned to cap sub-slab port plug.
1510 Arrive at Unit 011
1525 Can # 4371 ~~re~~removed. Valve closed and canister removed, prep COC and package container. Port capped to prevent damage.
1530 Removed Can # 4566, valve closed and canister removed, prep COC and package container.
1532 All samples collected and packed.

9/15/10 Natalie Magill

Signed Date Signed Date

PROJECT Mead 2 11/1/10-11/2/10

Natalie Magill (GEO) Mike Miller (SAIC)

1330 Arrive at ~~Mead~~ Feed Mill location
inspect basement, no standing water
prep equipment and tubing to install
new port

1345 Enter basement to clean existing point
and install new point
No hits on Multi-Rae

1415 Drill 5 holes before breaking through slab.
New port located to right of existing.
Will set both ports with concrete.
Remaining 4 holes will be filled with concrete.

1510 Ports installed w/ concrete, remaining holes filled.

1530 Depart site - End of 11/1/10 Notes - Natalie Magill

11/2/10

1045 Arrive on-site, assess area for location of ambient
air sample, built VI box, assemble canisters.

1045 Set ambient sampling point W of bldg on weigh station sign
Sample start time 1053

1051 Set indoor sample in office area.
Sample start time 1058.

1104 Enter basement area to leak-test new ports.
Leak test new port, located 18 inches W of old port.
Evacuated 3+ volumes of air using pump from port, port
passes leak test.

1111 Leak test old port. Evacuate 3+ volumes of air using pump
from port. Port passes leak test.

1115 Set indoor sample in basement area.
Sample start time. 1122.

1120 1123 Set sub-slab sample in basement on new port.
Sample start time 1125.

1130 Depart site for lunch, let canisters go for a while.

1410 Arrive on site, ambient canister at 27 (1413)
upstairs indoor 27 ~~psi~~ in Hg (1415), downstairs indoor 26 ~~psi~~ in Hg (1417)
downstairs 28 ~~psi~~ in Hg (1418).

Continued on Page 14

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Signed _____ Date _____ Signed _____ Date _____

11/2/10 Cont.
1421 Prep extra canister to install on old port since sample on new port not pulling well.
1427 Set sub-slab port in basement on old port.
Sample start time 1431
1435 Depart site
1635 Arrive at Unit 003
New port 1637 reading 27 ~~in~~ in Hg, old port 29 in Hg (1638), indoor downstairs 24 in Hg (1639), indoor upstairs 25 in Hg (1640), ambient 24 in Hg (1642). Depart site.
End 11/2/10 Notes - Natalie Magill
11/3/10
0910 Arrive on site
0914 Ambient canister at 8 in Hg - GPS coords N. 41°08.462' W096°28.932'
0915 Indoor Upstairs reading 9 in Hg
0920 Basement ~~New port~~ Indoor 6 in Hg
0921 New Port sub-slab ~~at~~ 18 in Hg
Old Port sub-slab 14 in Hg
0930 Unit 001 Ambient sample coords N41°10.071' W096°29.068'
0934 Unit 006 Ambient sample coords N 41°10.689' W096°29.352'
1020 Ambient sample at 4 in Hg, pulled sample easily.
1028 Basement Indoor sample at 6 in Hg
New port sub-slab at 17.5 in Hg
Old port sub-slab at 12 in Hg
1102 Pull upstairs indoor air sample.
1125 Pull downstairs indoor air sample and New port sub-slab sample
1127 Old port sub-slab at 11 in Hg.
1130 Depart site for FedEx, Airgas, lunch.
1410 Arrive on site, old port sub-slab at 8 in Hg (1411)
1431 Pull old port sub-slab sample to be sent to lab for analysis. Will not have old port sub-slab sample analyzed. Package containers for shipping, fill out Chain of Custody.
1435 Depart site for FedEx to ship remaining samples

End Notes 11/3/10 Natalie Magill

Continued on Page

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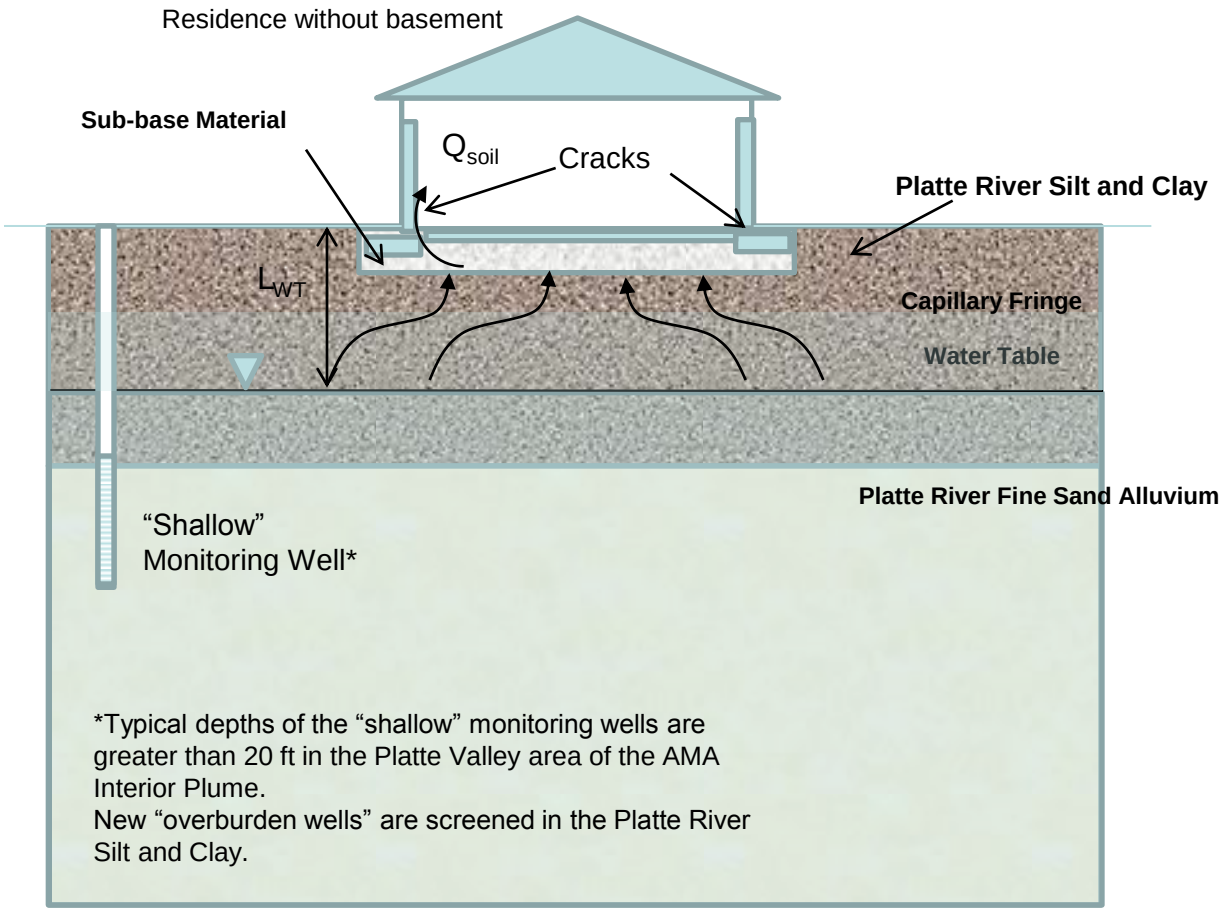
APPENDIX G

LABORATORY REPORTS AND DATA VALIDATION REPORTS

(electronic copy only—provided on the disc located at the front of this document)



See Table J-1 for definition of parameters.

Figure J-3 Conceptual Model for Vapor Intrusion in the Platte Valley Aquifer

U.S. Army Corps of Engineers
Kansas City District

GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Former Nebraska Ordnance Plant
Mead, Nebraska

APPENDIX H

BASELINE RISK ASSESSMENT EQUATIONS FOR ESTIMATING EXPOSURE

APPENDIX H - BASELINE RISK ASSESSMENT EQUATIONS FOR ESTIMATING EXPOSURE

H-1. INTRODUCTION

A Baseline Risk Assessment (BLRA) will be performed as part of the Operable Unit (OU) -3 Supplemental Remedial Investigation (RI) to document the potential for human health risks from exposure to the following environmental media:

- The burn layer/ash and surrounding soil at the North Burning Ground/Potential Landfill Area;
- Surface water and sediment in Johnson Creek, Clear Creek, and Silver Creek; and
- Indoor air in selected buildings that overlie the trichloroethene (TCE) groundwater plumes. The risk assessment will only be conducted at locations in which sufficient data is not available for the BLRA.

This assessment will present the risks for the "no-action" alternative. The methodology used in the Supplemental BLRA will be based on U.S. Environmental Protection Agency (USEPA)guidance documents and will consist of the following steps detailed in the following sections:

- Section H-2. Data evaluation of target analytes, including the screening process to identify contaminants of potential concern (COPCs) to be included in the risk assessment.
- Section H-3. Exposure assessment, including identification of exposure pathways and potential intake estimates for each of the receptors and pathways.
- Section H-4. Toxicity assessment including the potential for adverse health effects of COPCs in exposed individuals.
- Section H-5. Risk characterization where human health COPCs are identified if risks exceed acceptable values for carcinogenic and non-carcinogenic risks.
- Section H-6. Assessment of uncertainties associated with the BLRA.

H-2. DATA EVALUATION

The data evaluation will identify COPCs for each environmental medium being evaluated in the OU-3 Supplemental RI and will eliminate chemicals for which no further risk evaluation is needed. For the purpose of risk evaluation, it will be assumed that the burn layer/ash at the North Burning Ground/Potential Landfill is part of the soil. Surface soil will be defined as soil from 0 to 0.5 feet (ft) below ground surface (bgs) and subsurface soil will be defined as soil 0.5 ft to 8 ft bgs. The data evaluation to identify COPCs for each investigation area will consist of four steps: (1) a data quality assessment, (2) screening of essential human nutrients (applies to the burn layer), (3) risk-based screening, and (4) background screening (applies to the burn layer).

H-2.1. Data Quality Assessment

The data set will be organized so that only one result will be used for each sample location and depth sampled on a given date. Sample splits, duplicates, re-analysis, and dilutions will not

be included in the determination of COPCs in the risk assessment. Samples rejected by the validation process will not be included in the risk assessment.

H-2.2. Essential Nutrients

Chemicals that are considered essential nutrients (i.e., calcium, iron, magnesium, potassium, and sodium) are an integral part of the human food supply and are often added to foods as supplements. Recommended daily allowance (RDA) and recommended daily intake (RDI) values are available for these metals and will be used as a point of comparison.

Based on these RDA/RDI values, a receptor ingesting 100 milligrams (mg) of soil per day would receive less than the RDA/RDI of calcium, magnesium, phosphorous, potassium, and sodium, even if the soil consisted of the pure mineral [i.e., soil concentrations > 1,000,000 mg per kilogram (kg)]. Receptors ingesting 100 mg of soil per day would require soil concentrations of 100,000 to 180,000 mg/kg of iron to meet their RDA/RDI for these metals. Concentrations of essential nutrients will be evaluated to determine if these levels are exceeded. If these levels are not exceeded in soil, these constituents will not be considered as COPCs in this BLRA.

H-2.3. Risk-Based Screen

The objective of this evaluation is to identify COPCs that may pose a potentially significant risk to human health. The risk-based screening values used in this process will be the Regional Screening Levels published by USEPA (2010). The maximum detected concentration (MDC) of each chemical in each environmental medium will be compared against the appropriate medium-specific and chemical-specific risk-based screening value. Chemicals detected below these concentrations will be eliminated from the COPC list for that environment. Detected chemicals without risk-based screening values will not be eliminated from the COPC list based on this screening step. Screening levels for soil and air quality can be found in Appendix A. If all results were non-detect, the absence of a compound cannot be verified by a non-detect result. The Method Detection Limit (MDL) was used in risk calculations since no sample reported a higher concentration than the MDL, but could exist at lower concentrations.

H-2.4. Background Screen of Metals

A background screen of surface and subsurface soils from the North Burning Ground/Potential Landfill will consist of comparing MDC of each COPC with the background levels. Metals where the MDC is less than two times the mean background concentration will be eliminated from the COPC list. Background soil statistics, based on data collected during the OU-3 RI (Woodward-Clyde 1997) are shown in Table 4-3.

H-2.6. Summary of Chemicals of Potential Concern Screening Approach

The data set used to determine the COPCs will be determined for surface soil, subsurface soil, surface water, sediment, and air, separately. The following assumptions will be used in the development of COPCs for the BLRA:

- Chemicals not detected in the medium will be eliminated from the COPC list (with the exception of constituents having reporting limits (RLs) greater than twice the screening criteria).
- Essential nutrients detected at levels below their RDA/RDI (for soils) will be eliminated from the COPC list.

- Chemicals detected at levels below their respective risk-based screening levels will be eliminated from the COPC list (with the exception of constituents that were not detected, but had RLs greater than twice the risk-based screening levels).
- Results of previous background screening for soils will be used to eliminate COPCs that are not found in concentrations greater than twice the mean background level.

The COPC screening process and results will be summarized in separate tables for each medium. These tables will include:

- Summary statistics, including frequency of detection, range of detected concentrations, arithmetic mean concentration, and 95% upper confidence limit (UCL_{95}) on the mean concentration. The latest version of ProUCL (current version 4.00.04, http://www.epa.gov/esd/tsc/software.htm) will be used to generate UCL_{95} and background threshold values;
- All screening values; and
- The final COPC status.

When determining summary statistics for chemicals that have non-detected concentrations, a surrogate concentration of one-half of the reported non-detected concentration will be used in the calculations. Chemicals with RLs that exceed their respective risk-screening value are special cases that will be evaluated as follows:

- Where the constituent is detected in at least one sample, the maximum detection is compared with screening levels to determine COPC status;
- Where the chemical is not detected, it will be considered a COPC if any sample has a MDL over twice the screening level. It will not be considered a COPC if all samples have MDLs that are below twice the screening level. If the MDL is not available, the laboratory reporting limit (RL) will be used.

The result of this process is to include chemicals that were not detected, but had minimum MDLs that were in excess of twice their respective screening levels, as COPCs (e.g. evaluating constituent at one-half the minimum MDL versus risk-based criteria).

H-3. EXPOSURE ASSESSMENT

H-3.1. Current and Future Land Use

The majority of the former Nebraska Ordnance Plant (NOP) site is currently owned by University of Nebraska – Lincoln Agriculture Research and Development Center (UNL-ARDC), which is expected to continue. Other portions of the site are owned by the Nebraska Army National Guard, the U.S. Air Force, the U.S. Army Reserves, and the U.S. Department of Commerce. A few private landowners, private pastures, crop fields, and private light industry are also located on-site. No changes in the current land usage are expected. Deed restrictions prohibiting any change in current land use exist on the North Burning Grounds (U.S. 2005a).

H-3.2. Potential Exposed Populations, Exposure Media, and Exposure Pathways

The current conceptual site exposure model (CSEM) shows potentially exposed populations, environmental media of concern, and exposure pathways and account for any existing deed restrictions (U.S. 2005b). Environmental media of concern are surface soil (0 to 0.5 ft bgs) and

subsurface soil (0.5 to 8 ft bgs) at the North Burning Ground/Potential Landfill Area; surface water, sediment, and fish from Johnson Creek/Clear Creek and Silver Creek; and inhalation of volatile organic compounds (VOCs) via vapor intrusion in the buildings. Based on current land use at the North Burning Ground/Potential Landfill Area, surface soil exposure can occur through ingestion, inhalation, and dermal contact for construction workers, maintenance workers, adult trespassers, and juvenile trespassers. Subsurface soil exposure is limited to construction workers during excavation activities. The receptors for the North Burning Ground are based on site access limitations provided in the deed restriction for the property (U.S. 2005a). The receptors for the Potential Landfill Area were chosen to match the North Burning Ground based on current land use, even though there is no known deed restriction on the land. Surface water exposure consists of dermal contact with the surface waters and sediment as well as an ingestion of the surface water, sediment, and food intake from eating contaminated fish for recreational adult and child fishing scenarios. Receptors to be considered for each of the buildings of interest for the vapor intrusion assessment are as follows:

- Unit 001 – Building 103 – Dairy Farm Manager Residence: Adult and Child Resident
- Unit 003 – Feed Mill (LL1 plume): Industrial Worker
- Unit 006 – Building 101 – UNL-ARDC Storage Building : Industrial Worker/Limited Daily Use
- Unit 011 – Building 401 –Feed Mill Office: Industrial Worker

Note that for Unit 006 (UNL Storage Building), exposure parameters will be set to account for the limited occupancy of the building based on its use as a storage building rather than a workspace.

H-3.3. Exposure Point Concentrations

The Reasonable Maximum Exposure (RME) estimates the highest exposure reasonably expected to occur at each investigation area. Due to the inherent uncertainty with estimates of exposure concentration, the UCL on the mean will be used for evaluating the RME. The USEPA recommended statistical program ProUCL 4.0 (http://www.epa.gov/esd/tsc/software.htm) will be used to generate confidence limits on the mean. The exposure point concentration (EPC) for each COPC in each medium will be the smaller value between the ProUCL recommended UCL and the MDC. The latest version of ProUCL (current version 4.00.04, http://www.epa.gov/esd/tsc/software.htm) will be used to generate UCL_{95} and background threshold values. If the number of detects is less than 5, the MDC will be used as the EPC. If all results were non-detect, then 0.5 the MDL (or RL if the MDL is not available) will be used as the EPC.

Note that the EPC for indoor air in the buildings will be set to the maximum measured concentration of COPCs in the indoor air sample. If all results are non-detect, 0.5 the MDL (or RL if MDL not available) will be used as the EPC.

H-3.4. Exposure Parameters and Exposure Calculation Results

Standard intake equations from USEPA guidance (USEPA 1989, USEPA 2004) for ingestion, dermal contact, and inhalation of chemicals (shown below) will be used along with the exposure parameters (i.e. ingestion rate, dermal absorption factors) shown in Tables H-1, H-2, and H-3 for soils, surface water, and indoor air, respectively.

H-3.4.1. Ingestion of Surface Water

Intakes for ingestion for surface water COPCs will be estimated using equation (H-1):

$$Chemical_Intake\left(\frac{mg}{kg-day}\right)=\frac{C_w \times IR_w \times EF \times ED}{BW \times AT} \qquad \text{(H-1)}$$

Where:

C_w	=	chemical concentration in water (mg/L)
IR_w	=	ingestion rate of water [liters (L) per day]
EF	=	exposure frequency (days/year)
ED	=	exposure duration (years)
BW	=	body weight (kg)
AT	=	averaging (days) for carcinogens or non-carcinogens

H-3.4.2. Dermal contact with Surface Water

The dermal absorbed doses (DADs) from organic chemicals in surface water will be calculated using equation (H-2) as follows (USEPA 2004):

$$DAD\left(\frac{mg}{kg-day}\right)=\frac{DA_{event} \times EV \times EF \times ED \times SA}{BW \times AT} \qquad \text{(H-2)}$$

Where:

DAD	=	dermal absorbed dose (mg/kg-day)
DA_{event}	=	absorbed dose per event in water [mg per square centimer(cm^2)-event]
EV	=	event frequency (1 event/day)
EF	=	exposure frequency (days/year)
ED	=	exposure duration (years)
SA	=	surface area of skin exposed (cm^2)
BW	=	body weight (kg)
AT	=	averaging time (days) for carcinogens or non-carcinogens

For organics, DA_{event} is calculated as follows:

(1) If $t_{event} \leq t^*$ then:

$$DA_{event}\left(\frac{mg}{cm^2-event}\right)=2 \times FA \times K_p \times C_w \times CF \times \left(6\tau_{event} \times \frac{t_{event}}{\pi}\right)^{1/2} \qquad \text{(H-3)}$$

(2) If $t_{event} > t^*$ then:

$$DA_{event}\left(\frac{mg}{cm^2-event}\right)=FA \times K_p \times C_w \times CF \times \left[\frac{t_{event}}{(1+B)}+2\tau_{event}\left(\frac{1+3B+3B^2}{\{1+B\}^2}\right)\right] \qquad \text{(H-4)}$$

Where:

DA_{event}	=	absorbed dose per event in water (mg/cm^2-event)
FA	=	fraction absorbed in water (chemical-specific, dimensionless)
K_p	=	permeability constant in water [chemical-specific, cm per hour(hr)]

C_w = concentration of chemical in water (mg/L)
CF = conversion factor (10^{-3} L/cm^3)
τ_{event} = lag time per event (chemical-specific, hr/event)
t_{event} = duration of event (hr/event; same value as exposure time)
B = chemical-specific constant reflecting the partitioning properties (dimensionless)
t* = chemical-specific time to reach steady-state (hr)

Values and equations for FA, K_p, t*, and B are from USEPA (2004). If a K_p value is not available for an organic COPC, it is calculated using the following empirical predictive equation (USEPA 2004):

$$\log(K_p) = -2.80 + 0.66\log(K_{ow}) - 0.0056W_M \quad \text{(H-5)}$$

Where:
K_{ow} = octanol/water coefficient (chemical-specific)
M_W = molecular weight (g/mole)

For inorganics, DA_{event} was calculated as follows:

$$DA_{event}\left(\frac{mg}{kg-event}\right) = K_p \times C_w \times CF \times t_{event} \quad \text{(H-6)}$$

Where K_p, C_w, CF, and t_{event} are defined as shown above. Note that chemical-specific values for K_p are available from Risk Assessment Guidance for Superfund (RAGS) Part E (USEPA 2004) for selected inorganics. If no K_p value was provided, then a default value of 0.001 cm per hr is used for this class of chemicals (USEPA 2004).

H-3.4.3. Ingestion of Soil and Sediment

Intakes for incidental ingestion of soil will be estimated by using equation (H-7):

$$Chemical_Intake\left(\frac{mg}{kg-day}\right) = \frac{C_S \times IR_S \times EF \times ED \times FI}{BW \times AT} \quad \text{(H-7)}$$

Where:
C_s = chemical concentration in soil (mg/kg)
IR_s = ingestion rate (kg/day)
EF = exposure frequency (days/year)
ED = exposure duration (years)
FI = fraction ingested (assumed value of 1, unitless)
BW = body weight (kg)
AT = averaging time (days) for carcinogens or non-carcinogens

H-3.4.4. Dermal Contact with Soil and Sediment

The DAD from chemicals in soil will be calculated using equation (H-8) from USEPA 2004.

$$Chemical_DAD\left(\frac{mg}{kg-day}\right)=\frac{DA_{event}\times EV\times EF\times ED\times SA}{BW\times AT} \quad \text{(H-8)}$$

Where:

DAD	=	dermal absorbed dose (mg/kg-day)
DA_{event}	=	absorbed dose per event in soil (mg/cm^2-event)
EV	=	event frequency (1 event/day)
EF	=	exposure frequency (days/year)
ED	=	exposure duration (years)
SA	=	surface area of skin exposed (cm^2)
BW	=	body weight (kg)
AT	=	averaging time (days) for carcinogens or non-carcinogens

DA_{event} (mg/cm^2-event) is calculated as follows for soil COPCs:

$$DA_{event}\left(\frac{mg}{cm^2-event}\right)=C_s\times CF\times AF\times ABS \quad \text{(H-9)}$$

Where:

C_s	=	chemical concentration in soil (mg/kg)
CF	=	conversion factor (10^{-6} kg/mg)
AF	=	soil-to-skin adherence factor (mg/cm^2-event)
ABS	=	chemical-specific dermal absorption factor (unitless; USEPA 2004)

Note that only certain chemicals have a value for the dermal absorption factor (USEPA 2004). Therefore, the dermal contact with soil pathway is quantified only for these specific COPCs with a value for the dermal absorption factor.

H-3.4.5. Inhalation of Soil Intake

Intakes for inhalation of soil will be calculated using equation (H-10) USEPA 2009a):

$$EC\left(\frac{mg}{m^3}\right)=\left(\frac{C_a\times EF\times ED\times ET}{AT}\right) \quad \text{(H-10)}$$

Where:

EC	=	exposure concentration (mg/m^3)
C_a	=	chemical concentration in soil (mg/kg)
ET	=	exposure time (hrs/day)
EF	=	exposure frequency (days/year)
ED	=	exposure duration (years)
AT	=	averaging time (hours) for carcinogens or non-carcinogens

C_a is estimated using equation (H-11) USEPA 2002.:

$$C_a\left(\frac{mg}{m^3}\right)=C_s\left(\frac{1}{PEF}\right) \quad \text{(H-11)}$$

Where:

C_s = chemical concentration in soil (mg,kg)
PEF = particulate emission factor (m^3/kg)

The particulate emission factor value used for all receptors (1.36×10^9 m^3/kg) is the default value in USEPA (2002).

H-3.4.6. Intake through Ingestion of Fish

Intakes for ingestion of COPCs for consumption of fish will be estimated using equation (H-12):

$$Chemical_Daily_Intake\left(\frac{mg}{kg-day}\right) = \frac{C_w \times MF \times IR_{fish} \times FI \times EF \times ED}{BW \times AT} \qquad \text{(H-12)}$$

Where:

C_w = Concentration of chemical in surface water [migrogram(s) (µg) perL]
EF = Exposure Frequency (days/year)
ED = exposure duration, different values for adult and child (years)
BW = body weight, different values for adult and child (years)
AT = averaging time (days)
MF = modeling factor to convert surface water to fish tissue concentration, (L/kg)
IR_{fish} = ingestion rate for fish, (kg/day)
FI = fraction of daily fish ingested from fish caught in Johnson Creek and Clear Creek (unitless).

H-3.4.7. Inhalation of Volatiles in Air

Intakes for inhalation of volatile compounds in air will be calculated using equation (H-13):

$$EC\left(\frac{mg}{m^3}\right) = \frac{C_a \times EF \times ED \times ET}{AT} \qquad \text{(H-13)}$$

Where:

EC = exposure concentration (mg/m^3)
C_s = chemical concentration in air (mg/m^3)
ET = exposure time (hrs/day)
EF = exposure frequency (days/year)
ED = exposure duration (years)
AT = averaging time (hours) for carcinogens or non-carcinogens

H-4. TOXICITY ASSESSMENT

The toxicity assessment will evaluate the potential for COPCs to cause adverse health effects in exposed individuals. If possible, it will estimate the relationship between intake or dose of a COPC and the likelihood or severity of adverse health effects as a result of exposure. Toxic effects have been evaluated extensively by USEPA, as presented in USEPA's *Human Health Toxicity Values in Superfund Risk Assessments* (USEPA 2003), which provides for selection of toxicity values from the following three-tiered hierarchy:

1. Tier 1 – USEPA's Integrated Risk Information System (USEPA 2009b);

2. Tier 2 – USEPA Provisional Peer Reviewed Toxicity Values;

3. Tier 3 – Other toxicity values from additional USEPA and non-USEPA sources, including California Environmental Protection Agency, Agency for Toxic Substances and Disease Registry minimum risk levels, and USEPA's Health Effects Assessment Summary Tables (USEPA 1997).

H-5. RISK CHARACTERIZATION

The purpose of the risk characterization is to integrate the information obtained through the exposure and toxicity assessments to estimate potential risks and hazards. Potential carcinogenic effects are characterized by using projected intakes and chemical-specific, dose-response data [i.e., cancer slope factors (CSFs)] to estimate the probability that an individual will develop cancer over a lifetime. Potential non-carcinogenic effects will be characterized by comparing projected intakes of contaminants to toxicity values [i.e., reference dose (RfDs)]. The numerical risk and hazard estimates presented in the BLRA must be interpreted in the context of the uncertainties and assumptions associated with the risk assessment process and with the data upon which the risk estimates are based.

H-5.1. Risk Characterization for Carcinogens

For carcinogens, risk is expressed as the probability that an individual will develop cancer over a lifetime as a result of exposure to the carcinogen. Cancer risk from exposure to contamination is expressed as the increased lifetime cancer risk (ILCR), or the increased chance of cancer above the normal background rate of cancer. In the U.S., the background chance of contracting cancer will be a little more than three in 10, or 3×10^{-1}. The calculated ILCRs will be compared to the target goal of $1x10^{-6}$, the lowest of the range specified in the National Oil and Hazardous Substances Pollution Contingency Plan of 1×10^{-4} to 1×10^{-6}, or 1-in-10,000 to 1-in-1,000,000 exposed persons developing an excess cancer.

The ILCR for each medium/carcinogenic COPC will be calculated using one of the equations below (USEPA 1989, USEPA 2009a):

$$ILCR = I_C \times CSF \qquad \text{(H-14)}$$

$$ILCR = IUR \times EC \qquad \text{(H-15)}$$

Where:

I_C	=	chronic daily intake or DAD for carcinogenic effects calculated in the exposure assessment averaged over the recpeptor's lifetime (mg/kg-d)
EC	=	Exposure concentration (mg/m^3)
IUR	=	Inhalalation unit risk $(mg/m^3)^{-1}$
CSF	=	cancer slope factor $(mg/kg\text{-}d)^{-1}$

For a given exposure pathway from each investigation area, the total risk to a receptor exposed to several carcinogenic COPCs is the sum of the ILCRs for each carcinogen, as shown in equation H-16 below:

$$ILCR_{total} = \Sigma ILCR_i \qquad \text{(H-16)}$$

Where:

$ILCR_{total}$= total probability of cancer incidence associated with all carcinogenic COPCs
$ILCR_i$ = ILCR for the ith COPC

In addition to summing risks across all carcinogenic COPCs, risks will be summed across all exposure pathways for a given environmental medium (e.g., ingestion, inhalation, and dermal contact with surface soil). Per USEPA (1989) guidance, there will be two steps required to determine whether risks or hazard indexes (HIs) for two or more pathways should be combined for a single exposed individual or group of individuals. The first will be to identify reasonable exposure pathway combinations. The second will be to examine whether it will be likely that the same individuals would consistently face the RME by more than one pathway. It is reasonable to assume that the same individual may be exposed to a given exposure medium at the RME level by multiple pathways. It should be noted that that ILCR is an upper bound estimate of the cancer risk that may occur as a result of the exposure; the "true" cancer risk, especially for chemicals where the slope factor is based on animal data, is likely to be less and may even be zero.

H-5.2. Risk Characterization for Non-Carcinogens

In addition to developing cancer from exposure to contaminants, an individual may experience other toxic effects. The term "toxic effects" is used here to describe a wide variety of systemic effects ranging from minor irritations, such as eye irritation and headaches, to more substantial effects, such as kidney or liver disease and neurological damage. The risks associated with toxic (i.e., non-carcinogenic) chemicals will be evaluated by comparing an estimated exposure (i.e., intake or dose) from site media to an acceptable exposure expressed as a reference dose (RfD). The RfD is the threshold level below which no toxic effects is expected to occur in a population, including sensitive subpopulations. The ratio of intake over the RfD is the hazard quotient (HQ) (USEPA 1989) and will be calculated as:

$$HQ = \frac{I_{NC}}{RfD} \qquad \text{(H-17)}$$

Where

I = daily intake or DAD for non-carcinogenic effects of a COPC averaged over the exposure duration (mg/kg-d)
RfD = reference dose (mg/kg-d)

The HQs for each COPC/investigation area will be summed to obtain an HI for an investigation area, as shown below:

$$HI = \Sigma HQ_i \qquad \text{(H-18)}$$

Where
HI = hazard index for all toxic effects
HQ_i = hazard quotient for the ith COPC

An HI greater than one has been defined as the level of concern for potential adverse non-carcinogenic health effects (USEPA 1989). This approach differs from the probabilistic approach used to evaluate carcinogens. An HQ of 0.01 does not imply a 1-in-100 chance of an adverse effect, but indicates only that the estimated intake will be 100 times less than the threshold level

at which adverse health effects may occur. In addition to summing hazards across all COPCs, hazards will be summed across all exposure pathways for a given environmental medium.

Note that HIs are determined by assuming dose additivity for those constituents acting by the same mechanism and inducing the same effects (USEPA 1989). Initially, all of the COPCs are assumed to have the same mechanism of toxicity. If the HI (across all COPCs) is below 1, then all target organ-specific HIs will also be below 1. If the HI exceeds 1, then HIs are calculated for each target organ. This approach provides a more accurate estimation of the potential systemic toxicity associated with exposure to the constituent mixture.

H-5.3. Identification of Contaminants of Concern

Carcinogenic contaminants of concern (COCs) are defined for each media as those contaminants that have a total ILCR greater than 1×10^{-6} for a receptor in this BLRA. Non-carcinogenic COCs are defined for each media as those contaminants that produce an HI greater than 1 for a receptor in this BLRA.

H-5.4. Results

Risks and HQs for each investigation area at former NOP will be quantified for:

- Surface soil (0 to 0.5 ft bgs) for construction workers and adult or juvenile trespassers.
- Sub-surface soil (0.5 to 8 ft bgs) for construction workers.
- Surface water COPCs for an adult and child in a recreational fishing scenario.
- Inhalation from vapor intrusion for the resident adult and child at Unit 001.
- Occupational inhalation exposure for the adult worker at Units 003, 006, and 011.

Detailed risk and hazard results for each receptor from each investigation area will be presented in the BLRA, and COCs will be identified on the tables that present the risk and hazard results. The results for each medium/receptor will be discussed, including a statement discussing if the total risks are above or below the target goal of 1×10^{-6}, and below the target organ-specific hazard of 1.0. A discussion of the significance of all identified COCs will be included. A summary table displaying total risks and hazards across all COPCs for each receptor/medium/investigation area combination will also be shown in the BLRA.

H-6. UNCERTAINTY ANALYSIS

Uncertainties associated with each step of the risk assessment process will be discussed in the BLRA, where possible. Uncertainties include those associated with the data evaluation process, exposure assessment, toxicity assessment, and risk characterization. The uncertainty analysis will focus on site-specific factors that influence uncertainty such as land-use and data quality issues.

H-7. BASELINE RISK ASSESSMENT SUMMARY AND CONCLUSIONS

A summary and conclusions section will be included in the BLRA section to summarize which media and receptors were evaluated at the investigation areas in the former NOP, and list the major steps that were taken to generate conclusions regarding human health risks and hazards associated with contaminated media at former NOP.

A brief summary of the risks and hazards will be presented, noting which chemicals will be determined to be COCs for each investigation area.

H-8. REFERENCES

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Table H-1. Exposure parameters for receptors exposed to surface and sub-surface soil at the former NOP

Parameter	Units	Construction Worker*	Source/ Note	Ground Maintenance Worker†	Source/ Note	Adult Trespasser†	Source/ Note	Juvenile Trespasser†	Source/ Note
Incidental Ingestion of Soil									
Soil Ingestion Rate (IRs)	(mg/day)	480	a	480	a	100	a	100	a
Exposure Frequency (EF)	(days/year)	130	b	40	b	24	b	24	b
Exposure Duration (ED)	(years)	0.5	c	25	c	70	d	5	d
Body Weight (BW)	(kg)	70	e	70	e	70	e	37	f
Carcinogen Average Time (AT)	(days)	25,550	g	25,550	g	25,550	g	25,550	g
Non-carcinogen Averaging Time (AT)	(days)	183	h	9125	h	25,550	h	1825	h
Fraction ingested (FI)	(-)	1	i	1	i	1	i	1	i
Dermal Contact with Soil									
Conversion factor	(kg/mg)	1.00E-06							
Adherence Factor (AF)	(mg/cm^2)	1	j	1	j	1	j	1	j
Absorption Factor (ABS)	(-)	Chemical-specific		Chemical-specific		Chemical-specific		Chemical-specific	
Skin Area (SA)	(cm^2)	5230	k	5230	k	5230	k	4602	k
Event Frequency (EV)	(events/day)	1	m	1	m	1	m	1	m
Exposure Frequency (EF)	(days/year)	130	b	40	b	24	b	24	b
Exposure Duration (ED)	(years)	0.5	c	25	c	70	d	5	d
Body weight (BW)	(kg)	70	e	70	e	70	e	37	f
Carcinogen Averaging Time (AT)	(days)	25,550	g	25,550	g	25,550	g	25,550	g
Non-carcinogen Averaging Time (AT)	(days)	183	h	9125	h	25,550	h	1825	h
Inhalation of Dust									
Particulate Emission factor (PEF)	(m^3/kg)	1.36E+09	n	1.36E+09	n	1.36E+09	n	1.36E+09	n
Exposure Frequency (EF)	(days/year)	130	b	40	b	24	b	24	b
Exposure Duration (ED)	(years)	0.5	c	25	c	70	d	5	d
Exposure Time (ET)	(hrs/day)	8	o	8	o	2	o	2	o
Carcinogen averaging time (AT)	(days)	25,550	g	25,550	g	25,550	g	25,550	g
Non-carcinogen averaging time (AT)	(days)	183	h	9125	h	25,550	h	1825	h

* Exposure scenarios for both soil and sub-surface soils.

† Exposure scenarios for surface soils only.

(a) These values were used in the OU-3 BLRA (URS 2000). For conservatism, the upperbound soil ingestion rate from Standard Default Exposure Factors (USEPA 1991b) was used for the construction worker; this value will also be used for the maintenance worker.

(b) The exposure frequency for the construction worker is the same as that used in the OU-3 BLRA (URS 2000b), which was based on 5 working days per week for 6 months. It is assumed that ground maintenance is conducted one day a week for 40 out of 52 weeks (excludes winter), and site trespasser/visitor

(c) Construction activity is assumed to occur for 6 months (consistent with OU-3 BLRA (URS 2000b). Exposure duration for the grounds maintenance worker is the default value in USEPA (1991) for commercial/industrial land use.

(d) The exposure durations for adult trespasser are assumed to be the same as the exposure time for residents in the OU-3 BLRA (URS 2000b), the exposure

(e) A body-weight of 70 kg is assumed for all adult receptors (USEPA 1989).

(f) Body weight for 8 to 13-year old children are based on time-weighted average values from the Exposure Factors Handbook (USEPA 1989).

(g) Averaging time for carcinogenic effects is based on assumed lifetime of 70 years.

(h) Averaging time for non-carcinogenic effects is based on the exposure duration.

(i) For conservatism, the upper bound value is assumed.

(j) The recommended dermal adherence for soil is 1.0 mg/cm^2 for RME (USEPA 1992).

(k) Exposed dermal surface area for adult RME is based on head, hands, forearms, and lower legs; the exposed surface areas for a juvenile are based on a time-

(m) Risk Assessment Guidance for Superfund, Volume I Human Health Evaluation Manual (USEPA 2004).

(n) Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, OSWER 9355.4-24. Office of Solid Waste and Emergency Response. (USEPA 2002).

(o) Risk Assessment Guidance for Superfund, Volume I Human Health Evaluation Manual, Part F (USEPA 2009b).

Table H-2. Exposure parameters for receptors exposed to surface water at the former NOP for recreational fishing scenarios

Parameter	Units	Adult Recreational	Source/ Note	Child Recreational	Source/ Note
Ingestion of Surface Water/Sediment while Fishing					
Water ingestion rate	(L/hour)	0.005	b	0.005	b
Sediment Ingestion Rate	(mg/day)	100	c	200	c
Exposure Frequency	(days/year)	26	d	52	e
Exposure Duration	(year)	70	f	6	f
Body weight	(kg)	70	g	15	h
Carcinogen Averaging Time	(days)	25,550	i	25,550	i
Non-carcinogen Averaging Time	(days)	25,550	j	2190	j
Dermal Contact with Surface Water/Sediment while Fishing					
Skin Area	(cm^2)	2800	k	1800	k
Dermal Sediment Adherence	(mg/cm^2)	1	m	1	m
Permeability Constant	(cm/hr)	Chemical-Specific		Chemical-Specific	
Conversion Factor	(L/cm^3)	0.001		0.001	
Exposure Time	(hrs/day)	4	n, *	6	n, *
Exposure Frequency	(days/year)	26	d	52	e
Exposure duration	(year)	70	f	6	f
Body weight	(kg)	70	g	15	h
Carcinogen Averaging Time	(days)	25,550	i	25,550	i
Non-carcinogen Averaging Time	(days)	25,550	j	2190	j
Ingestion of Fish					
Ingestion (Fish) Rate	(kg/day)	0.025	o	0.0125	o
Fraction Ingested from Contaminated Sources	(-)	0.2	p	0.2	p
Exposure Frequency	(days/year)	365	o	365	o
Bioconcentration Factor	(-)	Chemical-Specific		Chemical-Specific	

* Recommended by USACE/CENWK 2009b, USACE/CENWK 2009c

(a) Reasonable Maximum Exposure (RME) is defined by USEPA as the reasonable upperbound exposure among potential exposed populations

(b) Assumed to be one-tenth of the Risk Assessment Guidance for Superfund (RAGS) (USEPA 1989a) recommended surface water ingestion rate while swimming (50 mL/hour)

(c) Standard default sediment ingestion rates of 100 mg/day and 200 mg/day for adults and children assumed (USEPA 1991b)

(d) Assume 2 days a week over 13 weeks of summer = 26 days for the year.

(e) Assume 4 days a week over 13 weeks of summer = 52 days for the year.

(f) The exposure duration for an adult recreational fisherman are assumed to be the same for residents. The exposure duration for a child recreational fisherman (age 0 to 6) is assumed to be the entire 6 year period.

(g) The body weight of an adult is assumed to be 70 kg for all receptors.

(h) The body weight for 0 to 6 year old child is based on time-weighted average values from the Exposure Factors Handbook (USEPA 1989b)

(i) Averaging time for carcinogenic effects is based on assumed lifetime of 70 years

(j) Averaging time for non-carcinogenic effects is based on the exposure duration

(k) The surface area of the hands, forearms, and feet is used.

(m) Dermal Adherence based on Dermal Exposure Assessment: Principles and Applications (USEPA 1992)

(n) Assumes 4 hours of fishing per day for an adult and 6 hours a day for a child

(o) The recommended adult daily intake value over a year (365 days) is used to evaluate adult exposure (USEPA 1997), one-half of the adult rate is assumed for a 0-6 year old child.

(p) Assumed that 20% of the fish consumed were from the Creeks.

Table H-3. Exposure parameters for inhalation of volatiles for exposed receptors in buildings considered in vapor intrusion assessment

Parameter	Units	Industrial Worker/ Normal Daily Use	Industrial Worker/ Limited Daily Use	Source/ Note	Resident Adult	Source/ Note	Resident Child	Source/ Note
Exposure Time	(hours/day)	8	1	a	24	b	24	b
Exposure Frequency	(days/year)	250	250	1	350	b	350	b
Exposure duration	(years)	25	25	1	70	b	6	b
Averaging Time - non-carcinogens	(hours)	219,000	219,000	c	219,000	c	219,000	c
Averaging Time - carcinogens	(hours)	613,200	613,200	d	613,200	d	613,200	d

(1) USEPA 1991, (2) USEPA 2009b

(a) Assumes an hour per work day based on building usage as a Storage Building

(b) Set to exposure duration recommended for an industrial worker (USEPA 1991) since residence is used by UNL Dairy Farm Manager

(c) Based on Exposure Duration

(d) Based on lifetime of 70 years

APPENDIX I

PROUCL 4.1.00 AND EXPOSURE CALCUATION RESULTS

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APPENDIX J

JOHNSON-ETTINGER MODELING

APPENDIX J

Johnson-Ettinger Modeling to Evaluate Vapor Intrusion Risks for Potential Residential Areas Overlying the Former NOP LL1 and AMA TCE Plumes

1. INTRODUCTION

The purpose of the Johnson-Ettinger (J&E, EQMI 2004) modeling described in this appendix is to evaluate potential vapor intrusion risks if residential structures are built in areas overlying the Load Line 1 (LL1) and Atlas Missile Area (AMA) trichloroethene (TCE) plumes (Figure J-1). Indoor air sampling of existing structures as part of the OU-3 Supplemental Remedial Investigation (SRI) showed that, with the exception of Unit 006 [University of Nebraska (UNL) Equipment Storage], there are no unacceptable risks from vapor intrusion in these existing buildings. The J&E modeling described in this appendix supplements the assessment of existing buildings by providing an evaluation of residential risks for areas overlying the plume which currently do not contain any structures.

The J&E model simulates transport of volatile chemicals from contaminated soil or groundwater to overlying indoor air spaces as a one-dimensional convective and diffusive process (Figure J-2 and J-3). Model input parameters are listed in Table J-1 and consist of building, chemical, and soil properties as well as risk assessment/exposure parameters. The model can be run in a "forward mode" where the user enters a soil or groundwater concentration and the model result is an estimated indoor air concentration and resultant risk. Alternatively, the model can be used in a "reverse mode" in which a soil or groundwater screening concentration is calculated for a given target risk level. Given the large number of groundwater monitoring wells that have been installed at the former Nebraska Ordnance Plant (NOP) site and which have been sampled for multiple quarters, rather than calculating risks from data for each of these wells, the model was used to generate a range of groundwater screening concentrations at a target risk level of $1x10^{-5}$, which is the recommended target risk in current vapor intrusion guidance (USEPA 2002). A range of groundwater screening concentrations were generated rather than a single value to account for uncertainty in the input parameters. The range of groundwater screening concentrations was then compared against TCE groundwater data collected from 2005 through 2010 from the shallow interior plume monitoring wells (shown in Figure J-4 and J-5). The wells where TCE concentrations have not exceeded the screening criteria were identified, and the overlying areas are considered to have minimal risk to vapor intrusion. On the other hand, areas in the vicinity of wells where TCE concentrations have exceeded the groundwater screening criteria have a potential unacceptable vapor intrusion risk should residences be built on these overlying areas.

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2. CONCEPTUAL MODELS FOR VAPOR INTRUSION

The conceptual site models for vapor intrusion for the Todd Valley and Platte River Valley aquifers are shown in Figures J-2 and J-3, respectively, and are based on extensive subsurface characterization at the former NOP as part of remedial action at OU-2. A geologic section for the former NOP is shown in Figure J-1(b). Note that the entire LL1 Plume is located within the Todd Valley aquifer whereas the AMA plume is mostly in the Todd Valley aquifer except for the leading southeastern edge which is located in the Platte Valley Aquifer (Figure J-1(a) and Figure 4). The subsurface in the Todd Valley aquifer is modeled as a two-layer system with the layers corresponding to the loess and fine sand that comprise the shallow unconsolidated materials in the Todd Valley aquifer. Boring logs collected during the installation of the interior plume monitoring wells showed that the depth of the interface between the loess and the find sand layer ranged from 13.8 to 20.0 feet (ft) below ground surface (bgs), with an average of 16.5 ft bgs in the LL1 plume (Table J-2), and ranged from 15 to 21 ft bgs with an average of 16.8 ft bgs in the Todd Valley portion of the AMA plume (Table J-3). Groundwater level measurements from 2005 through 2010 in the monitoring wells show that depth to groundwater in the shallow monitoring wells ranged from 33.3 ft bgs to a maximum of 47.7 ft bgs, with an average of 42.7 ft bgs in the LL1 Plume (Table J-2), and from 30.3 ft bgs to 56.6 ft bgs in the Todd Valley portion of the AMA plume (Table J-3). Given the comparable depths to the loess/sand interface, and to groundwater in both the LL1 plume and Todd Valley portion of the AMA plume, a single conceptual model for the Todd Valley aquifer was considered to be sufficient for evaluating risk at both the LL1 plume and the Todd Valley portion of the AMA plume. Furthermore, data from all the interior plume monitoring wells within the Todd Valley show that the water table (assumed to be reasonably approximated by the depth to groundwater in the shallow monitoring wells) is consistently located within the fine sand layer, as shown in the conceptual model (Figure J-2).

Vapor diffusion in the Platte Valley aquifer is modeled as only occurring within the Platte Valley silts and clays (Figure J-3). This is based on the groundwater elevation data in the Platte Valley shallow monitoring wells (Table J-3) which show that depths to groundwater are generally shallower than the depth to the interface between the Platte Valley silts and clays and the sand alluvium. The negative values for depth to groundwater (Table J-3) correspond to artesian conditions in the fine sand of the Platte River Valley aquifer. Positive values for depth to groundwater in the collocated “O” wells (which are screened in the Platte Valley silts and clays unit) would be more representative of depths to the water table. The depth to groundwater in the “O” wells range from 1.12 to 4 ft bgs (Table J-3). Given the shallowness of the water table, it seems unlikely that this area would be found to be suitable for a residence with a basement (or even for a residence without a basement). Nonetheless, J&E modeling was used to evaluate this area assuming a residence that does not have a basement.

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3. MODEL PARAMETERS

Table J-4 shows the values or range of values used to calculate TCE groundwater screening concentrations using the J&E model for the Todd Valley and Platte Valley aquifers. Default building parameters were set to the default values and held constant with the following exceptions:

- The enclosed space height of the building (H_B) was set to 366 centimeters (cm) for the Todd Valley model and 244 cm for the Platte Valley model; these values correspond to the default values for a residence with and without a basement, respectively. As noted earlier, given the shallowness of the groundwater in the Platte Valley portion of the AMA plume, it is assumed to be unlikely that a residence with a basement is constructed in this area.

- The vapor flow rate (Q_{soil}) was set to 1 liter per minute (L/min), 5 L/min, and to a value calculated from default properties for the type of soil in the top layer of the model. According to the model user guide (EQMI 2004), a default value of 5 L/min was recommended based on estimated values of Q_{soil} from tracer tests in residences built on coarse-grained soils which ranged from 1 to 10 L/min. Since the overburden soils in both the Todd Valley and Platte River Valley aquifers are known to be fine-grained based on numerous boring logs, it is possible that the Q_{soil} for the site would be lower than the recommended value of 5 L/min. As such, lower values for Q_{soil} (1 L/min and the soil-calculated values) were also used in the modeling.

- The depth below grade to the bottom of enclosed floor (L_F) was set to 200 cm for the Todd Valley model and 50 cm for the Platte River Valley model. These values correspond to the default values for a residence with and without a basement respectively.

The soil properties used in the J&E modeling are also shown in Table J-4, with a separate set used for the Todd Valley and Platte River Valley aquifers. The groundwater temperature is held constant [10 degrees Celsius (°C)] and is set to the value shown on the map of groundwater temperatures for the United States in the user guide (EQMI 2004). For the Todd Valley model, the top soil layer type was set to clay loam (CL), silty clay (SIC), and silty loam (SIL). These soil types were selected based on the soil classifications that were used in the boring logs to describe the loess layer. The bottom layer of the Todd Valley model was set either to sand (S) or loamy sand (LS). According to the user guide, the recommended soil type for soils with less than12% fines is sand, and loamy sand is the recommended soil type for soils with 12 to 25% fines. The %fines measured in samples from the intermediate zone (greater than 60 ft depth) collected for the design of extraction wells were predominantly less than 10% (corresponding to a recommended soil type of sand). However, the loamy sand soil type is also used in the model since the upper fine sand (shallower than 60 ft depth) may have a higher percentage of fines. The range of values for the thickness of the top layer (soil layer "A", $L_{A,}$ 13.8 to 20 ft) and the depth to groundwater ($L_{WT,}$ 30-50 ft) was set to the range of values that was observed in the boring logs and groundwater level measurements (Table J-2 and J-3) in the Todd Valley. The thickness of the lower layer (soil layer "B", L_B) was then calculated from the difference between the depth to groundwater and the thickness of the top layer.

For the Platte River Valley Model, the soil type was set either to clay loam (CL), silty clay (SIC) and silty loam (SIL), also based on soil descriptions in boring logs. The depth to groundwater was set to 8 ft even though depth to groundwater measured in monitoring wells was on the order of 1 to 4 ft. The 8 ft depth was chosen because, as noted previously, it is unlikely for structures to be built on land with groundwater at such shallow depths. Furthermore, the model returned an error if depths to groundwater

less than 8 ft were used because the model calculated a capillary zone that was above the bottom of the floor.

For chemical properties, the default values built into the model are used except for the inhalation unit risk for TCE. The latter was set to 4.80×10^{-6} $(\mu g/m^3)^{-1}$ which is from Integrated Risk Information System (IRIS).

Standard exposure parameters were used, with the exception of the exposure duration that was set to 70 years (consistent with the previous risk assessments conducted at the site).

4. MODEL RESULTS AND SENSITIVITY ANALYSIS

Tables J-5 and J-6 summarize the results of the model runs for the Todd Valley and Platte River Valley models, respectively. Starting with a base case (Case #1), which is assumed to be the best representation of site conditions, the parameters are varied (see shaded cells in Tables J-5 and J-6) to evaluate the impact of the changed parameters on the calculated groundwater screening concentration for a target risk of $1x10^{-5}$. The following observations can be made regarding the results of the model runs in Table J-5 for the Todd Valley aquifer:

- The groundwater screening concentration for the base case (Case #1) is 27.0 micrograms per liter (μg/L). The screening concentration is minimally affected by the depth to groundwater within the range of possible values based on groundwater elevation data (Case #2 and #3, 23.5 and 30.6 μg/L, respectively), the thickness of the top loess layer within the range of values observed in the boring logs (Case #4 and #5, 24.8 and 30.0 μg/L, respectively), and whether the top soil type is set to clay loam or silty loam instead of silty clay (Case #8 and #11, 24.5 and 26.0 μg/L, respectively).

- The calculated groundwater screening criterion for the Todd Valley model is most sensitive to values used for Q_{soil} (Case #6, #7, and #9), with an order of magnitude increase when Q_{soil} was calculated from the soil type of the layer (e.g., Case #6, 330 μg/L).

Based on the sensitivity analysis summarized in Table J-5, a lower and upper bound for the groundwater screening criterion for to the Todd Valley was set to the values calculated for Case #1 (27 μg/L) and Case #6 (330 μg/L).

The following observations can be made regarding the results of the model runs in Table J-6 for the Platte River Valley aquifer:

- Unlike the Todd Valley model, the groundwater screening criterion for the Platte River Valley was not very sensitive to Q_{soil}. The base case screening criterion (905 μg/L) increased to 1044 μg/L (Case #2) when Q_{soil} was calculated from the soil type instead of being set to 5 L/min.

- The groundwater screening criterion is more sensitive to the soil type, increasing to 144 μg/L when the soil type was set to clay loam (Case #3) instead of silty clay, and decreased by an order of magnitude when the soil type was set to silty loam (Case #4, 88 μg/L).

Based on the sensitivity analysis summarized in Table J-6, a lower and upper bound for the groundwater screening criterion for the Platte River Valley was set to 88 μg/L and 905 μg/L.

Figures J-6 and J-7 show TCE concentrations measured from 2005 through 2011 in monitoring wells in the LL1 plume and in the Todd Valley portion of the AMA plume, while Figure J-8 shows TCE concentrations measured from 2005 through 2011 in monitoring wells in the Platte River Valley portion of the AMA plume. The graphs show TCE concentrations plotted against sampling date for each well, as well as the lower and upper bound screening criteria calculated using the J&E model. If the TCE concentrations for a given well mostly fall above the upper bound screening criterion over the 5-year period, the data points were plotted using red symbols in Figures J-6 through J-8. These wells were marked with red circles in Figures J-9 and J-10, and the areas in the vicinity of these wells may have a high potential VI risk for future residential homes. If the TCE concentrations for a given well mostly fall between the upper and lower bound screening criteria, the data points were plotted using orange symbols

in Figures J-6 through J-8, and were marked with orange squares in the well maps (Figures J-9 and J-10). The areas in the vicinity of these wells may have medium VI risk for future residential homes. If most of the TCE concentrations for a given well were below the lower bound screening criterion, the data points were plotted as blue symbols and the wells were unmarked in the well maps (Figures J-9 and J-10). The areas in the vicinity of these wells are considered to have minimal risk from vapor intrusion.

5. UNCERTAINTY FACTORS

In addition to uncertainty regarding the parameters used in the modeling, particularly in the Q_{soil} value for the Todd Valley and the soil type for the Platte Valley Aquifer, the following factors should be considered when using the maps in Figures J-9 and J-10 to make decisions regarding the need for mitigation if residential structures were to be built in the areas that have potential risk:

- Many of the groundwater monitoring wells are screened at depths greater than 60 ft within the LL1 plume and the Todd Valley portion of the AMA plume (well depths are shown in Table J-2 and J-3). Given that the water table depth is 40 ft above the well screens, it is possible that the concentration of TCE closer to the water table is different than the concentration of TCE, as measured in groundwater samples from the deep wells. Recent direct push groundwater sampling (ECC and Burns & McDonnell Engineering Company, Inc. 2011) suggest that concentrations near the surface of the water table are much lower than what is measured in the shallow monitoring wells.
- The areas of potential risk shown on the maps are likely to change with time given the dynamic conditions brought about by the OU-2 pump and treat systems. With time, groundwater concentrations are expected to decrease. Likewise, lowering the risk for vapor intrusion.

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6. REFERENCES

ECC and Burns & McDonnell Engineering Company, Inc. 2011. Final Aquifer Characterization Report, Operable Unit No. 2 (Groundwater), Former Nebraska Ordnance Plant, Mead, Nebraska. Prepared for the U.S. Army Corps of Engineers, Kansas City District.

EQMI (Environmental Quality Management, Inc.) 2004. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings. Prepared for the U.S. Environmental Protection Agency, February 2004.

USEPA (U.S. Environmental Protection Agency) 2002. *OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils* (Subsurface Vapor Intrusion Guidance). EPA530-D-02-004.

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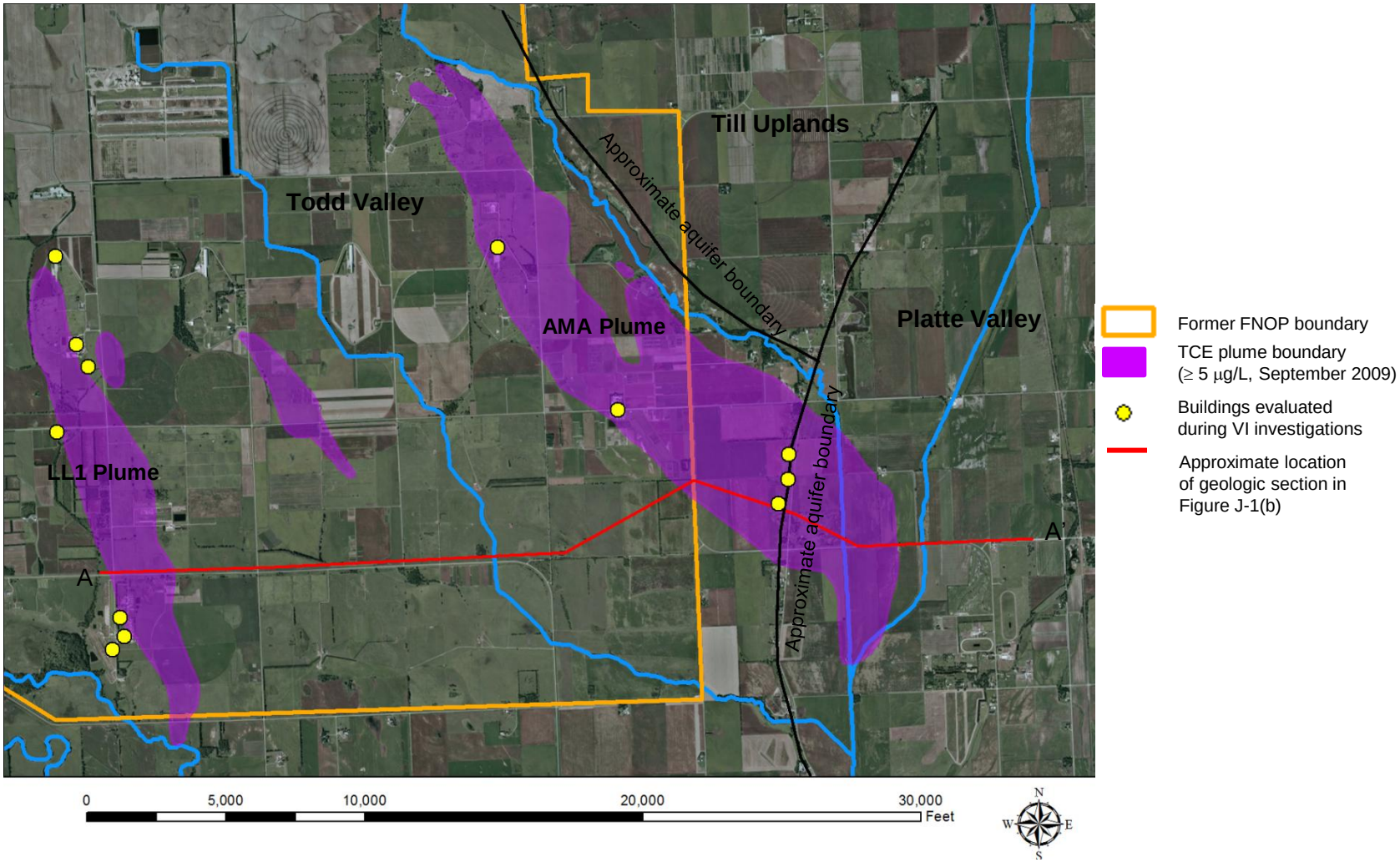

Figure J-1a Load Line 1 (LL1) and Atlas Missile Area (AMA) Trichloroethene Groundwater Plumes at the former Nebraska Ordnance Plant

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Kansas City District

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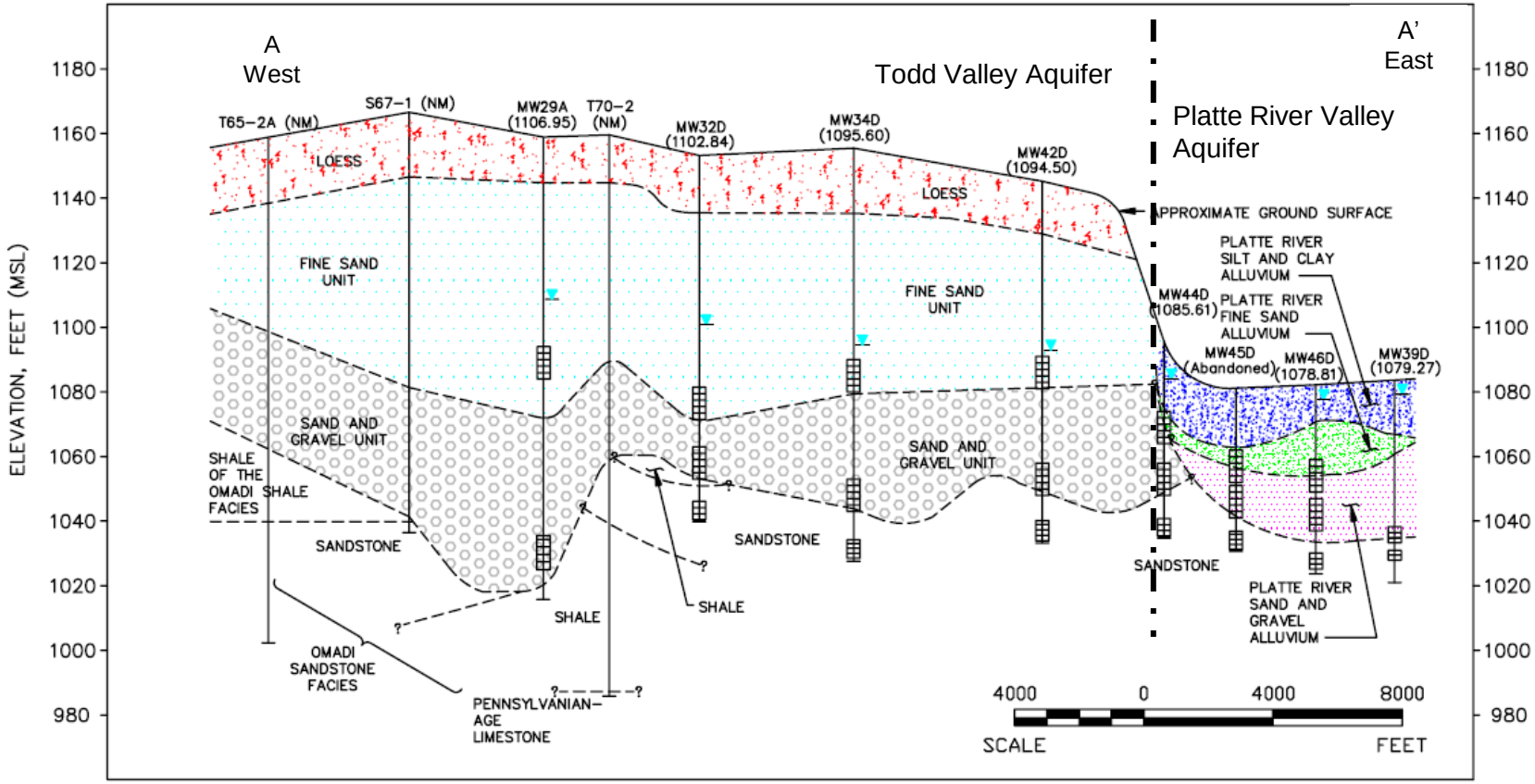
Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska



Source: ECC (2011) 2010 Groundwater Monitoring Program Annual Report, Operable Unit No. 2 (Groundwater), Former Nebraska Ordnance Plant, Mead, Nebraska

Figure J-1b Section Showing Geologic Units in the Todd Valley and Platte River Valley Aquifers [see Figure J-1a for location of section]

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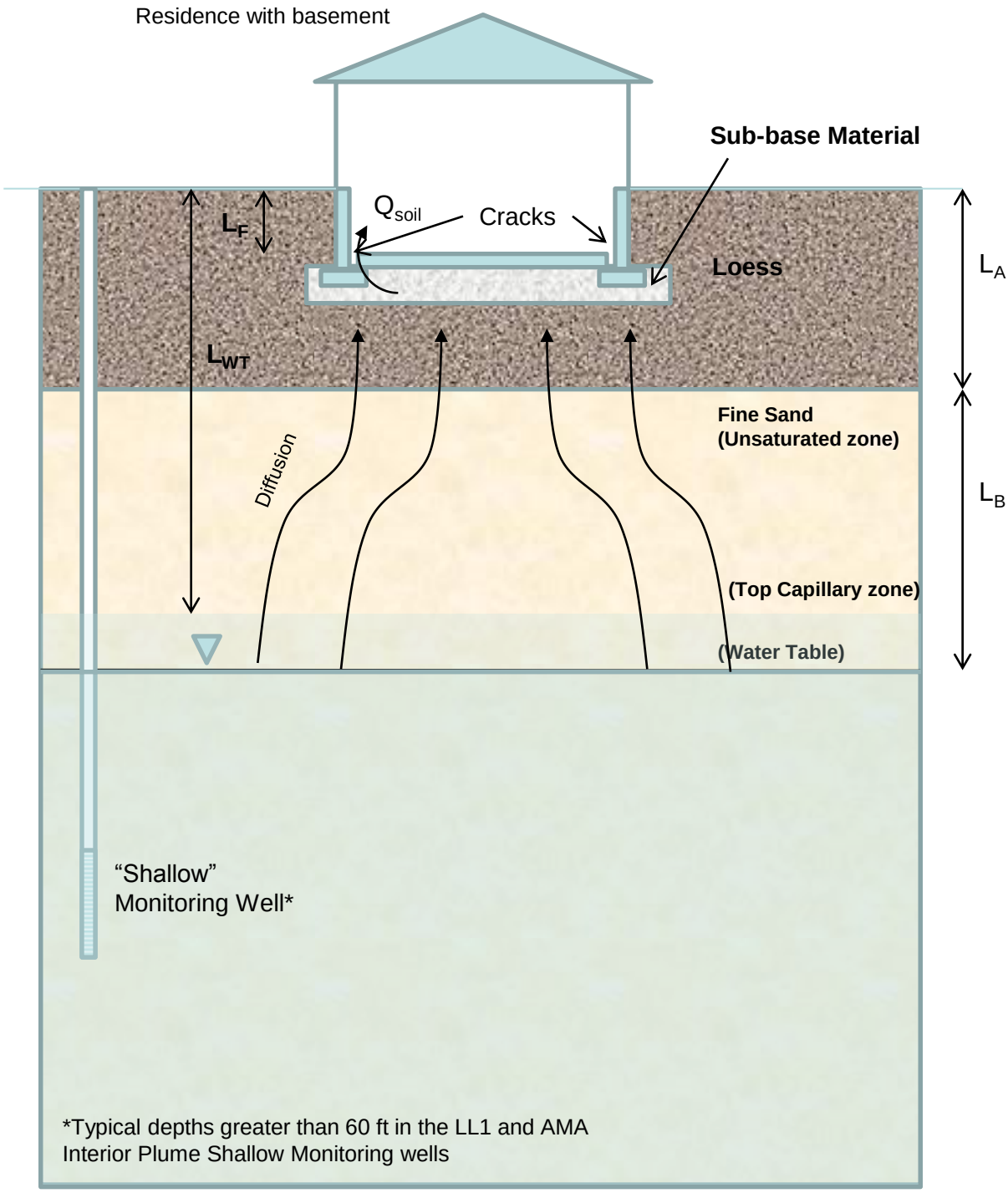

See Table J-1 for definition of parameters.

Figure J-2 Conceptual Model for Vapor Intrusion in the Todd Valley Aquifer

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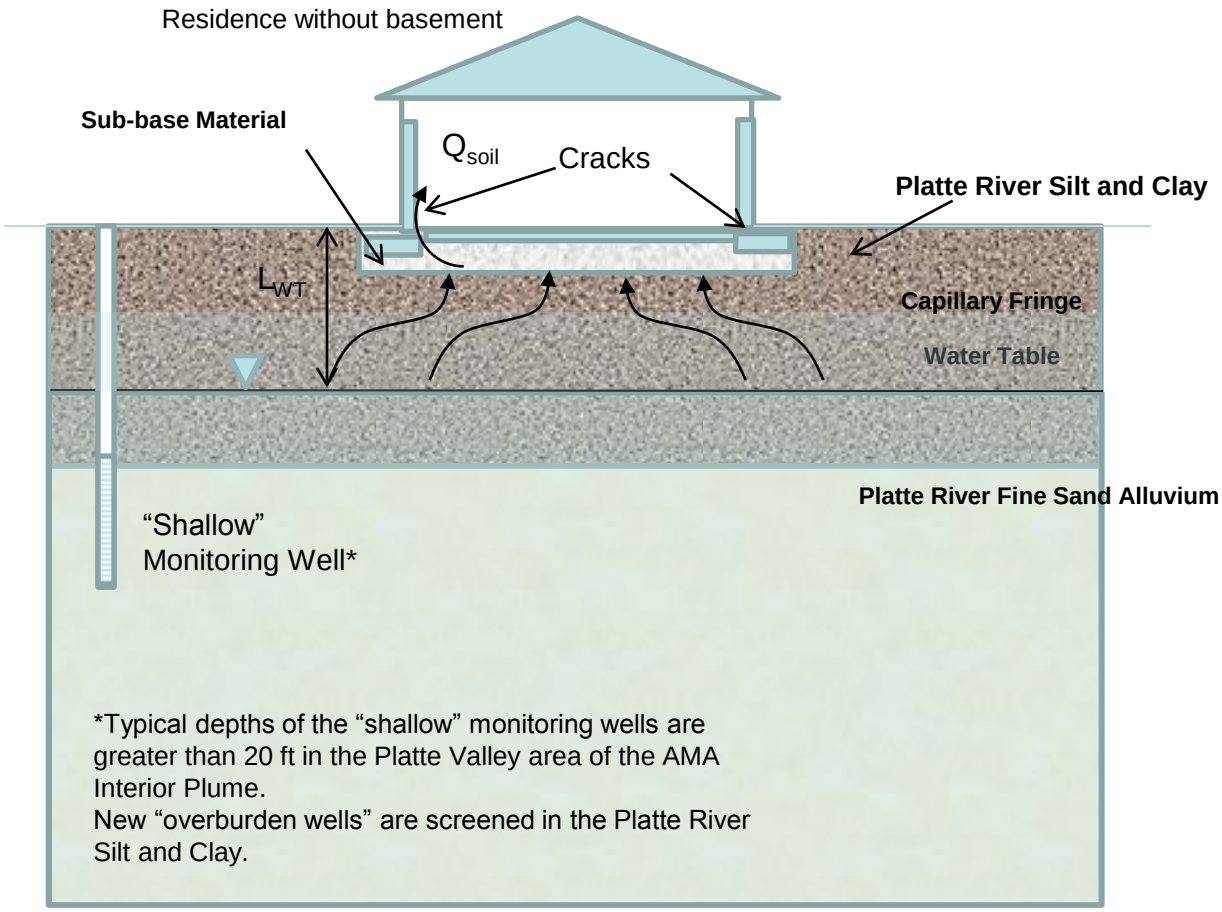

See Table J-1 for definition of parameters.

Figure J-3 Conceptual Model for Vapor Intrusion in the Platte Valley Aquifer

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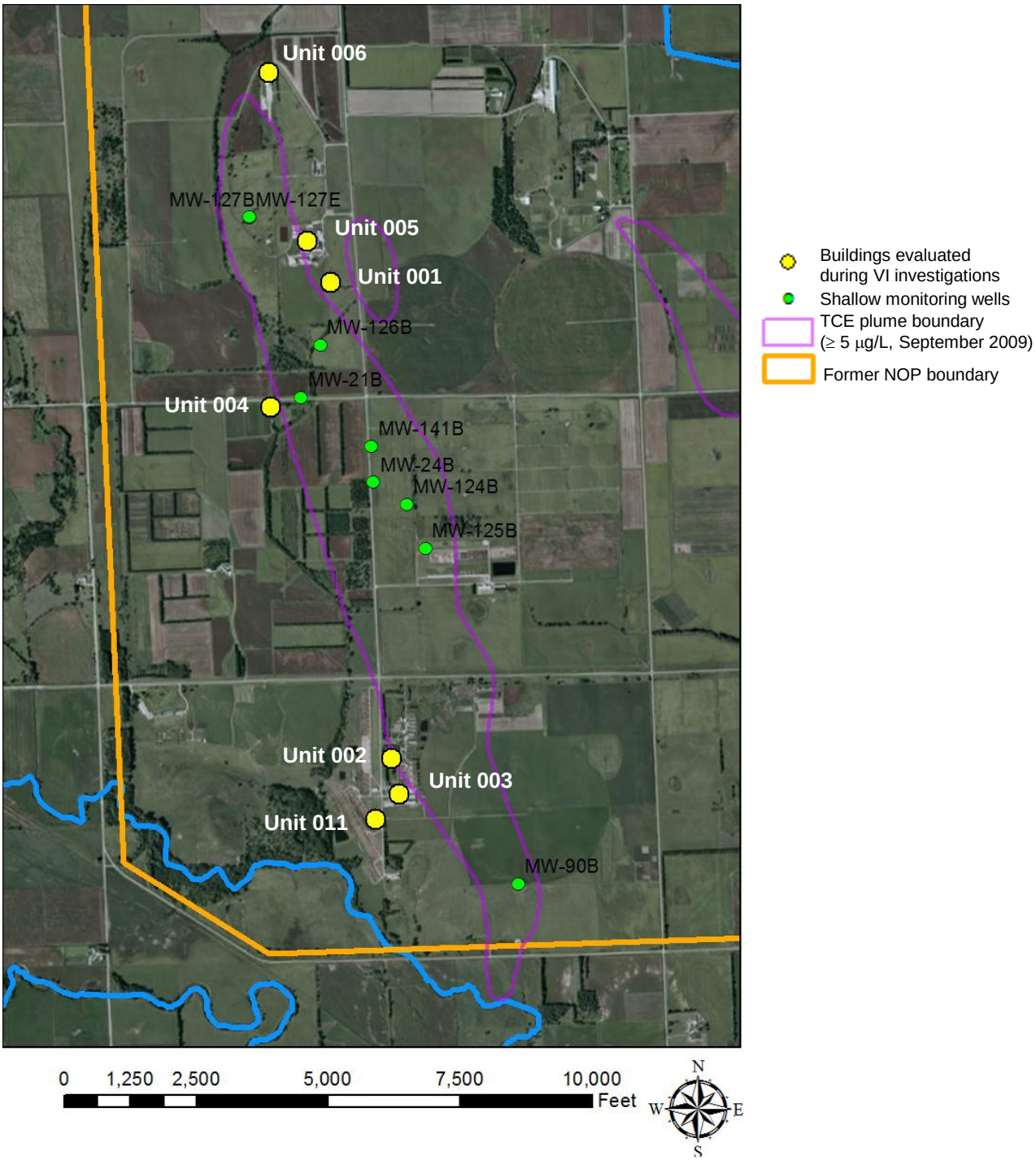

Figure J-4 Shallow Interior Plume Groundwater Monitoring Wells, Load Line 1 Plume

Source Base Map: ESRI World Imagery 2009; Source TCE plume: URS (September 2009)

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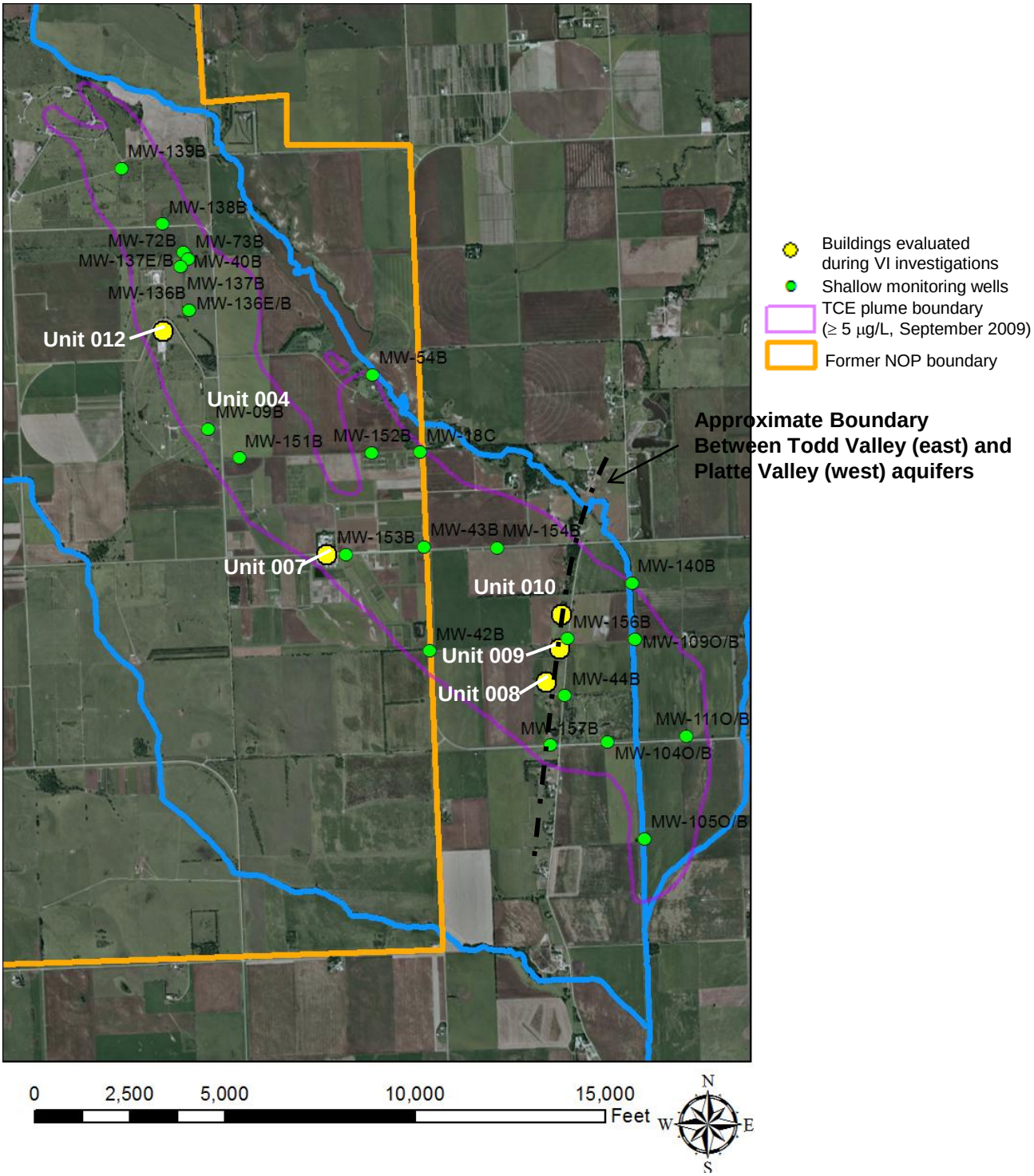

Figure J-5 Shallow Interior Plume Groundwater Monitoring Wells, Atlas Missile Area Plume

Source Base Map: ESRI World Imagery 2009; Source TCE plume: URS (September 2009)

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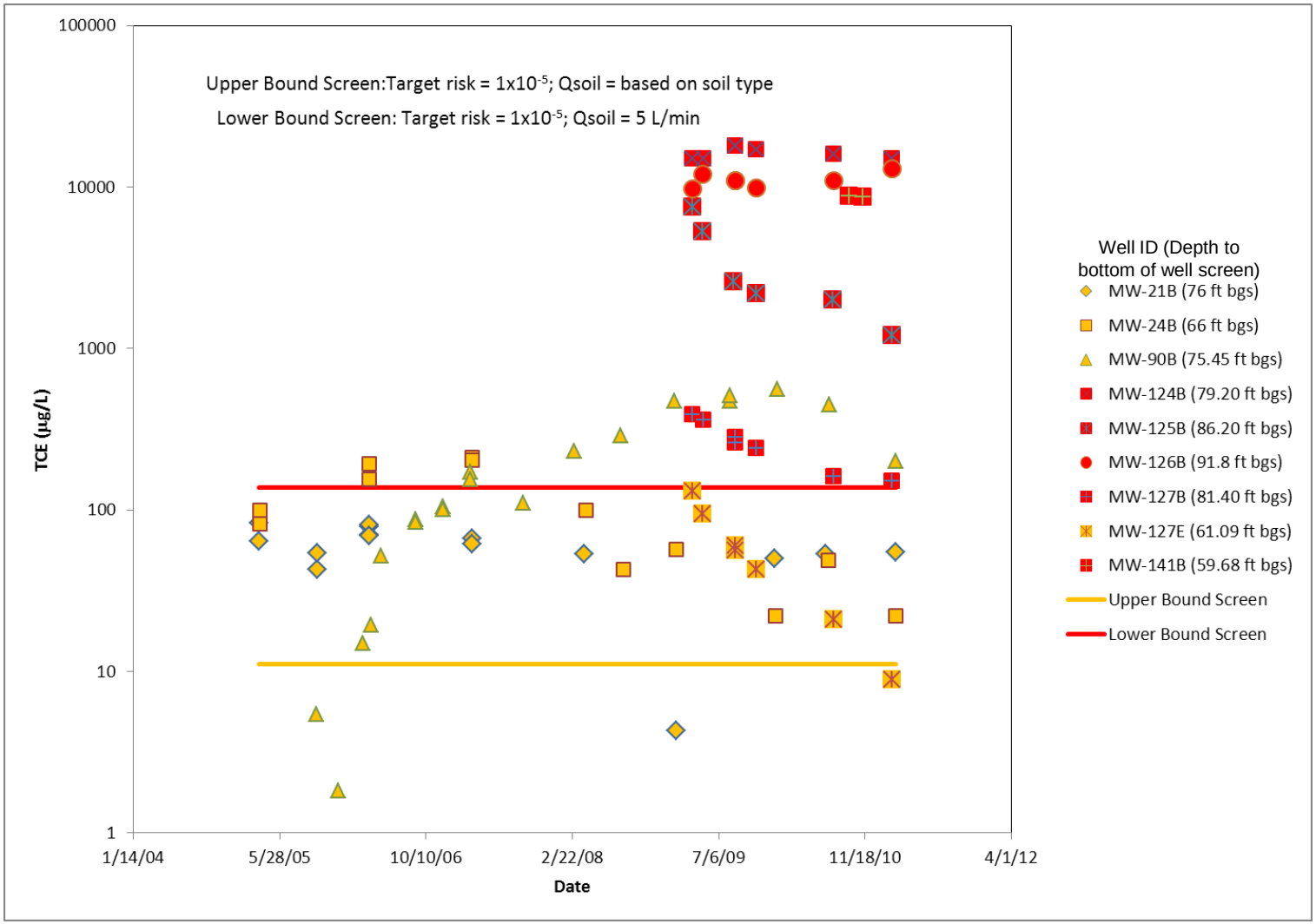

Figure J-6 TCE Concentrations in Shallow Interior Plume Monitoring Wells, Load Line 1 Compared Against Screening Criteria Derived Through J&E Modeling

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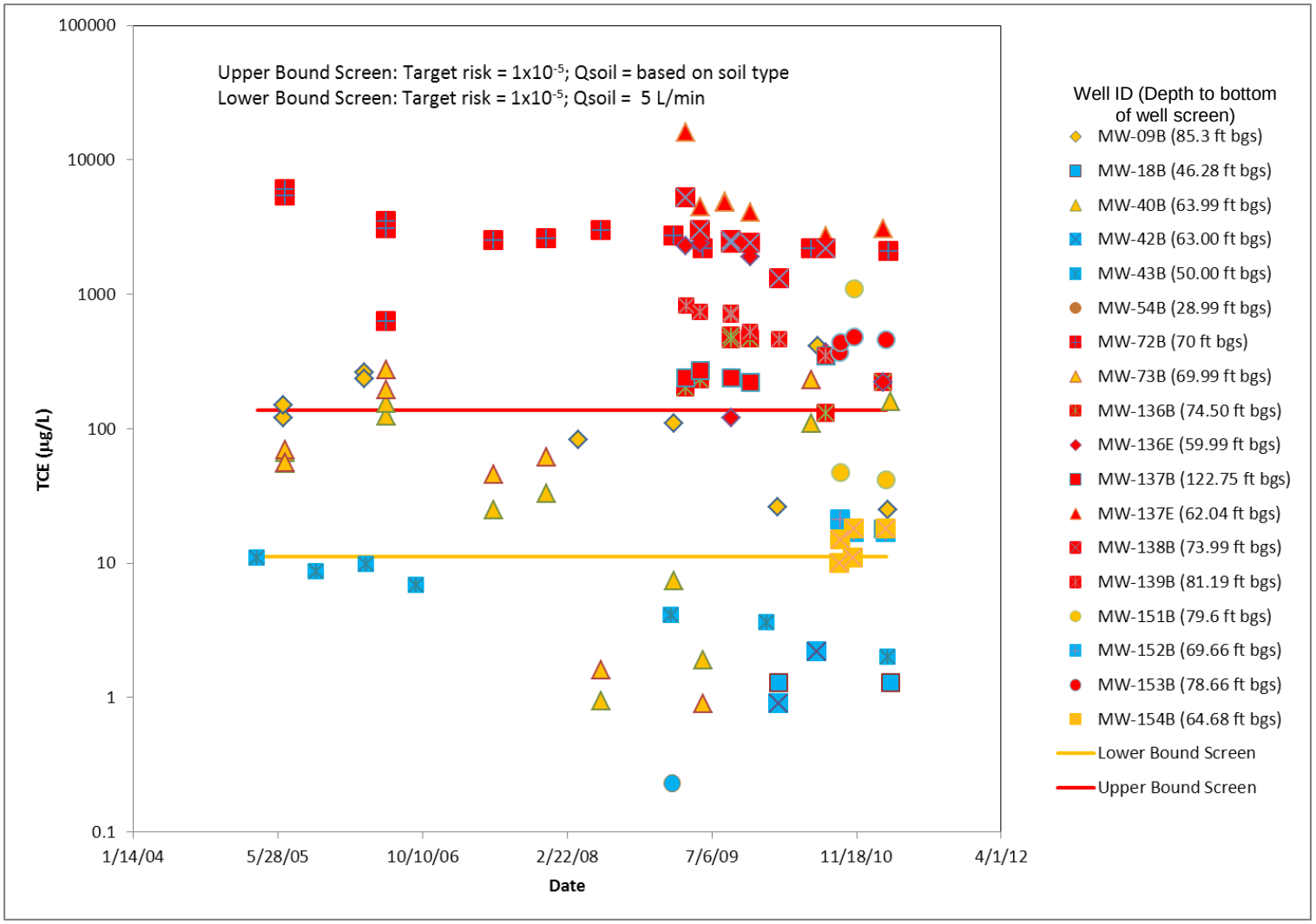

Figure J-7 TCE Concentrations in Shallow Interior Plume Monitoring Wells in the Todd Valley Portion of the AMA Plume Compared Against Screening Criteria Derived Through J&E Modeling

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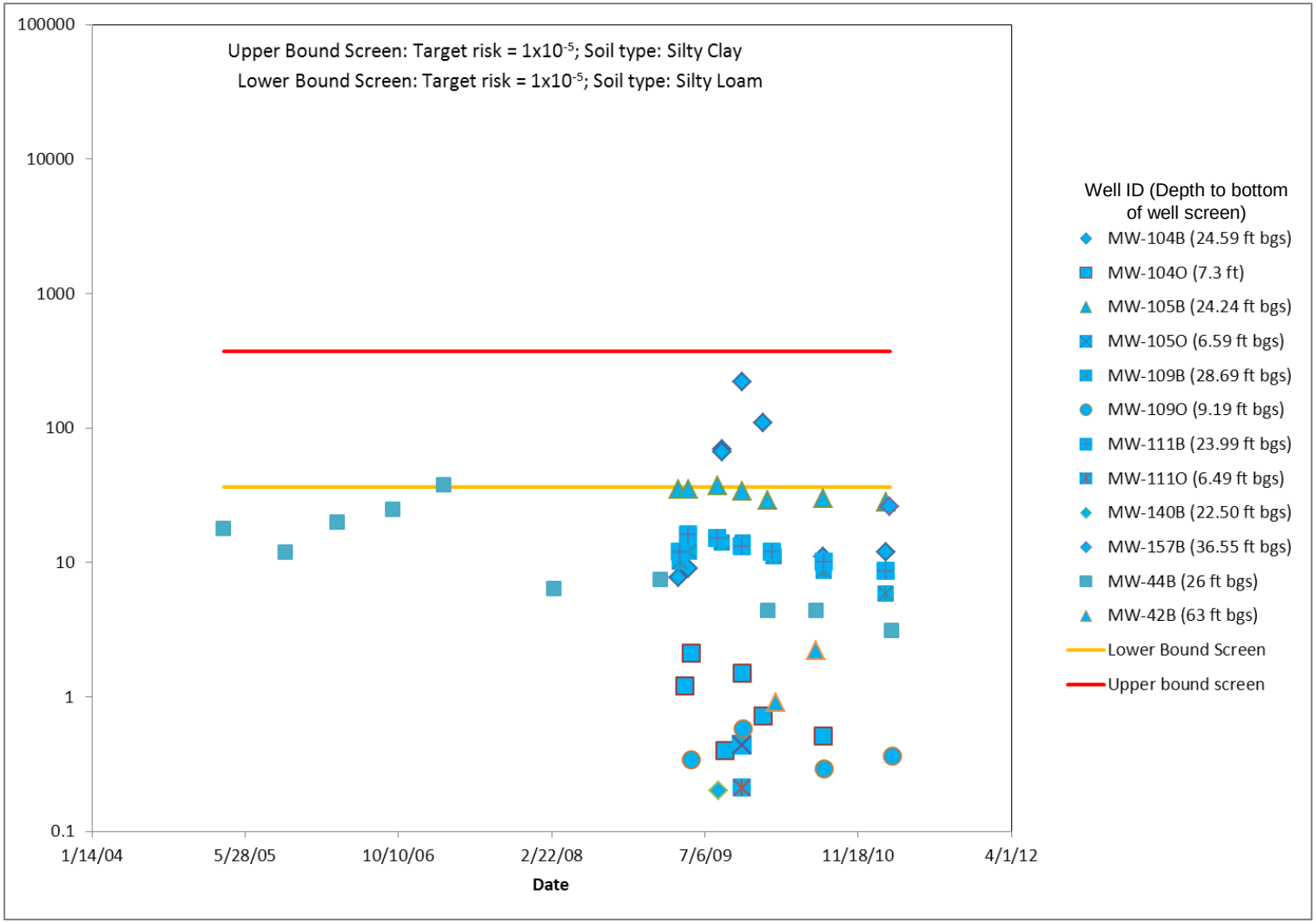

Figure J-8 TCE Concentrations in Interior Plume Monitoring Wells in the Platte River Valley Portion of the AMA Plume Compared Against Screening Criteria Derived Through J&E Modeling

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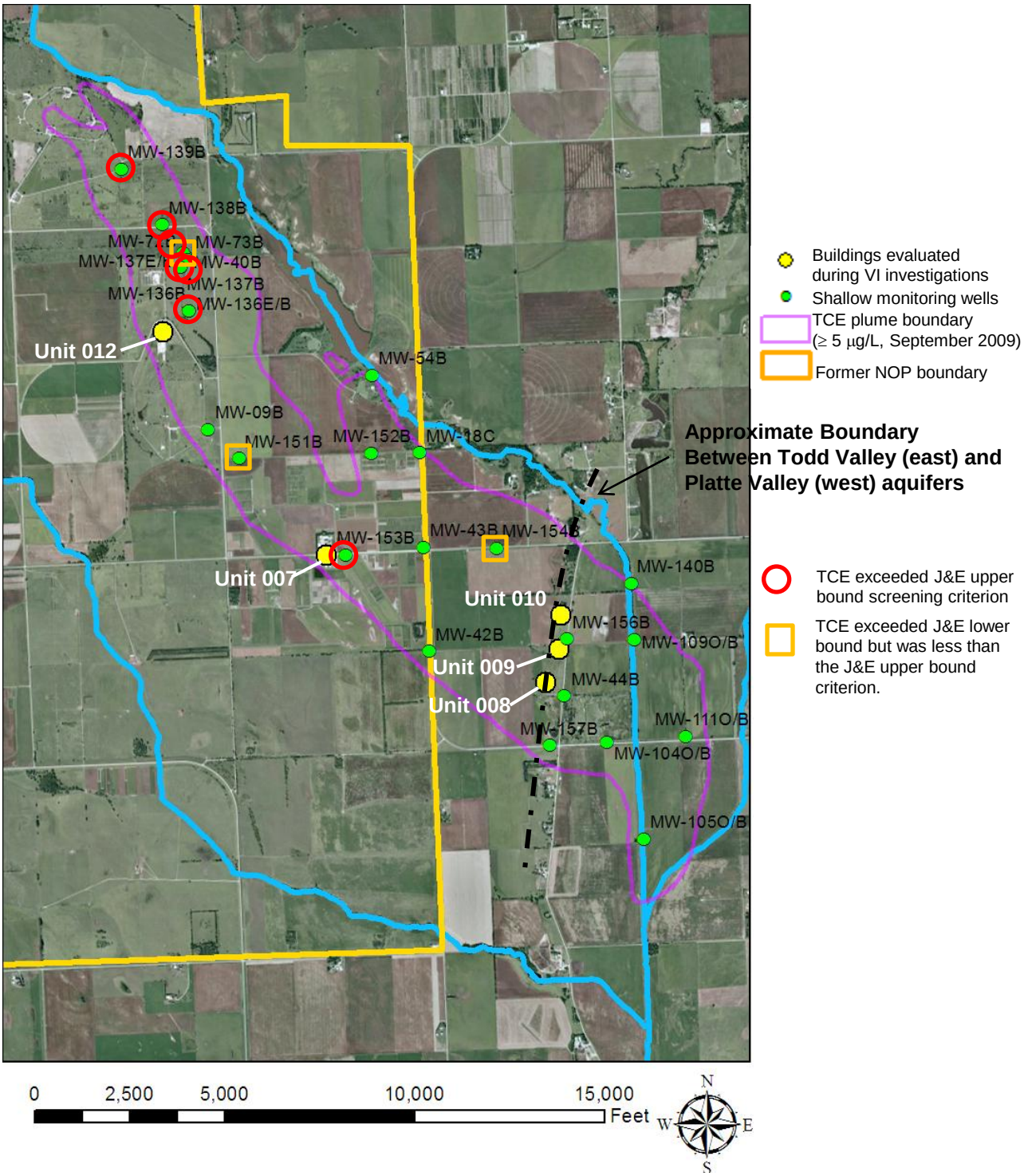

Figure J-9 Shallow Interior Plume Groundwater Monitoring Wells, Atlas Missile Area Plume where TCE exceeded J&E screening criteria

Source Base Map: ESRI World Imagery 2009; Source TCE plume: URS (September 2009)

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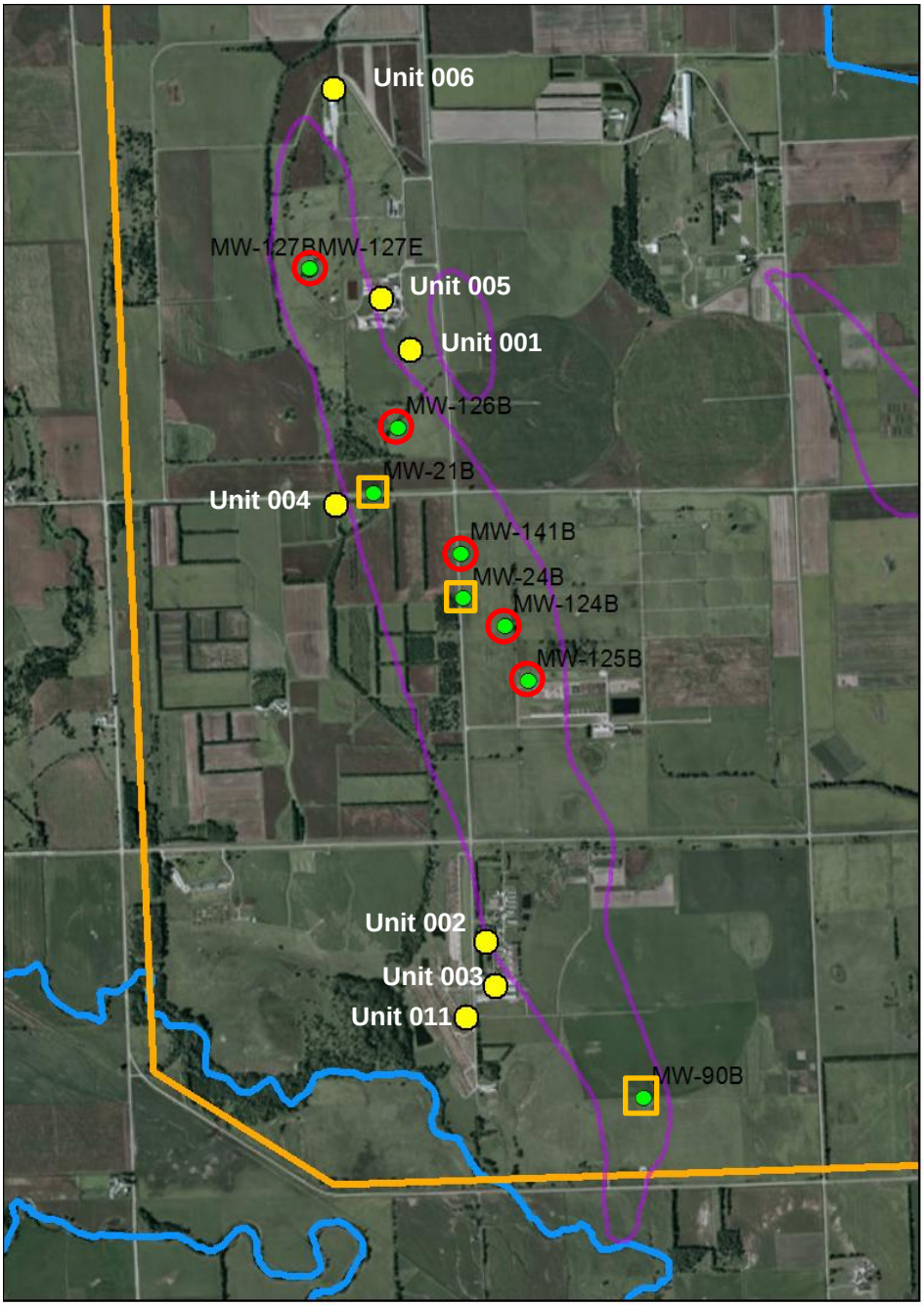
Mead, Nebraska



Buildings evaluated during VI investigations

Shallow monitoring wells

TCE plume boundary (≥ 5 µg/L, September 2009)

Former NOP boundary

TCE exceeded J&E upper bound screening criterion

TCE exceeded J&E lower bound but was less than the J&E upper bound criterion.

*For collocated wells, TCE from the shallower well is used to identify whether the well is marked with a red circle or orange rectangle (e.g., MW-127B/E).

0 1,250 2,500 5,000 7,500 10,000 Feet

N W E S

Figure J-10 Shallow Interior Plume Groundwater Monitoring Wells, Load Line 1 Plume where TCE Concentrations exceeded J&E Screening Criteria

Source Base Map: ESRI World Imagery 2009; Source TCE plume: URS (September 2009)

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Table J-1 Parameters used in the Johnson-Ettinger Model to Calculate a Groundwater Screening Value Given a Target Risk

Building-related Parameters	Units
Enclosed Space Floor Thickness (L_{crack})	(cm)
Soil building pressure differential	(g/cm-s^2)
Enclosed space floor length and width (L_B and W_B)	(cm)
Enclosed space height (H_B)	(cm)
Floor-wall seam crack width (w)	(cm)
Indoor air exchange rate (ER)	(1/hr)
Average vapor flow rate (Q_{soil})	(L/min)
Depth below grade to bottom of enclosed floor (L_F)	(cm)
Soil-related Parameters (Double Layer Model)	
Average Soil Groundwater Temperature (T_S)	degrees Celsius
Soil Type A	Not applicable
Soil Type B	Not applicable
Thickness of Soil Stratum A (L_A)	(ft)
Depth below grade to water table (L_{WT})	(ft)
Thickness of Soil Stratum B ($L_B = L_{WT} - L_A$)	(ft)
Soil-related Parameters (Single Layer model)	
Average Soil Groundwater Temperature (T_S)	degrees Celsius
Soil Type A	Not applicable
Depth below grade to water table (L_{WT})	(ft)
Chemical Properties	
Henry's Constant, Diffusivity in water, Diffusivity in air, etc.	
*The model includes a database of properties for common volatile chemicals. The model selects the appropriate set of properties based on the user's selection of the volatile chemical to be used in the calculations.	
Risk Assessment parameters	
Inhalation Unit Risk for TCE	(mg/m^3)$^{-1}$
Averaging time for carcinogens	(yrs)
Exposure duration	(yrs)
Exposure frequency	(days/yr)
Target risk	Unitless

Table J-2 Depths to Interface Between Loess and Sand, and Depth to Groundwater from Boring Logs and Water Elevation Measurements, Shallow Interior Plume Monitoring Wells within Load Line 1 TCE Plume

Well Identifier	Ground Surface (ft amsl)	Depth to bottom of well screen (ft bgs)	Depth to Loess/Sand Interface (ft bgs)	Groundwater Elevation (ft amsl) 09/26/05	03/10/05	03/29/07	10/30/07	03/28/08	08/26/08	10/30/08	03/01/10	08/01/10	10/01/10	Groundwater Elevation (ft amsl) Minimum	Maximum	Mininum Depth to Water Table (ft bgs)	Maximum Depth to Water Table (ft bgs)
MW-127B	1169.66	81.40	15.8	NA	NA	NA	NA	NA	NA	NA	1135.05	1135.53	1136.4	1135.05	1136.40	33.26	34.61
MW-127E	1169.83	61.09	15.8	NA	NA	NA	NA	NA	NA	NA	1134.89	1135.4	1136.22	1134.89	1136.22	33.61	34.94
MW-126B	1171.60	91.80	13.8	NA	NA	NA	NA	NA	NA	NA	1129.26	1129.76	1130.43	1129.26	1130.43	41.17	42.34
MW-21B	1163.67	76.00	20	1124.91	1125.49	NA	1125.17	1126.03	1126.88	1127.36	1127.84	1128.65	1129.1	1124.91	1129.10	34.57	38.76
MW-24B	1161.27	66.00	16	NA	NA	NA	NA	1120.37	1120.8	1120.88	1121.14	1122.15	1122.47	1120.37	1122.47	38.80	40.90
MW-141B	1165.76	59.68	19.5	NA	NA	NA	NA	NA	NA	NA	NM	1123.9	1124.52	1123.90	1124.52	41.24	41.86
MW-124B	1162.12	79.20	15.7	NA	NA	NA	NA	NA	NA	NA	1118.19	1119.05	1119.3	1118.19	1119.30	42.82	43.93
MW-125B	1162.54	86.20	15.5	NA	NA	NA	NA	NA	NA	NA	1114.93	1116.14	1116.12	1114.93	1116.14	46.40	47.61
MW-90B	1148.60	75.45	16	1103.28	NA	1102.39	1103.19	1103.22	1103.84	1104.37	1104.57	1105.06	1105.41	1102.39	1105.41	43.19	46.21
	Minimum	**59.68**	**13.8**												**Minimum**	**33.26**	**47.61**
	Maximum	**91.80**	**20**												**Maximum**	**39.45**	**41.24**
	Average	**75.20**	**16.5**												**Average**	**40.35**	

Table J-3 Depths to Interface Between Loess or Silts/Clays and Sand, and Depth to Groudwater from Boring Logs and Water Elevation Measurements, Shallow Interior Plume Monitoring Wells within Atlas Missile Area Plume

Todd Valley Monitoring Wells

Well Identifier	Ground Surface (ft amsl)	Depth to Loess/Sand Interface (ft bgs)	Depth to bottom of Well Screen (ft bgs)	Groundwater Elevation (ft amsl) 9/26/2005	3/10/2005	3/29/2007	10/30/2007	3/28/2008	8/26/2008	10/30/2008	3/1/2010	8/1/2010	10/1/2010	Groundwater Elevation (ft amsl) Minimum	Maximum	Mininum Depth to Groundwater (ft bgs)	Maximum Depth to Groundwater (ft bgs)
MW-139B	1177.85	16.5	81.19	NA	NA	NA	NA	NA	NA	NA	1135.7	1136.4	1136.73	1135.70	1136.73	41.12	42.15
MW-138B	1173.22	18.2	73.99	NA	NA	NA	NA	NA	NA	NA	1133.02	1133.67	1133.96	1133.02	1133.96	39.26	40.20
MW-72B	1170.76	17.5	70.00	NA	NA	NA	NA	1127.75	1129.54	1129.84	1140.42	1130.93	1131.11	1127.75	1140.42	30.34	43.01
MW-40B	1170.37	15.7	63.99	1126.78	1126.29	1129.64	1126.76	1128.09	1129.88	1130.18	1130.83	1131.34	1131.58	1126.29	1131.58	38.79	44.08
MW-73B	1167.73	NA	69.99	NA	NA	NA	NM	1127.56	1129.67	1129.71	1130.02	1130.45	1130.71	1127.56	1130.71	37.02	40.17
MW-137E	1166.43	16.9	62.04	NA	NA	NA	NA	NA	NA	NA	1130.43	1130.74	1131.07	1130.43	1131.07	35.36	36.00
MW-137B	1166.42	16.9	122.75	NA	NA	NA	NA	NA	NA	NA	1130.42	1130.71	1131.05	1130.42	1131.05	35.37	36.00
MW-136B	1168.34	15.2	74.50	NA	NA	NA	NA	NA	NA	NA	1126.94	1126.04	1126.4	1126.04	1126.94	41.40	42.30
MW-136E	1168.68	15.2	59.99	NA	NA	NA	NA	NA	NA	NA	1126.94	1126.09	1126.41	1126.09	1126.94	41.74	42.59
MW-09B	1169.00	NA	85.30	1114.55	1115.51	1121.62	1112.42	1117.34	1118.32	1118.57	1119.46	1120.03	1120.06	1112.42	1121.62	47.38	56.58
MW-18B	1142.96	NA	46.28	NA	NA	1099.48	1100.04	1101.01	1101.57	1103.55	1102.37	1103.38	1104.04	1099.48	1104.04	38.92	43.48
MW-152B	1151.88	21	69.66	NA	NA	NA	NA	NA	NA	NA	NA	1108.62	1109.14	1108.62	1109.14	42.74	43.26
MW-151B	1162.25	18	79.60	NA	NA	NA	NA	NA	NA	NA	NA	1115.26	1116.01	1115.26	1116.01	46.24	46.99
MW-43B	1140.90	16.3	50.00	1093.93	1094.68	1094.5	1095.13	1096.03	1097.61	1098.94	1097.51	1099.09	1099.57	1093.93	1099.57	41.33	46.97
MW-154B	1144.56	15	64.68	NA	NA	NA	NA	NA	NA	NA	NA	1095.06	1096.13	1095.06	1096.13	48.43	49.50
MW-153B	1149.62	NA	78.66	NA	NA	NA	NA	NA	NA	NA	NA	1102.03	1102.6	1102.03	1102.60	47.02	47.59
MW-42B	1144.51	16	63.00	1090.56	1091.29	1091.1	1091.51	1092.27	1094.66	1094.91	1093.78	1095.29	1095.7	1090.56	1095.70	48.81	53.95
MW-54B*	1119.71	NA	28.99	1110.63	1110.63	1111.74	1112.1	1112.67	1114.34	1114.83	1114.3	1114.97	1115.16	1110.63	1115.16	4.55	9.08
Minimum		**15**	**28.99**													**30.34**	**36.00**
Maximum		**21**	**122.75**													**48.81**	**56.58**
Average		**16.8**	**71.51**													**42.83**	

*MW-54B is located on the banks of Johnson Creek and was not considred in the averaging of depths to groundwater.

Platte Valley Monitoring Wells

Well Identifier	Ground Surface (ft amsl)	Depth to Silts and Clays/Sand Interface (ft bgs)	Depth to bottom of Well Screen (ft bgs)	Groundwater Elevation (ft amsl) 9/26/2005	3/10/2005	3/29/2007	10/30/2007	3/28/2008	8/26/2008	10/30/2008	3/1/2010	8/1/2010	10/1/2010	Groundwater Elevation (ft amsl) Minimum	Maximum	Mininum Depth to Groundwater (ft bgs)	Maximum Depth to Groundwater (ft bgs)
MW-157B	1105.32	NA	36.55	NA	NA	NA	NA	NA	NA	NA	NA	1083.61	1084.03	1083.61	1084.03	21.29	21.71
MW-140B	1089.89	10.5	22.50	NA	NA	NA	NA	NA	NA	NA	1086.92	1086.5	1086.88	1086.50	1086.92	2.97	3.39
MW-156B	1097.43	NA	29.11	NA	NA	NA	NA	NA	NA	NA	NA	1089.06	1088.92	1088.92	1089.06	8.37	8.51
MW-109O	1083.05	11.3	9.19	NA	NA	NA	NA	NA	NA	NA	1080.56	1079.02	1079.52	1079.02	1080.56	2.49	4.03
MW-109B	1083.10	Same as above	28.69	NA	NA	NA	NA	NA	NA	NA	1084.27	1083.84	1084.05	1083.84	1084.27	-1.17	-0.74
MW-44B	1090.62	17	26	1079.65	1081.27	1081.76	1083.06	1082.1	1083.14	1083.23	1087.12	1084.62	1084.06	1079.65	1087.12	3.50	10.97
MW-111O	1079.39	7.8	6.49	NA	NA	NA	NA	NA	NA	NA	1077.53	1075.78	1076.22	1075.78	1077.53	1.86	3.61
MW-111B	1079.41	Same as above	23.99	NA	NA	NA	NA	NA	NA	NA	1080.34	1078.13	1078.58	1078.13	1080.34	-0.93	1.28
MW-104O	1078.59	8.2	7.3	NA	NA	NA	NA	NA	NA	NA	1077.47	1077.13	1077.21	1077.13	1077.47	1.12	1.46
MW-104B	1078.37	Same as above	24.59	NA	NA	NA	NA	NA	NA	NA	1078.77	1078.38	1078.6	1078.38	1078.77	-0.40	-0.01
MW-105O	1076.72	7.5	6.59	NA	NA	NA	NA	NA	NA	NA	1073.6	1072.44	1072.21	1072.21	1073.60	3.12	4.51
MW-105B	1076.71	Same as above	24.24	NA	NA	NA	NA	NA	NA	NA	1076.38	1075.67	1075.76	1075.67	1076.38	0.33	1.04

*Depth to groundwater in MW-157B differs from the other Platte Valley wells because it is located on the ridge between the Todd Valley and Platte River Valley.

Note: That negative water depths indicate artesian conditions

Table J-4 Site-specific Parameters used to Calculate TCE Groundwater Screening Criteria for the former NOP TCE Plumes using the Johnson-Ettinger Model

Building-related Parameters	Units	Value/Range of Values	Source
Enclosed Space Floor Thickness (L_{crack})	(cm)	10	Default
Soil building pressure differential	(g/cm-s^2)	40	Default
Enclosed space floor length and width (L_B and W_B)	(cm)	10000	Default
Enclosed space height (H_B)	(cm)	366/244	Default for residential structure with (for Todd Valley) and without (for Platte River Valley) a basement
Floor-wall seam crack width (w)	(cm)	0.1	Default
Indoor air exchange rate (ER)	(1/hr)	0.25	Default
Average vapor flow rate (Q_{soil})	(L/min)	1; 5; Based on soil-type	Default is 5 L/min based on testing in coarse-grained soils, 1 L/min is the lower range of measured rates in coarse-grained soils. Model also includes the option of calculating Q_{soil} based on soil type.
Depth below grade to bottom of enclosed floor (L_F)	(cm)	200/15	Default for residential structure with (for Todd Valley) and without (for Platte Valley) a basement
Soil-related Paramaters (Todd Valley; LL1 and AMA Interior Plume Monitoring Wells)			
Average Soil Groundwater Temperature (T_S)	degrees Celsius	10	Map of average shallow groundwater temperatures in the United States (USEPA 2004)
Soil Type A	Not applicable	Clay Loam (CL), Silty Clay (SIC), Silty Loam (SIL)	Boring Log Descriptions
Soil Type B	Not applicable	Sand (S) or Loamy Sand (LS)	Boring Log Descriptions, Grain Size Analysis
Thickness of Soil Stratum A (L_A, Loess)	(ft)	16 (13-20)	Boring Logs
Depth below grade to water table (L_T)	(ft)	40 (30-50)	Water elevation data
Thickness of Soil Stratum B (Fine Sand)	(ft)	Calculated	Difference between L_A and L_T
Soil-related Paramaters (Platte Valley; AMA Interior Plume Monitoring Wells)			
Average Soil Groundwater Temperature (T_S)	degrees Celsius	10	Map of average shallow groundwater temperatures in the United States (USEPA 2004)
Soil Type A		Clay Loam (C), Silty Clay (SC), Silty Loam (SIL)	
Thickness of Soil Stratum A (L_A, Overbank Fines)	(ft)	8	Assumed minimum depth of water table for a residential structure without a basement
Depth below grade to water table (L_T)	(ft)	8	
Risk Assessment parameters			
Inhalation Unit Risk for TCE	(µg/m^3)$^{-1}$	4.80E-06	IRIS
Averaging time for carcinogens	(yrs)	70	
Exposure duration	(yrs)	70	
Exposure frequency	(days/yr)	350	
Target risk		$1x10^{-5}$	

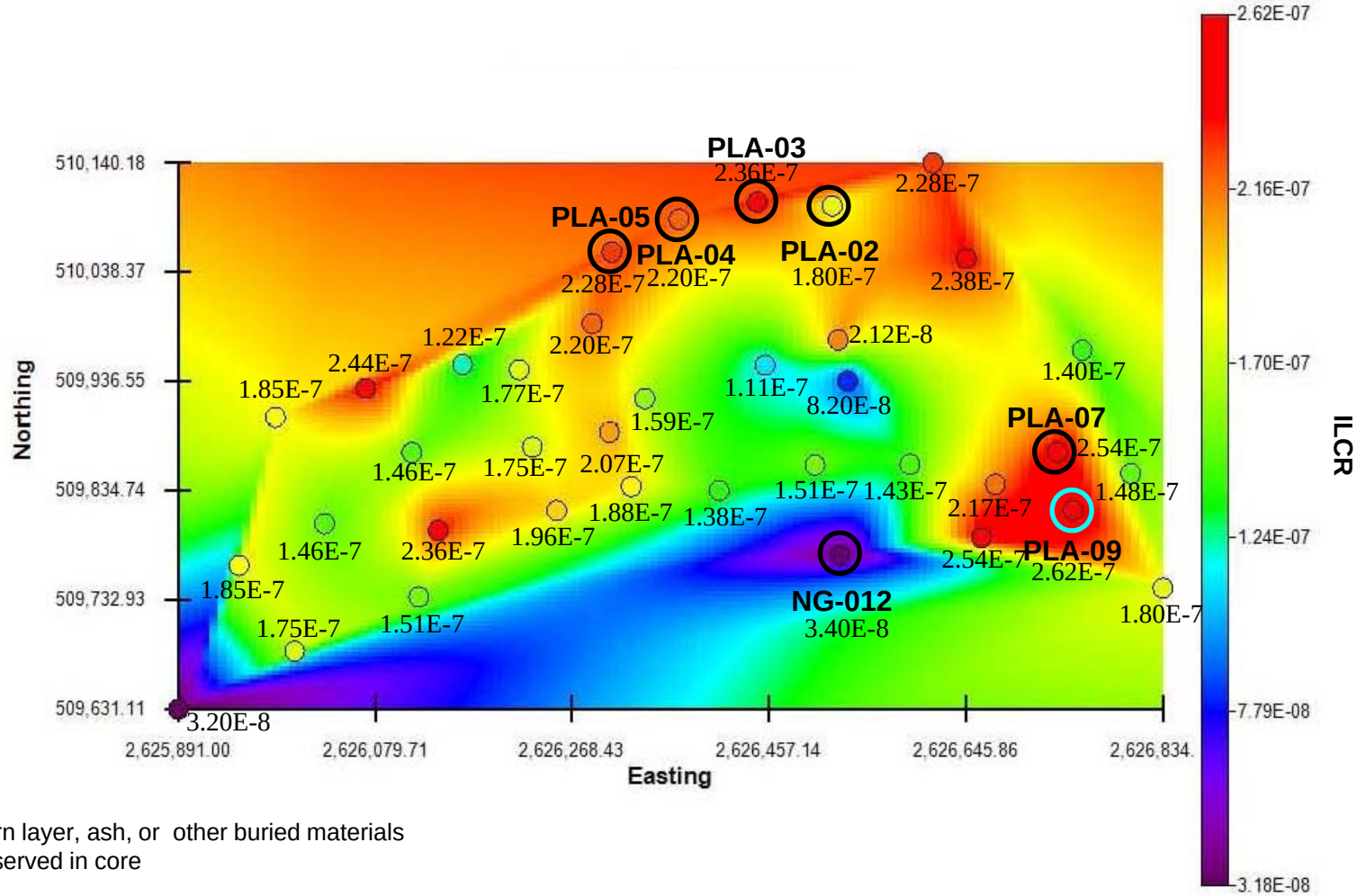
Table J-5 Summary of Johnson-Ettinger Modeling Input Parameters and Results for Todd Valley

		Case Number										
Building-related Parameters		1	2	3	4	5	6	7	8	9	10	11
Enclosed space height (H_B)	(cm)	366	366	366	366	366	366	366	366	366	366	366
Depth below grade to bottom of enclosed floor (L_F)	(cm)	200	200	200	200	200	200	200	200	200	200	200
Average vapor flow rate (Q_{soil})	(L/min)	5	5	5	5	5	0.05184	1	5	0.045	5	5
							Based on Soil-Type SIC			Based on Soil-Type CL		
Soil-related Paramaters (Todd Valley; LL1 and LL4/AMA Interior Plume Monitoring Wells)												
Soil Type A	--	Silty Clay (SIC)	Silty Clay (SIC)	Silty Clay (SIC)	Silty Clay (SIC)	Silty Clay (SIC)	Silty Clay (SIC)	Silty Clay (SIC)	Clay Loam (CL)	Clay Loam (CL)	Silty Clay (SIC)	Silty Loam (SIL)
Soil Type B	--	Sand (S)	Sand (S)	Sand (S)	Sand (S)	Sand (S)	Sand (S)	Sand (S)	Sand (S)	Sand (S)	Loamy Sand (LS)	S
Thickness of Soil Stratum A (L_A, Loess)	(ft)	16	16	16	13	20	16	16	16	16	16	16
Depth below grade to water table (L_{WT})	(ft)	40	30	50	40	40	40	40	40	40	40	40
Thickness of Soil Stratum B (Fine Sand)	(ft)	24	14	34	27	20	24	24	24	24	24	24
Indoor exposure groundwater concentration screening value (Target risk of $1x10^{-5}$)		11.1	9.65	12.6	10.2	12.4	137	16.4	10.1	151	21.1	10.7

Shaded cells are parameters that were changed relative to the base case (#1).

APPENDIX K

RISK ANALYSIS FOR SOILS AT THE NORTH BURNING GROUND AND POTENTIAL LANDFILL AREA USING SPATIAL ANALYSIS DECISION ASSISTANCE (UTRC 2008) SOFTWARE



Burn layer, ash, or other buried materials observed in core

Maximum Detected Arsenic Concentration (9.9 mg/kg)

1.00E-7 Calculated ILCR at location

Contour map generated by Spatial Analysis and Decision Assistance™ software, Version 5.0.7800.0, University of Tennessee Research Corporation, 2008.

Figure K-1 Incremental Lifetime Cancer Risk Spatial Analysis Results for a Construction Worker Exposed to Surface Soil (0 to 0.5 feet below ground surface)

Data excludes sample locations excavated in Kingston 2008.

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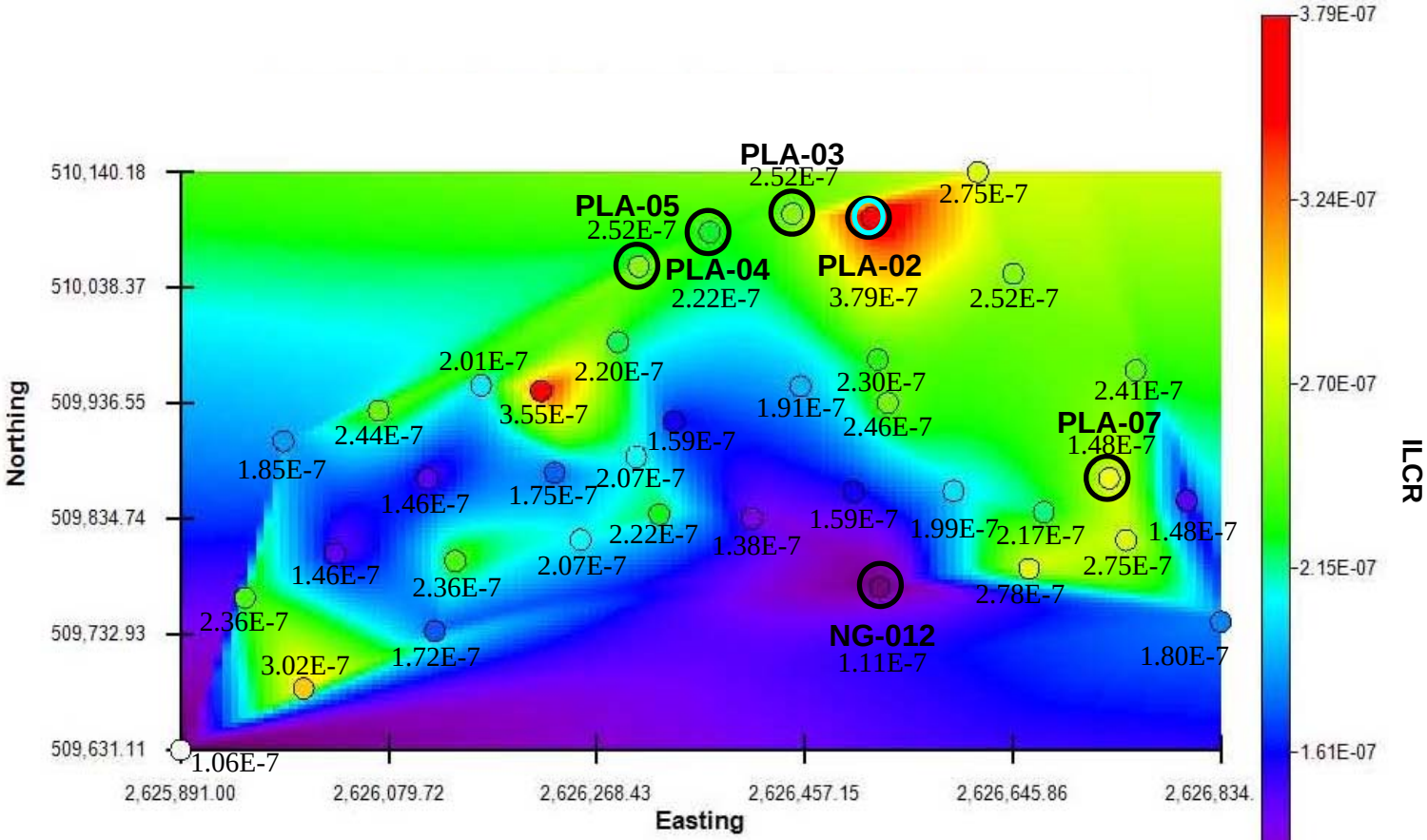

Burn layer, ash, or other buried materials observed in core

Maximum Detected Arsenic Concentration (14.3 mg/kg)

1.00E-7 Calculated ILCR at location

Contour map generated by Spatial Analysis and Decision Assistance™ software, Version 5.0.7800.0, University of Tennessee Research Corporation, 2008.

Figure K-2 Incremental Lifetime Cancer Risk Spatial Analysis Results for a Construction Worker Exposed to Subsurface Soil (0.5 to 4 feet below ground surface)

Data excludes sample locations excavated in Kingston 2008.

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Kansas City District

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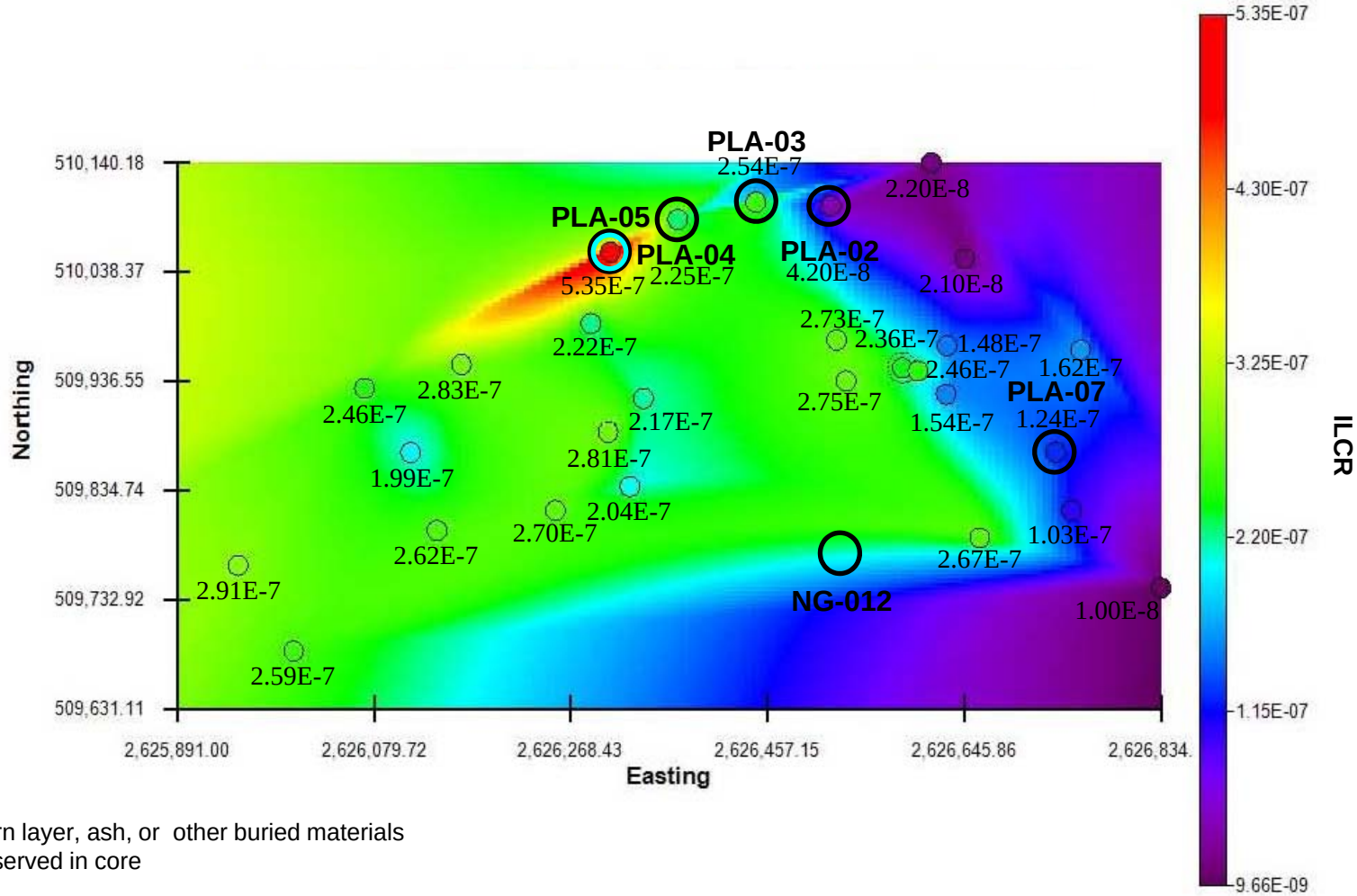
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska



Burn layer, ash, or other buried materials observed in core

Maximum Detected Arsenic Concentration (20.2 mg/kg)

1.00E-7 Calculated ILCR at location

Contour map generated by Spatial Analysis and Decision Assistance™ software, Version 5.0.7800.0, University of Tennessee Research Corporation, 2008.

Figure K-3 Incremental Lifetime Cancer Risk Spatial Analysis Results for a Construction Worker Exposed to Subsurface Soil (4 to 8 feet below ground surface)

Data excludes sample locations excavated in Kingston 2008.

U.S. Army Corps of Engineers
Kansas City District

GEO Consultants, LLC
A Geological Engineering and Environmental Services Company
Kevil, Kentucky

Former Nebraska Ordnance Plant Mead, Nebraska

APPENDIX L

CHAIN OF CUSTODY FORMS

Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Todd Buchanan	Site Contact: Brad Gough	Date: 9/15/10	COC No:
GEO Consultants, LLC	Tel/Fax: 618-638-5245	Lab Contact: Sara Goff	Carrier: FedEx	2 of 2 COCs
325 Kentucky Ave	Analysis Turnaround Time			Job No.
Kevil, KY 42053	Calendar (C) or Work Days (W) W			
(270) 462-3882 Phone	TAT if different from Below 20 days			
(270) 462-3887 FAX	☐ 2 weeks			SDG No.
Project Name: Mead	☐ 1 week			
Site: Former NOP	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	6010B Metals (ICP)	7471A Mercury (CVAA)	Sample Specific Notes:
PLA 01 SS 05 01 0910	9/14/10	9:06	Soil	Solid		N	X	X	
PLA 01 SB 54 01 0910	9/14/10	9:09	Soil	Solid		N	X	X	
PLA 01 SB 48 01 0910	9/14	9:15	Soil	Solid		N	X	X	
PLA 02 SS 05 01 0910	9/14	9:56	Soil	Solid		N	X	X	
PLA 02 SB 54 01 0910	9/14	9:58	Soil	Solid		N	X	X	
PLA 02 SB 54 02 0910	9/14	9:58	Soil	Solid		N	X	X	
PLA 02 SB 48 01 0910	10:02 9/14	~~9:56~~	Soil	Solid		N	X	X	
PLA 03 SS 05 01 0910	9/14	10:19	Soil	Solid		N	X	X	
PLA 03 SB 54 01 0910	9/14	10:21	Soil	Solid		N	X	X	
PLA 03 SB 48 01 0910	9/14	10:25	Soil	Solid		N	X	X	
PLA 04 SS 05 01 0910	9/14	10:42	Soil	Solid		N	X	X	
PLA 04 SB 54 01 0910	9/14	10:46	Soil	Solid		N	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GEO Consultants	9/15/10 5:06	[signature]	TA	9/16/10 10 10
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Todd Buchanan	Site Contact: Brad Gough	Date: 9/15/10	COC No:
GEO Consultants, LLC	Tel/Fax: 618-638-5245	Lab Contact: Sara Goff	Carrier: FedEx	1 of 2 COCs
325 Kentucky Ave	Analysis Turnaround Time			Job No.
Kevil, KY 42053	Calendar (C) or Work Days (W) W			
(270) 462-3882 Phone	TAT if different from Below 20 days			
(270) 462-3887 FAX	☐ 2 weeks			SDG No.
Project Name: Mead	☐ 1 week			
Site: Former NOP	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	6010B Metals (ICP)	7471A Mercury (CVAA)	Sample Specific Notes:
PLA 04 SB 48 01 0910	9/14/10	11:07	Soil	Solid		N	X	X	
PLA 05 SS 05 01 0910	9/14	11:35	Soil	Solid		N	X	X	
PLA 05 SB 54 01 0910	9/14	11:40	Soil	Solid		N	X	X	
PLA 05 SB 48 01 0910	9/14	11:42	Soil	Solid		N	X	X	
PLA 06 SS 05 01 0910	9/13	15:57	Soil	Solid		N	X	X	
PLA 06 SB 54 01 0910	9/13	15:54	Soil	Solid		N	X	X	
PLA 06 SB 54 01 0910 MS	9/13	15:58	Soil	Solid		N	X	X	
PLA 06 SB 54 01 0910 MSD	9/13	15:58	Soil	Solid		N	X	X	
PLA 06 SB 48 01 0910	9/13	16:05	Soil	Solid		N	X	X	
PLA 07 SS 05 01 0910	9/13	15:20	Soil	Solid		N	X	X	
PLA 07 SB 54 01 0910	9/13	15:23	Soil	Solid		N	X	X	
PLA 07 SB 48 01 0910	9/13	15:29	Soil	Solid		N	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GEO Consultants	9/15/10 15:00	[signature]	TA	9/16/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Todd Buchanan	Site Contact: Brad Gough	Date: 9/15/10	COC No:
GEO Consultants, LLC	Tel/Fax: 618-638-5245	Lab Contact: Sara Goff	Carrier: FedEx	1 of 2 COCs
325 Kentucky Ave	Analysis Turnaround Time			Job No.
Kevil, KY 42053	Calendar (C) or Work Days (W) W			
(270) 462-3882 Phone	TAT if different from Below 20 days			
(270) 462-3887 FAX	☐ 2 weeks			SDG No.
Project Name: Mead	☐ 1 week			
Site: Former NOP	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	6010B Metals (ICP)	7471A Mercury (CVAA)	Sample Specific Notes:
PLA 08 SS 05 01 0910	9/13/10	14:02	Soil	Solid	1	N	X	X	
PLA 08 SS 05 02 0910	9/13/10	14:02	Soil	Solid	1	N	X	X	
PLA 08 SB 54 01 0910	9/13/10	14:07	Soil	Solid	1	N	X	X	
PLA 08 SB 54 02 0910	9/13/10	14:07	Soil	Solid	1	N	X	X	
PLA 08 SB 54 01 0910 MS	9/13/10	14:07	Soil	Solid	1	N	X	X	
PLA 08 SB 54 01 0910 MSD	9/13/10	14:07	Soil	Solid	1	N	X	X	
PLA 08 SB 48 01 0910	9/13/10	14:15	Soil	Solid	1	N	X	X	
PLA 09 SS 05 01 0910	9/13/10	14:40	Soil	Solid	1	N	X	X	
PLA 09 SB 54 01 0910	9/13/10	14:45	Soil	Solid	1	N	X	X	
PLA 09 SB 48 01 0910	9/13/10	14:48	Soil	Solid	1	N	X	X	
PLA 10 SS 05 01 0910	9/15/10	9:03	Soil	Solid	1	N	X	X	
PLA 10 SB 54 01 0910	9/15/10	9:08	Soil	Solid	1	N	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GEO Consultants	9/15/10 15:00	[signature]	TA	9/16/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Todd Buchanan	Site Contact: Brad Gough	Date: 9/15/10	COC No:
GEO Consultants, LLC	Tel/Fax: 618-638-5245	Lab Contact: Sara Goff	Carrier: FedEx	2 of 2 COCs
325 Kentucky Ave	Analysis Turnaround Time			Job No.
Kevil, KY 42053	Calendar (C) or Work Days (W) W			
(270) 462-3882 Phone	TAT if different from Below 20 days			
(270) 462-3887 FAX	☐ 2 weeks			SDG No.
Project Name: Mead	☐ 1 week			
Site: Former NOP	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	6010B Metals (ICP)	7471A Mercury (CVAA)	Sample Specific Notes:
PLA 10 SB 48 01 0910	9/15/10	9:11	Soil	Solid	1	N	1	1	
PLA 11 SS 05 01 0910 16:30	9/13/10	~~16:33~~	Soil	Solid	1	N	1	1	
PLA 11 SB 54 01 0910	9/13/10	16:33	Soil	Solid	1	N	1	1	
PLA 11 SB 48 01 0910	9/13	16:36	Soil	Solid	1	N	1	1	
NBG 12 SS 05 01 0910	9/15	9:49	Soil	Solid	1	N	1	1	
NBG 12 SB 54 01 0910	9/15	9:49	Soil	Solid	1	N	1	1	
NBG 12 SB 54 02 0910	9/15	9:49	Soil	Solid	1	N	1	1	
NBG 12 SB 48 01 0910	9/15	9:54	Soil	Solid	1	N	1	1	
NBG 13 SS 05 01 0910	9/15	9:25	Soil	Solid	1	N	1	1	
NBG 13 SB 54 01 0910	9/15	9:24	Soil	Solid	1	N	1	1	
NBG 13 SB 48 01 0910	9/15	9:38	Soil	Solid	1	N	1	1	
NBG 14 SS 05 01 0910	9/15	10:12	Soil	Solid	1	N	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GEO Consultants	9/15/10 15:00	[signature]	TA	9/16/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Todd Buchanan	Site Contact: Brad Gough	Date: 9/15/10	COC No:
GEO Consultants, LLC	Tel/Fax: 618-638-5245	Lab Contact: Sara Goff	Carrier: FedEx	1 of 2 COCs
325 Kentucky Ave	Analysis Turnaround Time			Job No.
Kevil, KY 42053	Calendar (C) or Work Days (W) W			
(270) 462-3882 Phone	TAT if different from Below 20 days			
(270) 462-3887 FAX	☐ 2 weeks			SDG No.
Project Name: Mead	☐ 1 week			
Site: Former NOP	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	6010B Metals (ICP)	7471A Mercury (CVAA)	Sample Specific Notes:
NBG 14 SB 54 01 0910	9/15/10	10:16	Soil	Solid		N	X	X	
NBG 14 SB 48 01 0910	9/15	10:20	Soil	Solid		N	X	X	
NBG 15 SS 05 01 0910	9/15	10:35	Soil	Solid		N	X	X	
NBG 15 SS 05 02 0910	9/15	10:35	Soil	Solid		N	X	X	
NBG 15 SB 54 01 0910	9/15	10:58	Soil	Solid		N	X	X	
NBG 15 SB 48 01 0910	9/15	10:44	Soil	Solid		N	X	X	
NBG 16 SS 05 01 0910	9/14	14:03	Soil	Solid		N	X	X	
NBG 16 SB 54 01 0910	9/14	14:06	Soil	Solid		N	X	X	
NBG 16 SB 48 01 0910	9/14	14:13	Soil	Solid		N	X	X	
NBG 17 SS 05 01 0910	9/14	14:26	Soil	Solid		N	X	X	
NBG 17 SB 54 01 0910	9/14	14:29	Soil	Solid		N	X	X	
NBG 17 SB 48 01 0910	9/14	14:35	Soil	Solid		N	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GEO Consultants	9/15/10 15:00	[signature]	TA	9/16/10 1010
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Burlington
30 Community Drive
Suite 11
South Burlington, VT 5403
phone 802.660.1990 fax 802.660.1919

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Todd Buchanan	Site Contact: Brad Gough	Date: 9/15/10	COC No:
GEO Consultants, LLC	Tel/Fax: 618-638-5245	Lab Contact: Sara Goff	Carrier: FedEx	2 of 2 COCs
325 Kentucky Ave	Analysis Turnaround Time			Job No.
Kevil, KY 42053	Calendar (C) or Work Days (W) W			
(270) 462-3882 Phone	TAT if different from Below 20 days			
(270) 462-3887 FAX	☐ 2 weeks			SDG No.
Project Name: Mead	☐ 1 week			
Site: Former NOP	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	6010B Metals (ICP)	7471A Mercury (CVAA)	Sample Specific Notes:
NBG 18 SS 05 01 0910 14:50	9/14	[illegible]	Soil	Solid	1	N	X	X	
NBG 18 SB 54 01 0910	9/14	14:51	Soil	Solid	1	N	X	X	
NBG 18 SB 48 01 0910	9/14	14:56	Soil	Solid	1	N	X	X	
NBG 18 SB 48 02 0910	9/14	14:50	Soil	Solid	1	N	X	X	
NBG 18 SB 48 01 0910 MS	9/14	14:51	Soil	Solid	1	N	X	X	
NBG 18 SB 48 01 0910 MSD	9/14	14:56	Soil	Solid	1	N	X	X	
NBG 19 SS 05 01 0910	9/14	15:18	Soil	Solid	1	N	X	X	
NBG 19 SB 54 01 0910	9/14	15:19	Soil	Solid	1	N	X	X	
NBG 19 SB 48 01 0910 15:23	9/14	15:23	Soil	Solid	1	N	X	X	
NBG 20 SS 05 01 0910	9/14	15:47	Soil	Solid	1	N	X	X	
NBG 20 SB 54 01 0910	9/14	15:51	Soil	Solid	1	N	X	X	
NBG 20 SB 48 01 0910	9/14	15:55	Soil	Solid	1	N	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GEO Consultants	9/15/10 15:00	[signature]	TA	9/16/10 10:10
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Todd Buchanan	**Samples Collected By:** NM	1 of 1 COCs
Company: GEO Consultants, LLC	Phone: 618-638-5245		
Address: 325 Kentucky Ave	Email:		
City/State/Zip Kevil, KY 42053			
Phone: 270 462 3882	Site Contact: Brad Gouelt		
FAX: 270 462 3887	TA Contact:		
Project Name: Mead	**Analysis Turnaround Time**		
Site: Former NOP	Standard (Specify) 20 days		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
V006-0910-AIR-001-01-IA	091410 091510	1211	1211	30	9	7036435 3022	3415	✓							✓				
V006-0910-AIR-002-01-IA	091410 091510	1208	1051	24	4	7074965 3130	4349	✓							✓				
V006-0910-AIR-001-01-SG	091410 091510	1201	1201	34	11	7301367 3437	4322 ~~3733~~	✓									✓		
VBK6-0910-AIR-000-01-AA	091410 091510	1220	1220	30	7	7305962 3438	3733	✓								✓			

	Temperature (Fahrenheit)		
	Interior	Ambient	
Start			
Stop			

	Pressure (inches of Hg)		
	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

Samples Shipped by:	Date/Time: 9/15/10 15:00	Samples Received by: 9/16/10 1010
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information
Company: GEO Consultants LLC
Address: 325 Kentucky Ave
City/State/Zip Kevil, KY 42053
Phone: 270 462 3882
FAX: 270 462 3887
Project Name: Mead
Site: Former NOP
PO #

Project Manager: Todd Buchanan
Phone: 618-638-5245
Email:
Site Contact: Brad Gough
TA Contact:

Analysis Turnaround Time
Standard (Specify) 20 days
Rush (Specify)

Samples Collected By: VM

1 of 1 COCs

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
U001-0910-AIR-001-01-SG	091410/ 091510	0947	0947	29	8	7343019 5252	4353	✓									✓		
U001-0910-AIR-001-02-SG	091410/ 091510	0947	0947	30	10	7339886 4750	5108	✓									✓		
U001-0910-AIR-002-01-IA	091410/ 091510	0951	0951	32	6	7339447 4725	~~226~~ 2669	✓							✓				
U001-0910-AIR-002-02-IA	091410/ 091510	0951	0951	30	7.5	7298232 3650	2787	✓							✓				

Temperature (Fahrenheit)

	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)

	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

Samples Shipped by:	Date/Time: 9/15/10 15:00	Samples Received by: Chris Kalb 9/16/10 1010
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Todd Buchanan	Samples Collected By: NM	1 of 1 COCs
Company: GEO Consultants, LLC	Phone: 618-638-5245		
Address: 325 Kentucky Ave	Email:		
City/State/Zip Kevil, KY 42053			
Phone: 270 462-3882	Site Contact:		
FAX: 270 462-3887	TA Contact:		
Project Name: Mead	**Analysis Turnaround Time**		
Site: Former NOP	Standard (Specify) 20 days		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum In Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
V001-0910-AIR-001-01-IA	091410 091510	1027	1027	29	6	7225864 2932	2948	✓							✓				
BKG-0910-AIR-001-01-AA	091410 091510	1032	1032	29.5	9	550006 5251	4019	✓								✓			
V003-0910-AIR-001-01-IA	091410 091510	1420	1420	29	7	7329212 4938	5111	✓							✓				
V003-0910-AIR-002-01-IA	091410 091510	1434	1434	29.5	9.5	7306890 3989	3660	✓							✓				

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:

Samples Shipped by:	Date/Time: 9-16-10 - 0930	Samples Received by: 9/17/10 1000
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information
Company: GEO Consultants, LLC
Address: 325 Kentucky Ave
City/State/Zip Kev.l. KY 42053
Phone: 270 462 3882
FAX: 270 462 3887
Project Name: Mead
Site: Former NOP
PO #

Project Manager: Todd Buchanan
Phone: 618-638-5245
Email:
Site Contact:
TA Contact:

Analysis Turnaround Time
Standard (Specify) 30 days
Rush (Specify)

Samples Collected By: NM

1 of 1 COCs

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
V011-0910-AIR-001-01-IA	091410 091510	1530	1530	28	6	7332031 5003	4566	✓							✓				
V011-0910-AIR-002-01-IA	091410 091510	1528	1443	28	4	7306222 3439	4953	✓							✓				
V011-0910-AIR-001-01-SG	091410 091510	1525	1525	30	6	7325976 3954	4371	✓									✓		

Temperature (Fahrenheit)

	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)

	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

Samples Shipped by:	Date/Time: 9-16-10 / 0930	Samples Received by: 9/17/10 1000
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: ~~Sara Goff~~ Todd Buchanan	Samples Collected By: NM	1 of 1 COCs
Company: GEO Consultants, LLC	Phone:		
Address: 335 Kentucky Ave	Email:		
City/State/Zip Kevil, KY 42053			
Phone: 270-462-3882	Site Contact:		
FAX:	TA Contact: Sara Goff		
Project Name: Former NDP	**Analysis Turnaround Time**		
Site: Mead	Standard (Specify) 20 days		
PO # NA	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum In Field, "Hg (Start)	Canister Vacuum In Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
U003-1110-AIR-001-01-IA	110210 110310	110210 1058	110310 1102	30	7	7329595 4937	2672	✓							✓				
U003-1110-AIR-002-01-IA	110210 110310	110210 1122	110310 1125	30	5.5	7297512 3698	3532	✓							✓				
U003-1110-AIR-001-01-SG	110210 110310	110210 1431	110310 1431	31	8	7297540 3113	3488	✓									✓		
BKG-1110-AIR-001-01-AA	110210 110310	110210 1053	110310 1020	30	4	7306055 4065	5095	✓								✓			

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:

Samples Shipped by: Natalie Magill	Date/Time: 11/3/10 1507	Samples Received by:	11/4/10 1010
Samples Relinquished by:	Date/Time:	Received by:	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

APPENDIX M

INVESTIGATION-DERIVED WASTE MANAGEMENT AND DISPOSAL

Innovative Contractors and Regulatory Services, Inc.

P.O. Box 456, 451 Linden
Sutherland, NE 69165
Phone/Fax (308) 386-2422

621 County Road 4
Ashland, NE 68003
Phone/Fax (402) 944-3114

April 18, 2011

GEO Consultants, LLC

Natalie Magill, PhD

Attached is the receipt from the landfill that we disposed of the waste from the Mead project. As stated in previous emails there was waste from other work performed at Mead for another company and it was all disposed of together.

According to Daryl and the earlier emails, for your project there was a couple of large bags disposed. The date and location is on the receipt.

Cathy Pipal
ICR

WASTE MANAGEMENT

Paid

Pleasant Prairie Landfill

Demolition, RE [illegible]
[illegible]

Truck: 109
Customer: 9909/CHGO

Ticket: 549329
Date: 12/9/2010
Time: 13:22:15 - 13:24:56

			Scale
Gross:	33500 lb	In	Scale 1
Tare:	24940 lb	Out	Scale 2
Net:	8560 lb		

Comment:

Origin	Materials & Services	Quantity	Unit	Rate/Unit	Amount
NA/Not Applicable	100% of O/Garbage	4.28	ton	$23.55/Ton	$100.[illegible]2

Total Amount:	$100.92
Cash:	$120.00
Change:	$19.08

Driver: _____ Deputy Weighmaster: _____
scale

203 WM

Compound	Background Concentration (mg/kg)	Weighted average (mg/kg)	Weighted Average/20 (mg/kg)	TCLP limit (mg/kg)	TCLP limit (mg/L)	TTLC Limit (mg/kg)	STLC limit (mg/L)	< TCLP Limit (mg/kg)	Notes
Antimony	None	4.61	0.23	1	-	500	15	Yes	
Arsenic	6.77	8.73	0.44	5	5	500	5	Yes	
Barium	220.2	225.43	11.27	100	100	10000	100	Yes	
Beryllium	0.76	0.74	0.04	0.007	-	75	0.75	No	below background concentration
Cadmium	0.216	0.54	0.03	1	1	100	1	Yes	
Chromium	18.48	15.49	0.77	5	5	2500	5	Yes	
Cobalt	8.6	8.66	0.43	-	-	8000	80	-	
Copper	16.94	29.63	1.48	-	-	2500	25	-	
Lead	14.47	36.94	1.85	5	5	1000	5	Yes	
Mercury	3349	0.04	0.00	0.2	0.2	20	0.2	Yes	
Nickel	None	21.84	1.09	7	-	2000	20	Yes	
Selenium	1.0725	3.9	0.19	1	1	100	1	Yes	
Silver	None	1.02	0.05	5	5	500	5	Yes	
Thallium	0.86	2.79	0.14	7	-	700	7	Yes	
Vanadium	36.24	26.51	1.33	-	-	3400	24	-	
Zinc	59.77	93.38	4.67	-	-	250	250	-	

mg/kg: milligrams per kilogram
mg/L: milligrams per liter
STLC: Soluable Threshold Limit Concentration
TCLP: Toxicity Characteristic Leaching Procedure (Federal Guideline)
TTLC: Total Threshold Limit Concentration (Title 22 of California Code of Regulations)

APPENDIX N

COMMENT RESPONSE SUMMARIES

Draft R2 Supplemental Remedial Investigation Operable Unit-3
Former Nebraska Ordnance Plant, Mead, Nebraska

Reviewed Comments by: Nebraska Department of Environmental Quality (NDEQ)

1. **<u>Trichloroethene, Screening Levels</u>: Please revise the Supplemental Remedial Investigation report to incorporate the new trichloroethene (TCE) screening levels for residential and industrial air which are based on the Final Health Assessment for TCE released by EPA on September 28, 2011.**

Air ug/m^3	Cancer Risk = 10-6	HI = 1
Residential	**0.43**	**2**
Industrial	**3**	**8.8**

Response: Tables 4-6a, 4-6b, 4-7, 6-6, 6-7, 6-8, 6-9, and E-1 have been updated to include the updated TCE Screening Levels of 0.43 μg/m^3 (Residential) and 3 μg/m^3 (Industrial).
Tables listed above have been re-screened for exceedances, and all references to exceedances have been updated in the text of the report.
The updated values did not change the COPCs carried forward into the risk assessment.
The toxicity values will be updated for TCE in surface water and vapor intrusion risk calculations based on the Final Health Assessment; the revised risk results will be presented in the Draft-Final version of the document. The updated toxicity values are shown below.

	Previous Value	Updated Value
Oral Slope Factor (mg/kg-day)$^{-1}$	5.9×10^{-3}	4.6×10^{-2}
Inhalation Unit Risk (μg/m^3)$^{-1}$	2.0×10^{-6}	4.1×10^{-6}

2. **<u>Sections 3.5, page 21, line 14</u>: The reports states that "no deed restrictions have been found for the Potential Landfill Area". However, lines 34 and 35 on page 35 state that "it is unlikely that the North Burning Ground or Potential Landfill Area will be used as residential areas given the deed restriction". Please clarify whether the Potential Landfill Area is covered by a deed restriction. If it is, please discuss the specific restrictions. If it is not, please discuss the potential need for an appropriate institutional control, such as an environmental covenant, to prevent exposure to contaminated soils.**

Response: The deed restriction does cover the Potential Landfill Area as shown in Figure 6-1. The text in Section 3.5 has been updated to state that the deed restriction covers both areas.
Section 3.5 has been updated to state:
"A deed restriction exists for the North Burning Ground <u>and Potential Landfill Area</u> that prohibits usage of the area in the following ways:"

Section 6.1.1 has been updated to state:
"Although it is unlikely that the North Burning Ground or Potential Landfill Area will be used as residential areas given the deed restriction <u>(listed in Section 3.5)</u> in Figure 6-1 (U.S. 2005b)…'

3. <u>Section 5.2.6, page 33</u>: Please correct the first sentence of this section for cis-1,2-DCE and its Henry's Law constant.

The sentence has been corrected to:

'Cis-1,2-DCE volatilization from surface water into the atmosphere is significant with a Henry's Law constant of 4.08×10^{-3}.'

4. Section 6.1.3, Vapor Intrusion Assessment: Please discuss the reasoning behind not carrying vinyl chloride forward as a potential COPC being as the reporting limit is greater than the residential screening limit.

   The SL, RL and MDL for Vinyl Chloride in the indoor air samples are listed in the table below. Although the RL is greater than the SL, the MDL is below the SL such that it is unlikely this compound was present in the samples at concentrations above the SL. Furthermore, VC has never been detected in any of the groundwater monitoring samples collected from the site. Thus, it was considered reasonable to assume that VC is not a COPC for vapor intrusion. This reasoning will be included in the revised report.

	Indoor Air
Screening Limit	0.16 $\mu g/m^3$
Reporting Limit	0.51 $\mu g/m^3$
Method Detection Limit	0.064 $\mu g/m^3$

5. Section 6.4.3.1, page 42, line 2: Please correct the reference of "three COPCs" to 'two COPCs'

   The sentence has been corrected accordingly.

6. Page numbers: Please continue numbering the narrative pages after page 47.

   The page numbering has been corrected.

7. Appendix E: Please correct the units on Table E-1. Air matrix units of ug/m3 are not directly convertible to µg/L.

   The units have been corrected to $\mu g/m^3$.

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Draft R2 Supplemental Remedial Investigation Operable Unit-3
Former Nebraska Ordnance Plant, Mead, Nebraska

Reviewed Comments by: US Environmental Protection Agency (USEPA)

1. **The Draft RI needs to be revised to incorporate the new trichloroethene (TCE) screening levels based on the Final Health Assessment for TCE released by EPA in September of 2011.**

   Response: Tables 4-6a, 4-6b, 4-7, 6-6, 6-7, 6-8, 6-9, and E-1 have been updated to include the updated TCE Screening Levels of 0.43 $\mu g/m^3$ (Residential) and 3 $\mu g/m^3$ (Industrial).
   Tables listed above have been re-screened for exceedances, and all references to exceedances have been updated in the text of the report.
   The updated values did not change the COPCs carried forward into the risk assessment.
   The toxicity values will be updated for TCE in the surface water and vapor intrusion risk calculations based on the Final Health Assessment; the revised results will be presented in the Draft-Final version of the document. The updated toxicity values are shown below.

	Previous Value	Updated Value
Oral Slope Factor $(mg/kg\text{-}day)^{-1}$	5.9×10^{-3}	4.6×10^{-2}
Inhalation Unit Risk $(\mu g/m^3)^{-1}$	2.0×10^{-6}	4.1×10^{-6}

2. **Summary and Conclusions. The last sentence of each area (7.1, 7.2, and 7.3) makes the statement that no "further action is necessary". The purpose of the RI report is not to make decisions as to the final action or disposition at any site or operable unit. This OU is still in the pre-decision stage and has not been out for public review or comment. That will be covered in the Proposed Plan and eventually the Record of Decision (ROD). That statement should be removed so as to not give the impression that a decision has been made.**

   Response: The final sentences have been updated to:
   Section 7.1: *'In summary, no chemicals are present at levels that pose a potentially unacceptable risk at the North Burning Ground and Potential Landfill Area.'*
   Section 7.2: *'In summary, no chemicals are present at levels that pose a potentially unacceptable risk at Johnson Creek, Clear Creek, and Silver Creek.'*
   Section 7.3: *'In summary, under current exposure scenarios no chemicals were present at levels in indoor air that posed a potentially unacceptable risk.'*